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ABSTRACTS

ADVANCED ANTI-AGING SEMINAR NEUROTRANSMITTERS

CLAUDE DALLE, MD

Neurotransmitters and hormones
Advanced Anti-Aging Seminar "Neurotransmitters"

Thursday April 8th, 9.00 - 1.00
Room Auric

One of the not so well known effects of hormones is their link with neurotransmitters.

The improvement felt with hormone replacement therapy after the menopause or the andropause, or the thyroid deficiency correction, comes in part from the wellness linked to the new balance in neurotransmitters created by hormones.

4 classes of them ;

- aminoacids, as glutamate, GABA, glycine
- monoamines, as dopamine, epinephrine, norépinephrine, serotonin,
- soluble gases, as nitric oxide, carbon monoxide
- and acetylcholin

are the kings of the synaptic modulation in our brain, and also in some peripheral areas.

Since the embryo, to adolescence, cortisol, for example, is a necessity to create the serotonin system. Estradiol, in both genders during early months of life, is a central hormone to facilitate the synaptic brain net. We already understand that some adult diseases can find their origin in hormone-neurotransmitters imbalance.

Steroid hormones are strong neurotransmitters modulators. Cortisol in deficiency decreases the serotonin pathway, but in excess it overloads the brain dopamine circuits, increasing the appetite in both cases.

Testosterone and estradiol facilitate greatly the acetylcholine transmission and give new synapses, able to induce the hippocampus activity (against the cortisol excess, destroying cells) and protect this brain area of Alzheimer's disease.

In the same field, progesterone can create new Schwann cells, new neurons, and, more than a GABA stimulator, can also, by the allopregnanolone, participate to help the memory processes.

The luteal phase modulates the adrenal function, and dopamine action.

Pregnenolone for example, directly by the membrane action, blocks the GABA, but Dhea uses the receptor itself for the same action.

The GABA modulation is one of the most neurotransmitter used by the humanity, since the ancient time, by alcohol, and benzodiazepine recently; now, some hormones can do the same, without danger.

Another case is the thyroid gland, associated with dopamine, with brain excitability, Memory, and energy.

Neurotransmitters, as hormones, are linked to our fabulous brain clock, and moment is different to take one of them in function of the effect you want to get.

Preserve or accelerate the longevity process depends in part of these actions, interacting with genes.

We can multiply the examples. Our behaviours, all life long, depend on this link between hormones and neurotransmitters; Appetite, dreams, reproduction, mood, stress, sensitivity to pain, Learning, some psychiatric disorders, Memory, sexuality...

Without forgetting that the skin is a wonderful milieu of interactions between hormones and neurotransmitters, able by itself to secrete, for example, melatonin, serotonin.

In a senescent body, aging processes, leading to neurodegenerative diseases, can be prevented by neurotransmitters preservation, and this is reliable, in part, to hormones.

We can help our body to play its roles more completely, by modulating these parameters, like on a musical instrument, for life.

MONIKA GOLKOVA, MD

Neurotransmitters and brain
Session: Advanced Anti-Aging Seminar "Neurotransmitters"

Thursday April 8th, 9.00 - 1.00
Room Auric

The fact the brain is connected to every part of the body seems to be commonly overlooked in Western medicine. But we know that scientifically tested plan for brain care can help you attain your peak level of health, physical vitality and mental functioning. The onset of new technology has enabled anti-aging specialist to test variety of lab tests and then learn what you can do to keep these chemicals in balance. A balanced brain can prevent premature aging, improve general health, and arrest or reverse the course of many illnesses.

Brain neurotransmitters are excitatory and inhibitory. Metabolism of neurotransmitters is affected by neurostress.

Very important is connection between brain chemistry and electricity :

Voltage (energy or metabolism): is the brain getting the necessary nutrients to function ?

Rhythm (Calm) : Are the four primary waves in Balance ?
 Speed (Memory) : How well is the brain processing information ?
 Symmetry (Mood) : Are the left and right hemispheres functionally connected ?

Symptoms and illnesses we experience can be categorized into families, related to one of the four lobe-specific chemical neurotransmitters that represent the four distinct brain functions : energy, calm, speed and mood. Because each of the neurotransmitters has a natural nutrient precursor, these deficiencies can be treated first with diet and nutritional supplements.

ALFRED LOHNINGER, MD PHD

"Life-Fire", a biophysical technology of Heart-Rate-Variability (HRV)-
 analysis for the evaluation of CNS - dysfunction and aging
 Advanced Anti-Aging Seminar "Neurotransmitters"

Thursday April 8th, 9.00 - 1.00
Room Auric

Global ageing manageability depends on global ageing measurability. Reduced functionality causes ageing, so it is worth measuring the interactions between biological, psychological, social and emotional functions. Chronic oxidative and nitrosative stress leads to early ageing; measuring silent inflammation "within the whole being" makes sense. Lifestyles and relationships guide our genes, measuring their consequences will help coaching clients correctly.

To realize the physiological reality of a human being and to detect its reactions on influences from inside and outside during day and night is as fascinating as to enter men with the help of a small ECG, detecting different kinds of variability between one heartbeat and another in a sample of 100.000 heartbeats a day. Reading those phenomena means to know how the autonomous nervous system is tuned. Reduced variability of heart rate can be used for risk stratification (FRAMINGHAM-, SPALDIA-, ATRAMI Study) including lifestyle depending risks as well as gene polymorphism, hormonal imbalance and tracers of inflammation (Chandola 2008, Lampert 2008, Michalsen 2006, Britton 2007).

Silent inflammation as a precursor of Depression Alzheimer, Multiple Sclerosis and other CNS-dysfunctions goes ahead with a withdrawal of vagal activity (Pizzi 2008, Carpeggiani 2005). Effects of anti-inflammatory therapy can be evaluated by encouraging vagus activity. The importance of the vegetative function in this context is confirmed by fundamental research on the role of acetylcholine as effective anti-inflammatory agents (Tracey 2002).

Examples of healthy and diseased people demonstrate the consonance of Heart Rate Variability with the exploration of neurotransmitters, hormones, micronutrients and psychometric methods.

Ageing management based on that non invasive tool, useable for diagnosis, monitoring and evidence, offers a new approach for progress in preventive medicine.

ALFRED WOLF, MD PHD

Neurostress and fatigue: The role of neurotransmitters and nitrosative stress
 A modern approach
 Advanced Anti-Aging Seminar "Neurotransmitters"

Thursday April 8th, 9.00 - 1.00
Room Auric

Chronic repetitive or permanent stress is a frequent accompanying event for many people within industrialized countries, leading stepwise to neurostress, burnout and fatigue. However there is no clear association between the degree of subjective complaints and the biological consequences of stress.

Neurostress describes the stress sequelae of hypercortisolemia and neurotransmitter (NT)-imbalance of excitatory (epinephrine=EN, norepinephrine=NE, dopamine=DA) versus inhibitory (serotonin, GABA) NTs. Chronic permanent stress without adaptation may further deplete adrenal reactivity by loss of diurnal adrenal cortisol secretion, leading to burnout, weakness, fatigue and pain. In addition immune system will be stimulated directly by NE via transcriptionfactor NF κ B, as well as loss of immune suppression through the low cortisol. The consequences are enhancement of the cytokines IL-8, TNF α , IL-6 and IL-1 β , clinically inflammatory process. For that reason the simple fatigue is characterized by hypocortisolism and reduced NTs, especially serotonin, which acts as a functional counterpart of the sympathetic nerve-system (SNS). Catecholamines may be normal, reduced or enhanced, leading to specific additional symptoms. The individual NT metabolism is basically directed by genetic and epigenetic as well as lifestyle attributes.

Stress may also enhance accumulation of oxidative (ROS) and/or nitrosative radicals (RNS) as stress-substrates, defined as nitrostress. ROS are normal signal molecules for the immune system and basically necessary for immune adaptation. At higher concentrations of ROS and in the presence of nitric oxide (NO) a highly deleterious substrate peroxynitrite (ONOO) is produced from the radical superoxide anion, leading to a blockade of mitochondrial energy-production of ATP and inflammation, which itself enhances further NO/ONOO generation by stimulating the inducible NO-synthetases (i-NOS). This mechanism acts as a "radical-gun" with upregulation of mitochondrial dysfunction and its clinical consequences fatigue, loss of energy and stress-adaptation.

This reaction is initiated not only by neurostress, but also by any biological stressor (infection, physical and emotional trauma, operation, metabolic disorders, environmental toxins, chronic stress etc).

Modern diagnostic procedures enable to clearly define the cause and the stage of neurobiological, emotional and physical disturbance. Diagnostics used are: Description of stressors by stress-test, adrenal adaptivity by cortisol day-profile in saliva, neurotransmitters (EN, NE, DA, serotonin, GABA) 2nd morning urine, physical stress parameters (HRV, bloodpressure), as well as oxidative substrates (total oxidative capacity or lipid and aqueous radicals), citrullin (1st morning urine) as parameter of NO-production, as well as nitrosative substrates (2-nitrotyrosine), and intracellular quenching substrates (red.glutathione = GSH, Vit B 12 - activity, CoQ 10 etc).

Depression and m. Alzheimer are the leading diseases among chronic illness, leading to 8,4 (depression) and 6,3 (m. Alzheimer) loss of healthy years. Both account most for the "loss of mental health" as a serious and harmful development for industrialized societies. Depression is known to be based on genetical polymorphisms of regulating genes for the synthesis of serotonin and Cortisol-receptors, as well as epigenetic influences pre- and perinatally, as well as negative life-events during early childhood and adolescence. Hormones, nutrition and metabolism, micronutrients and biological stressors (chronic stress, infection, trauma) play an additional important role. Especially chronic stress as indefinite anxiousness, inquiscence, uncertainty due to pessimistic scenario of the future are increasingly causative. Stressors may independantly - whether emotional, infectious or somatic in origin - lead to a functional loss of mitochondrial energy-production and cellular function as well as inflammation.

Preventive Medicine of depression and m. Alzheimer is focussing on the individual genetic, epigenetic and environmental basics. Main enhancers (or second hits for the establishment of the disease (eg trauma, permanent stress, infection) should be detected and treated by an individual and integrative program. Diagosis should be performed by stresstest as well as measurement of stress-parameters with saliva-cortisol (day-profile), neurotransmitters (EN, NE, DA, Serotonin, Glutamate) in the 2nd morning urine, HRV (heart rate variability) and bloodpressure.

Modificated order-therapy, stress reduction focused on the causes and personal amplifiers of stress, learing of relaxation technics, aerobic exercise and substrate therapy (restitution of neurotransmitters, evtl hydrocortisone). Additional establishment of social background and support, development of emotional intelligence, shift of type A to type B personality and coherence (sense and value of life) is needed.

For the prevention of dementia an active neuroprotection with exercise, adequate nutrition, less alcohol and avoidance of nicotine are essential, as well as stimulation of the brain function (Brainstim[®], Dr.Kawashima etc) and selective substrates (ginkgo biloba, omega-3-unsaturated fatty acids, estradiol etc). "The WHO initiated a worldwide program headed "No health without mental health", taking into account, that people in industrialized countries are considerably faced by neuropsychiatric diseases like depression, dementia, alcohol addiction and minor CNS-perfusion. As physicians we should intervene with adequate personalized medical strategies, and not only with psychopharmacy.

ABSTRACTS

AESTHETIC DERMATOLOGY & SURGERY

RICHARD ABS, MD

Buttocks enhancement with prosthesis Embellissement des fesses avec les prothèses
Session: Create the Perfect Buttocks

Thursday April 8th, 4.30 - 6.30
Room Nijinski

Expérience européenne

La prothèse de fesse : l'autre prothèse

Introduction : La prothèse mammaire s'est démocratisée pour toucher les couches sociales les plus modestes ainsi que les adolescentes les plus coquettes ... cela pour montrer à quel point le fait de rehausser sa silhouette avec des formes généreuses semble de plus en plus facile, un fait incontestable de société.

L'autre prothèse est la prothèse de fesse. Souligner sa chute des reins, raffermir ses fesses, bien porter son maillot de bain... est le pendant du décolleté aguichant. Mais voilà, l'intervention des prothèses de fesses n'a pas gagné encore ses lettres de noblesses... Néanmoins, elle gagne du terrain lentement mais sûrement.

Une technique fiable et reproductible. Le premier réflexe serait de dire : "yaka faire de la muscu" ! car contrairement au sein, muscler une fesse est dans le domaine du réel. D'autre part, s'inscrire à une salle de sport n'est pas du goût de tout le monde... et pour accéder rapidement à ses désirs, mettre des prothèses est une solution de facilité. Actuellement, la technique est fiable et reproductible. Une seule cicatrice est nécessaire pour les deux fesses. Elle est située dans le sillon interfessier. Ensuite, la prothèse, préremplie de gel cohésif de silicone (consistance plus ferme par rapport à la prothèse mammaire) est glissée dans l'épaisseur du Muscle Grand Fessier. Une contrainte : vivre debout et couchée sur le ventre pendant les quinze premiers jours.

Qu'en est-il de la lipostructure et du Macrolane ?

1. La lipostructure, c'est-à-dire la greffe du tissu graisseux venant de la personne elle-même, est une solution séduisante car elle débarrasse une région d'un excès adipeux pour étoffer une autre, sans l'apport d'un corps étranger. Au niveau du sein, la lipostructure est encore à l'étude, car elle pose une difficulté à la détection du cancer du sein. Au niveau de la fesse, aucun souci. En revanche, le gain apporté par la lipostructure reste modéré.

2. L'Acide Hyaluronique est une intervention "légère" : on ne retrouve pas le côté chirurgical et les suites sont simples. En contrepartie, c'est un produit résorbable (environ deux ans), ne plaçant cette solution qu'à la portée des personnes sans problème de budget.

En conclusion : La mise en place des prothèses de fesses est devenue une intervention codifiée et fiable. Cependant, il faut s'adresser à un chirurgien plasticien qualifié (facilement vérifiable sur le site de l'Ordre des Médecins, le site de la Société Française de Chirurgie Plastique, Reconstructrice et Esthétique SOF.CPRE et le site de la Société Française de Chirurgie Esthétique et Plastique SOF.CEP) et particulièrement spécialiste en prothèses de fesses (expérience confirmée par plusieurs cas cliniques).

AREF ALSOUFI, MD

Facial Rejuvenation and Body contouring with new Dermal Fillers
Session: Short contributing lectures in Medical and Surgical Facial Rejuvenation

Saturday April 10th, 4.30 - 6.30
Room Van Dongen

The aging process itself leads to an ongoing accumulation of changes in our organism. It will involve more or less all organs and generally refers to a complex process of multidimensional alterations. Two independent processes are governing the skin aging: Intrinsic and Extrinsic aging. Intrinsic aging is the slow irreversible degeneration of tissue that affects almost all body organs. Extrinsic aging is thought to be due to exposure to environmental factors. All three layers of the dermis are affected by the aging process: collagen production slows down, and elastin, the substance that enables skin to snap back into place, has bit less spring. While these changes usually begin in our 20s, the signs of intrinsic aging are typically not visible for decades. The signs of intrinsic aging are: Fine Wrinkles, thin and transparent Skin, loss of underlying Fat leading to hollowed cheeks and eyes sockets as well as noticeable loss of firmness on the Hands and Neck, bones shrink away from the skin due to bone loss, which causes sagging Skin. The choice of suitable approaches will depend on individual patient linked factors and the type of visible signs. Recommendations should not only define realistic expectations but also avoid unrealistic hope as well as any inadequate risks. In the last few years doctors have increasingly adopted minimally invasive techniques in body and face contouring. By using a combination of smaller surgical procedures with appropriate filler substances one can achieve optimal anti-aging results with less discomfort for the patient with immediate long lasting result. The author will demonstrate in the paper different techniques and materials (Fat Transfer to fillers).

PIERRE ANDRÉ, MD

How to start a laser practice?
Session: Lasers, Lights and Related Technologies

Friday April 9th, 2.00 - 4.00
Room Nijinski

For two decades, Laser and IPL systems are more and more essential in cosmetic dermatology. Laser is a specific tool for a specific indication. Every physician who wants to practice in aesthetic medicine needs some of these tools.

In European countries, laser costs are high and this is why some devices may be useful before buying them. If you are in a solo

practice, you can acquire a "multi-lines system": either an IPL or a multi-lines Laser. With these different machines you will be able to treat a great number of skin diseases, without spending too much money. If you have partners you will prefer to buy several Laser and / or IPL systems. First demand is hair removal, then vascular and pigmentary treatments. If you perform skin surgery; an Erbium/Yag laser is a good choice to vaporize benign lesions.

To date many machines are launched to tighten the skin and to improve cellulite aspect: one of these permit you to increase your clientele.

PIERRE ANDRÉ, MD

How to use hyaluronidase?

Session: Technical Steps Before, During and After Injections

Saturday April 10th, 2.00 - 4.00

Auditorium Prince Pierre

Hyaluronidase (Hase) is a specific enzyme, which can dissolve hyaluronic acid (HA).

Hase is produced principally in the testis and derived from ovine, bovine or snake cobra venom. It is potentially allergenic and therefore a skin test must be performed before injecting it.

Allergic reactions are not well described except by ophthalmologists. Meanwhile frequency would be around 0.1%. A prick-test is more suitable than an intra dermal injection for detecting type 1 hypersensitivity.

Several products are launched with each one's specificity. Load of protein may change and risk of hypersensitivity too. Wydase*, Amphadase*, Vitrase*, Spreadase*, Lidohyal* are animal derived. A new Hase, Hylenex* (Halozyme Co) is a human recombinant Hase and its purity is 100 fold higher than animal derived.

In cosmetic indications, it permits to dissolve in a few hours either a HA overcorrection or a HA complication. Hase is not present in all European market (not in France for injections).

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- Hirsch JR, Cohen JL, Carruthers JDA. Successful management of an unusual presentation of impending necrosis following a hyaluronic acid embolus and a proposed algorithm for management with hyaluronidase. Dermatol Surg 2007; 33: 357-60.

FOUAD ANSARI, MD - PRESIDENT OF THE FRENCH SOCIETY OF AESTHETIC SURGERY

Brachioplasty

Session: Short Contributing Lectures in Medical and Surgical Body Reshaping

Thursday April 8th, 2.00 - 4.00

Room Van Dongen

The demand for brachioplasty has increased in recent years after the introduction of liposuction and the various and more efficient treatments of obesity. However, the procedure still has, in some sub-groups of patients, a relatively significant rate of complications.

The aim of this study is to point out the factors that could be improved in order to decrease these complications and to obtain better results in terms of scars and contour.

These factors will be detailed and discussed with the reference to the literature and to the own author's experience.

Some conclusions will be suggested.

ASHRAF BADAWI, MD, PHD*

New trends in non invasive body contouring and skin tightening

Session: New trends for Dermatological Surgeons

Thursday April 8th, 4.30 - 6.30

Auditorium Prince Pierre

*Laser Institute, Cairo University, Egypt

Faculty of Medicine, Department of Dermatology and Allergology, Szeged University, Hungary

Over time, collagen and elastin are lost, so the skin gets thinner and has a tougher time getting enough moisture to the epidermis.

At about the same time, the fat in the subcutaneous layer (which gives skin a plump, firm appearance) also begins to disappear, the epidermis begins to sag, and wrinkles form.

Many devices utilizing different technologies are available in the market now. All of them are aiming at deep tissue heating for an immediate collagen contracture and collagen stimulation and synthesis on the long term.

The differences between the available technologies, patient selection, expectations, the appropriate technique and treatment combinations will be discussed in an oral presentation.

ASHRAF BADAWI, MD, PHD*

Non surgical laser and light therapy for facial rejuvenation

Session: Lasers, Lights and Related Technologies - Part 2

Friday April 9th, 2.00 - 4.00

Room Nijinski

*Laser Institute, Cairo University, Egypt

Faculty of Medicine, Department of Dermatology and Allergology, Szeged University, Hungary

The pathogenesis of skin aging and the factors influencing it should be kept in mind to select the suitable technique/procedure. In most of the cases, the pathology is multilevel and affecting more than one layer of the skin and dealing with only one layer

would not give the optimum outcome. Even in cases where the patient is presenting by a dermal problem, it would be helpful to improve the epidermal structure. So, combination of techniques dealing with both the Dermis and the Epidermis is essential to get the best outcome. The role of non surgical lasers and light in the rejuvenation procedures will be discussed in a short oral presentation.

ASHRAF BADAWI, MD, PhD*

Chemical lipolysis
Session: The Art of Lipoplasty

Saturday April 10th, 4.30 - 6.30
Room Nijinski

*Laser Institute, Cairo University, Egypt

Faculty of Medicine, Department of Dermatology and Allergology, Szeged University, Hungary

Accumulation of fat is associated with series of reactions which take several steps and stages and result in adipocyte hyperplasia and hypertrophy. During this process the microcirculation is affected which leads to edema and lymphatic stagnation further worsening the condition.

Managing the local fat deposits and cellulite has to take into consideration the various etiological factors. Recently, Injection Lipolysis or Chemical Lipolysis has been one of the commonly used modalities of treatment of localized fat deposits and cellulite.

A short oral presentation will review the commonly used injectables, injection technique, common side effects and how to avoid.

JANETHY BALAKRISHNAN BOKSTROM, MD

VI Peel... Next generation aesthetics
Session: Short Contributing Lectures in Medical and Surgical Facial Rejuvenation

Saturday April 10th, 4.30 - 6.30
Room Van Dongen

VI Peel introduces the notion of true prevention and maintenance of cellular rejuvenation with just a chemical peel. The main indications are treatment for acne, melasma, dyspigmentation, lentigines, actinic keratosis, fine lines, and dehydration.

It is simple, safe, standardized and test proven as 200,000 peels have been performed since it was launched in USA, 2006. It has a track record of high rate customer satisfaction that makes doctors happy in terms of increase revenue and job satisfaction.

The active ingredients are a selected and a balanced mixture of TCA, Phenol, Ascorbic acid, Retinoic acid, Salicylic acid, and a propriety blend of vitamins and minerals. This brilliant system is based on the synergy of different components and their respective mode of actions. It works on the principle that less of each ingredient causes less complication. Moreover, there is minimal or no pain due to the mixture of the acids.

VI Peel is suitable for all skin types ranging from type 1 to type 6. There is no prior need to pre condition the skin. Since the acids are balanced in a selected way, there is no risk for over correction. The post treatment protocol is straight forward with no limiting instructions (exposure to sun etc). So far, there are no long lasting complications recorded.

The occurrence of PIH is rare and can be successfully treated with the VI Derm skin care or just a re-peel. Any irritation, hypersensitivity or rash can be calmed easily.

As a clinician it is indeed rewarding to work with such a powerful and yet safe, predictable product for cellular rejuvenation.

VALCINIR BEDIN, MD PHD

Most Wanted: The hottest aesthetic treatments in Brazil and how we perform them
Session: New Trends in Brazilian Cosmetic Dermatology and Aesthetic Medicine

Saturday April 10th, 8.30 - 10.30
Auditorium Prince Pierre

For didactic reasons we will divide the treatments in facial and body:

Total Facial Rejuvenation: involves the formulation of cosmetics and cosmeceuticals for home daily use and a treatment program at the clinic with multidisciplinary participation.

Wrinkles: Traditional fillers and the art technology application
Botulinum toxin associated with traditional and innovative points

Sagging: Injections of acids and application of electric current machines, with lasers and radio frequency

Hairs : Removal lasers: alexandrite or diode

Peels: Chemical, mechanical and laser

Mesotherapy: With products that stimulate the production of new collagen and elastin fibers

Body: Cellulite: A combination of methods such as mesotherapy, endermologie, lymphatic drainage and carboxitherapy

Streaks: Lasers, mesotherapy and fibroblasts transplantation

Vessel sclerosis: Lasers and new products

Localized fat: Deoxycholate

Flaccidity: Radio frequency and carboxitherapy

VALCINIR BEDIN, MD PHD

Hair restoration: New techniques for optimal results
Session: New Trends in Brazilian Cosmetic Dermatology and Aesthetic Medicine

Saturday April 10th, 8.30 - 10.30
Auditorium Prince Pierre

Surgical hair restoration has dramatically evolved from the big round "plug" grafts of the 1960's and 70's, to the "mini micrografts" of the 80's and early 90's, to modern hair transplant procedures using entirely follicular unit grafts.

Now hair restoration surgery is going through another important evolution that is improving both the naturalness and fullness that can be achieved from any one surgical hair transplant session.

Today 's micro surgical blades and needles, like the size of hair grafts, have become even smaller and now enable hair transplant surgeons to safely make more tiny graft incisions in a given area than ever before. Surgeons are then able to "dense pack" select areas with as many as 40 to 60 follicular unit grafts per square centimeter. This graft density is as much as twice that of the standard follicular unit hair transplant procedure. Such high densities of transplanted hair typically produce the appearance of fullness even after only one surgical session. Patients also experience rapid healing and no visible skin distortions due to the tiny size of these incisions.

With these new devices and techniques we are able to provide:

- 1-Excellent hair density in only one surgical session.
- 2-Minimal trauma in the graft recipient area with rapid post surgical healing.
- 3-Little or no visible pitting or distortions in the transplanted areas.
- 4-More natural direction and angulation of the transplanted hair.

LAKHDAR BELHAOUARI, MD

Anatomy and fillers

Saturday April 10th, 8.30 - 10.30

Session: Video Corner: The experts' showcase

Room Nijinski

What makes youth? Youth implies tissue plasticity, regularity of skin surface and shape and contour i.e. volume. One day, we have it and then we don't have it any more...

Filling is today a "gold technique" as well in rejuvenation as in face enhancement and embellishment, facial volumetry, wrinkles, luminosity and skin radiance. It takes profit from the expertise in fat liposuction and from progress in quality of fillers products, essentially hyaluronic acids because, in our opinion, the non resorbable products still have to show their harmlessness and safety in the medium and long term. If today, above 70 brands of fillers are available in Europe, it's obvious that the future of filling will be shaped by research

In term of volumetry, the goal and objective are to recreate volume insufficiencies (thus to enhance) or to restore the volume loss by the soft tissues atrophy, consequence of ageing (thus to rejuvenate).

A young glance is full, a young smile is full.

And, to restore or to emphasize:

- An orbito-palpebral contour for a glance by correcting tear trough and peri-orbital shape.
- A smile enhancement by restoring the volume of lips thinned, source of projection and labial up-eversion of these lips: the lips which "give the kiss": lip is, do and suggest.
- A mid-face contour by restoration of its original convexity after loss of malar fat pad volume, superficial as well as deep, The mid cheek, uniform and rounded in youth becomes segmented and grooved with ageing and loses its original convexity.

Here are the goals of facial volumetry: to correct shades, depressions, atrophies and to restore shape, contour, fullness, harmony, light and form. All these are synonyms of youth.

It goes without saying that our technical expertise supposes a perfect understanding of anatomy, physiology, ageing-process and also a perfect knowledge of the injected products and their safety and of course a perfect understanding of the patient's expectations and desires. That will enable us to answer the 3 fundamental questions:

- What to inject?
- Where to inject?
- Why to inject: with what goal?

Technical expertise will seek primarily harmony. Never forget that volume is less important than balance and harmony of volumes. Never forget also that often "Less is more".

Français

Anatomie et produits de comblement

Ce qui fait la jeunesse, c'est la plasticité tissulaire, la régularité de la surface cutanée et le galbe c'est-à-dire le volume. Un jour, on l'a et puis on ne l'a plus...

Les fillers sont devenus une technique phare tant dans le rajeunissement que l'embellissement que ce soit dans la volumétrie, les rides ou l'éclat du teint et la texture de la surface cutanée. Ils ont grandement bénéficié de la maîtrise de la liposuction grasseuse et des énormes progrès qualitatifs des "fillers", essentiellement les acides hyaluroniques car les produits non résorbables ont encore, à notre avis, à démontrer leur innocuité à moyen et long terme.

En terme de volumétrie faciale, l'objectif est de recréer les volumes manquants (donc embellir) ou disparus par l'atrophie des parties molles, conséquence du vieillissement (donc rajeunir) et ce au même titre que le relâchement et les rides, les 2 autres composantes de la trilogie du vieillissement.

Un regard jeune est plein, un sourire jeune est plein. Et, à ce titre, redonner :

- Un galbe orbito-palpébral pour le regard en corrigeant cernes et péri-orbite,
- Un galbe labio-mentonnier pour le sourire en restaurant le volume de lèvres amincies, source de projection et d'up-éversion labiale à ces lèvres qui "donnent le baiser". N'oublions pas que la lèvre est, faite et suggère.
- Un galbe du mid-face en rehaussant des pommettes qui ont perdu leur volume de graisse malarale qu'elle soit superficielle ou profonde,

Voilà les objectifs de la volumétrie faciale pour corriger ombres, dépressions, atrophie et redonner galbe, plénitude, harmonie, lumière et forme synonymes de jeunesse.

Il va sans dire que l'expertise technique sous-entend une parfaite compréhension de l'anatomie, de la physiologie, du processus de vieillissement et de la connaissance et l'innocuité des produits injectés et bien sûr de la compréhension de la demande du patient. Cela nous permettra de répondre aux 3 questions fondamentales :

- Quoi injecter ?
- Où injecter ?
- Pourquoi injecter et dans quel but ?

L'expertise recherchera essentiellement l'harmonie, car plus que le volume, l'harmonie des volumes est importante. Et souvent "Less is more".

LAKHDAR BELHAOUARI, MD

A single centre comparative study of two Hyaluronic Acid fillers for lip enhancement and augmentation

Saturday April 10th, 4.30 - 6.30
Room Van Dongen

Session: Short Contributing Lectures in Medical and Surgical Facial Rejuvenation

Objective: To evaluate whether differences exist in patient comfort and aesthetic result for two HA fillers one with and one without pre-incorporated lidocaine

Methods: Single centre, prospective, open label comparison. **Materials:** Juvéderm® ULTRA SMILE, 24mg/ml HA gel with pre-incorporated lidocaine (HA + lidocaine) and Restylane LIPPTM, 20mg/ml HA gel without pre-incorporated lidocaine (HA alone)

Results: 20 patients received each treatment. The patients were matched for age, previous injections and injected products. Both groups received similar volumes of the study treatments (mean vol 1.08ml: HA +lidocaine and 1.01ml: HA alone). All patients were asked to start their lip treatment with no additional anaesthesia. 75% (15/20) of treatments with HA + lidocaine were rated as very or fairly easy; 65% (13/20) of treatments with HA alone were rated as not easy or difficult. By the end of the treatment, 65% (13/20) of the HA alone group required anaesthetic block for comfort compared to only 10% (2/20) in the HA + lidocaine group. The mean pain score (0-10) was 7.05 for HA alone versus 2.8 for HA + lidocaine. All HA + lidocaine treatments were rated as either very easy or fairly easy to massage and sculpt; in contrast 80% (16/20) of treatments with HA alone were rated as fairly easy to massage and sculpt. The aesthetic result was rated as much improved in all patients in the HA + lidocaine group compared to only 65% (13/20) in the HA alone group. All treatments in the HA + lidocaine group were rated as either extremely smooth or very smooth; 15% (3/20) of treatments in the HA alone group were rated as very smooth. No adverse events were reported in either group.

Conclusions: The HA filler with pre-incorporated lidocaine showed higher scores for ease of injection, sculpting and massaging, aesthetic effect and smoothness compared to the HA filler without lidocaine. HA fillers with pre-incorporated lidocaine offer an option to provide greater patient comfort whilst improving ease of injection and aesthetic outcomes

ANTHONY BENEDETTO, MD, PhD

New trends in facial rejuvenation: The eye and lips as a central focus for facial rejuvenation

Thursday April 8th, 4.30 - 6.30
Auditorium Prince Pierre

Session: New trends for Dermatological Surgeons

While some facial rejuvenation procedures involve surgery, an increasing number of minimally-invasive procedures recently have become very popular. These procedures are more acceptable to the busy, upward mobile young to middle-aged professional who cannot afford any time away from work. Non-invasive procedures require no surgical incisions and patients experience minimal to no convalescent recovery time after the procedure. These treatments do not stop the face from aging, but they can take years off a person's appearance by tightening sagging skin and reducing facial wrinkles. Different minimally invasive rejuvenation procedures currently available treat different types of age related skin changes and wrinkling that are ideal for the periorbital and perioral areas. Dynamic wrinkles of the periorbital and perioral areas are treated with botulinum toxin.

Static wrinkles in those areas are treated with the new fractionated laser resurfacing techniques, while volume loss is enhanced by soft tissue fillers. Examples of combined rejuvenation techniques will be illustrated with photographs of patients before and after treatments.

ANTHONY BENEDETTO, MD, PhD

The Wide Spectrum of IPL treatments with and without ALA-PDT

Friday April 9th, 11.00 - 1.00
Room Nijinski

Session: Lasers, Lights and Related Technologies - Part 1

Recently, intense pulsed light (IPL) has become a gold standard in photorejuvenation because of its safety and reliability in treating a variety of skin changes that are caused by aging and photodamage. Because it is a non-coherent multiple wavelength light source, IPL targets the multiple absorption spectra of both melanin and hemoglobin, enabling it to treat hair, pigmented and vascular lesions. With its interchangeable filters, optimal wavelengths can be delivered according to a patient's skin type and the amount of sun-tan present. The chilled delivery tip protects the skin surface from epidermal burning allowing for the pulsing of higher fluences as compared to other types of traditional lasers. The large spot sizes allows for large areas to be treated easily and quickly. Its non-collimated, diffuse light is no more dangerous to the eyes than a flash of high intensity light. When administered appropriately, non-ablative IPL treatments produce no post-treatment purpura, epidermal burning or other side effects resulting in virtually no post-treatment downtime for the patient.

Between January 2008 and January 2009 a total of 587 treatments were given to 89 patients for facial rejuvenation with the LumenisOne (Lumenis, Ltd., Yokneam, Israel). An average number of four treatments were necessary to rejuvenate the face to both the patients' and physician-operator's satisfaction. Skin types of patients treated ranged from II-IV. Preoperative diagnoses of the patients undergoing treatment included: telangiectasia, hemangiomas, treatment-resistant rosacea; lentiginos and freckling; poikiloderma and solar elastosis.

IPL treatments also can be performed in conjunction with topical aminolevulinic acid (ALA). Initially developed for the treatment of premalignant and malignant skin lesions, ALA combined with post application exposure to light of particular wavelengths is called photodynamic therapy (PDT). Levulan (20% topical aminolevulinic acid in a hydroalcoholic vehicle) and Metvixia

(16.8% methyl aminolevulinate) are the available topical ALA photosensitizers in the USA. Levulan and Metvixia are approved by the FDA for the treatment of non-hyperkeratotic actinic keratoses of the face and scalp. ALA is absorbed through the epidermis

and into pilosebaceous units and other rapidly growing tissues within the skin. After topical application, ALA is then transformed into the highly photoactive porphyrin derivative, protoporphyrin IX (PPIX). When exposed to certain wavelengths of visible light (~400-700 nm), PPIX forms cytotoxic singlet oxygen which then releases energy and destroys the cells in which it resides. With the recent introduction of short contact time, the use of Levulan ALA-PDT has become more practical. Levulan can be applied to the skin surface and left there for only one hour before it is exposed to IPL for cosmetic indications. The "incubation time" before light exposure can be extended up to two hours when treating severely photodamaged skin. Modified treatments with Metvixia are still being developed in the United States.

Between January 2008 and January 2009 a total of 171 treatments were given to 38 patients for treatment of pre-malignant lesions and photodamaged skin with the LumenisOne IPL. While treating these patients for therapeutic indications, over 90% of them experienced a dramatic improvement in the overall cosmetic appearance of the treated areas, which included a reduction in wrinkling, pigmentation and telangiectasias, as well as a therapeutic improvement of actinic keratoses, solar elastosis, skin texture and tone. IPL treatments with or without ALA-PDT particularly with the LumenisOne, are one of the safest and most effective ways to rejuvenate photodamaged skin of the face with virtually no down time and no adverse events.

ANTHONY BENEDETTO, MD, PhD

Perioral rejuvenation: Dermatologist's approach
Session: Best of Lips and Peribuccal Rejuvenation

Saturday April 10th, 11.00 - 1.00
Auditorium Prince Pierre

There are some women when they age their lips become thinner, lose their fullness and develop vertical rhytides around the border of the vermilion. Also, lipstick may bleed up into these vertical lines and onto the cutaneous lip while the vermilion border becomes ill-defined and flat. Then there are those women who just are not happy with the shape and size of their lips. To correct these problems, lips can be enhanced with various dermal fillers and treated with injections of BTX. In the United States, collagen fillers soon will not be available. Therefore, all lip enhancement and rhytides attenuation must be done with hyaluronic acid fillers (hyaluronans). Less robust hyaluronans can be injected along the border of the vermilion and cutaneous lip to enhance lip definition and eliminate vertical lipstick lines. Hyaluronans injected into strategic places within the cutaneous lips can recreate the natural contours of youthful, ample lips. The hyaluronans are noted for their hygroscopic properties and are best utilized to enhance lips. Different types of hyaluronans will benefit individual patients in different ways and it is up to the physician injector to determine which product would work best for each individual patient.

When planning an injection of a patient's lip with BTX, particular attention is needed because the perioral area is controlled anatomically by different muscles that function either independently of each other or in unison to create a sphincter effect of the lips. It can be somewhat challenging to produce a unified effect with BTX without disturbing the symmetry and function of the lips. Diminishing the dynamic perioral vertical rhytides with BTX requires an expert knowledge of the interdigitating muscles in the perioral area that provide the synergistic functions of mastication, phonation, deglutition as well as the expression of emotion. Injections of BTX should be used only to weaken the superficial fibers of the Orbicularis oris so as to reduce the dynamic wrinkles of the lips without disturbing their synergistic functions.

FAHD BENSLIMANE, MD

Criteria of leg beauty: Dreams and realities
Session: Legs and Feet Beautification

Friday April 9th, 8.30 - 10.30
Room Nijinski

Legs and ankles are the most difficult areas to be slimmed down. Even if liposuction was developed 30 years ago, the lower limbs remain the most challenging area of the body to be sculpted. The main reason is the fear of complications such as irregularities, prolonged edema or even vascular lesions

On the other hand, there is no acknowledged model of the "aesthetic ideals" of the leg, from knee to ankle

3 groups of legs were analyzed: Models from different ethnic group, athletes and Greek sculptures. (Total: 1944 photographs). All the photographs were inserted in a power point program. The curves were outlined in different colors. Geometric modeling was used to identify the position of the ideals concavities and convexities on the ideal leg.

In this study, a new aesthetic model of leg, as well as a new artistic drawing is proposed. The technical details for a safe liposculpture are described to achieve the smooth harmonious curves.

GIANFRANCO BERNABEI, MDI

Burring the alar cartilages; an alternative shaping method
Session: New trends in Brazilian Aesthetic Surgery

Friday April 9th, 11.00 - 13.00
Auditorium Prince Pierre

The cartilaginous structures of the nose play an important role in nasal esthetics and function. The handling of these structures has always been very treacherous, and long-term follow-up quite often has shown unexpected results. Based on Ishida's experience, we make use of abrasion treatment of the nasal cartilages with the burr power drill. This device can produce controlled weakening on determined regions of the nasal cartilages. If this weakening is done on just one side, the cartilage will bend to the opposite side. To correct the alar cartilages, the burring is done either to enhance curvatures or to change the conformation of the alar cartilage itself.

Our 4 years of experience using this method shows satisfactory results. The method permits change of domus angle, corrections of alar deformities, projection of the tip and offers the surgeon the possibility to give whatever shape change without the need to resect, stitch or graft the nasal tip.

On the septal cartilage, this method can be used to straighten it by abrasion on its concave portion; on secondary rhinoplasty with severe loss and deformation of the alar cartilages it can help the surgeon immensely.

PHILIPPE BERROS, MD

Case study: Orbitofacial rejuvenation by Hyalurostructure
 Session: Technical Steps Before, During and After Injections

Saturday April 10th, 2.00 - 4.00
Auditorium Prince Pierre

Clinical review of 144 injections.

Summary: We offer our experience of a new technique of injecting hyaluronic acid crosslinked with a specific periorbital cannula: hyalurostructure by orbitofacial filling.

Method: Retrospective study of 144 injections reconstructive and aesthetic of hyaluronic acid in the periorbital region to treat hollow eye ring, hollow cavities, the region of the eyebrow on 72 patients. The aim was to evaluate a new technique with a cannula specific "piece of foam" of 25 gauges, of 40 mm, reinforced in its base on 10 mm manufactured by Thiebaud Company. Treatments has been realised with no anaesthesia using the same protocol as Collman lipostructure but using hyaluronic acid. The hyaluronic acid used in each case was the same (Restylane * of Q-Med). Indications were: hollow eye rings, hollow cavities, the valley of tears, the orbital part, temporal area and the region of the eyebrow.

Results: 68 patients (94%) with a 15 months follow up were satisfied or very satisfied of aesthetic result after hyalurostructure of orbitofacial region. The advantage of microplasty is that it is realised in office as a classic injection of hyaluronic acid for wrinkle treatment with same aseptic rules.

Comparing to injection with needle, we notice less bruises (3 located in the place of pre incision), fewer surface irregularities by a better distribution of the product filling position and retro orbicular pre periosty and less lymphatic stasis (4 cases in the internal angle)

Conclusion: Peri orbital region and valley of tears treatment by hyaluronic acid injection is known. But often the risks of this delicate anatomic region and bruises caused by needles followed by the appearance of dark coloured circles due to deposition of haemosiderin have limited the development of this technique.

We propose a new treatment for dark circles and for orbitofacial region adapted from lipostructure but with hyaluronic acid facilitating treatment protocol of that region with improved aesthetic results: Hyalurostructure.

DARIO BERTOSSI, MD PHD

Simultaneous nose chin treatment with osteotomy or filler
 Session: New Trends in Medical and Surgical Rhinoplasty

Saturday April 10th, 4.30 - 6.30
Auditorium Prince Pierre

Co-authors: Massimo Albanese, Pier Francesco Nocini

Objective: To evaluate the long-term results and the complications of simultaneous rhinoplasty and chin plasty with conventional techniques and the use of fillers.

Design: 50 case reviews of associated nose and chin plasty performed simultaneously from 2008 to 2009 to evaluate the complications and the stability of the result.

Results: we recorded: pog' projection to TVL, mandibular height (mandibular incisor tip to menton'). Reduction chin plasty: 45,6%, stability 100% after 3 years (less than 0.25 mm re-absorption measured to the menton). Augmentation chin plasty (52,4%) (22 patients with a vertical augmentation from 4 to 6 mm; average 5,3 mm and 25 patients with a sagittal augmentation from 6 to 8 mm; average 7.2 mm): the position of the chin was stable with no more than 1 mm. of retropositioning with the osteotomy and for 2 years with maximum increase of 3 mm by the use of the filler.

Conclusions: Even with a nice rhinoplasty the patient's face can lack balance or harmony. One of the causes of facial disproportion is that there is a strong nasal-to-cervical relationship. The associated rhinoplasty-chin osteotomy or filler operation gives a good solution in these patients avoiding the need for a second intervention thus providing the optimum in patient satisfaction.

THIERRY BESINS, MD

Vectors and fixed elements of the face / Vecteurs et points fixes de la face
 Session: "French Riviera Experts"

Thursday April 8th, 4.30 - 6.30
Room Van Dongen

English

The fixed points of the face and the "retaining ligaments" are an anatomical and surgical reality, with an embryonic identity. Their role is not only to hold the facial tissues, but also to create the necessary anchor points to allow facial muscle activity. These muscles, cutaneous for the most part, do need "return pulleys" in order to function effectively and synergistically.

We can distinguish "real" ligaments that link the periosteum to the dermis, real barriers, from "false" ligaments that are comparable with fibrous septa (Cooper's ligament in the breast) and that guarantee certain cohesion between the different layers of the facial tissue.

It is in between these "return pulleys" that we can find mobile spaces, fat pads essentially, that gradually compartmentalize over time. The appearance and the displacement of this compartmentalized fat are responsible for the creation of those "folds of time" that have obviously become the direct object of all our medical and surgical facial aesthetic treatment efforts.

On one hand, these fixed areas of the face are our precious friends for they preserve our identity and guarantee a "minimum level of conservation". On the other hand, they are also our enemies since they are responsible for the visibility of the aging process. These fixed areas of the face are a gift from nature and should not be destroyed. Regardless of the procedure we are applying, whether we are performing a face-lift or whether we are using volumizing fillers to soften the compartmentalization of the fat tissue, we have to use these fixed points to our advantage such as to obtain results that are more natural.

Even while gravity is not the only driver of the aging process, the vectors of aging are "channeled", like a stream of lava gliding down the rocks (the fixed points), the rocks being an integral part of the identity of the landscape that is preserved despite all and that should not be destroyed. It is perfectly possible to improve the contours of these fixes areas during the lifting and / or to use them as anchor points while applying volumizing filler injections.

The liftings have to be "divergent" and compartmentalized as advocated by the embryology. The face and the look should be treated vertically in monoblock, the neck in horizontal way, without any communication between the two surgical acts. This is the only solution to obtain a natural and harmonious result: bringing the tissues back to where they were before and not to somewhere else where they have never been before.

The same reasoning applies for the new injection techniques: the closer we inject to the fixed area, the more effective the re-tensioning result will be. Furthermore, filling between two ligaments "strengthens the ligaments", and hence prevents, in its turn, the tissue from moving downward (which is their role). A better understanding of the inseparable duo of vectors / fixed areas allows an optimization of our medical as well as surgical rejuvenation treatments.

Français

Vecteurs et points fixes de la face

Les points fixes de la face ou "retaining ligaments" sont une réalité anatomique et chirurgicale, avec une identité embryologique. Leur rôle n'est pas seulement de "retenir" les tissus faciaux, mais de créer des points d'ancrage indispensables à l'action des muscles faciaux. Ces muscles, peauciers pour la plupart, ont besoin "de poulies de rappel" pour être efficaces et synergiques.

On distingue des "vrais" ligaments, qui relient le périoste au derme, véritables barrières, et des "faux" ligaments, comparables à des septa fibreux (ligaments de Cooper du sein) qui garantissent une certaine cohésion entre les différentes couches tissulaires du visage. C'est entre ces poulies de rappel, qu'existent des espaces mobiles, essentiellement graisseux, qui, au fil du temps, se compartimentent de plus en plus. C'est l'apparition des scissions graisseuses responsables "des sillons du temps" que nous nous évertuons à estomper par toutes nos techniques médicales et chirurgicales.

Ces points fixes sont nos amis car ils préservent notre identité et sont une garantie de "rétention minimum". Ils sont nos ennemis parce qu'ils sont responsables de la visibilité du vieillissement. Ces zones de fixité de la face sont un don de la nature et ne doivent pas être détruites. Nous devons nous en servir pour obtenir des résultats plus naturels que ce soit au cours d'un lifting, ou d'injections de volumateurs dans l'optique d'atténuer les séparations des blocs graisseux.

Les vecteurs de glissement, même si la gravité n'est pas le facteur unique de vieillissement, sont "canalisés", comme un torrent de lave glissant doucement entre de gros rochers (les zones fixes) qui font partie intégrante de l'identité du paysage qu'ils préservent malgré tout, et qu'il ne faut pas détériorer...

Il est tout à fait possible de contourner ces points fixes au cours du lifting et de s'en servir comme point d'ancrage lors des injections de volumateurs. Les liftings doivent être "divergents" et compartimentés comme le préconise l'embryologie. La face et le regard doivent être traités en monobloc verticalement, le cou, horizontalement, sans aucune communication entre les deux gestes chirurgicaux. Les points fixes marquent la réunion de deux extensions embryologiques de la face et du cou, dont le cheminement a été différent.

C'est la seule solution pour obtenir un résultat naturel et harmonieux : remettre les tissus en place là où ils étaient avant et non ailleurs où ils n'ont jamais été. Le même raisonnement s'applique aux nouvelles techniques d'injection : plus nous injectons près d'un point fixe, plus l'effet de re-tension en aval est efficace. Par ailleurs, le remplissage entre deux ligaments "tonifie les ligaments", qui eux même vont retendre les tissus en aval (c'est leur rôle)

Une meilleure compréhension du couple indissociable vecteurs/points fixes permet une optimisation de nos traitements de rajeunissement, qu'ils soient médicaux ou chirurgicaux.

SYLVIE BOISNIC, MD

Ex-Vivo evaluation of home-use Tripollar radiofrequency device for facial and body skin tightening using experimental human skin model
Session: Short Contributing Lectures in Medical and Surgical Body Reshaping

Thursday April 8th, 2.00 - 4.00
Room Van Dongen

Dermatologist, anatomopathologist, Pitié Salpêtrière Hospital, Research Director of the GREDECO Society, Paris, France.

Background: Radiofrequency devices for aesthetic applications such as body and face skin tightening, cellulite reduction, rhytids and body contouring treatments are becoming increasingly popular in clinics worldwide due to their demonstrated efficacy and safety combined with relatively lack of complications and down-time. New home-use RF device for facial (STOP™) and for body (POSE™) treatments has been developed based on TriPollar™ technology. These devices focus low RF power from four electrodes deep into the dermal and hypodermal layers to stimulate dermal activity, tighten collagen fibers and increase new collagen production as well as to stimulate fat metabolism.

Objective: Dermal skin aging is defined, more particularly, by a decrease of dermal collagen with loss of tightening. The aim is to test the efficacy of two Tripollar RadioFrequency technology (little home RF device STOP™ and POSE™) on normal human skin fragments (from plastic surgery). An original ex vivo model (Boisnic, *Dermatology*, 1999, 199, 1, 43-8) maintaining the skin in survival conditions during 12 days was used for histological and biochemical evaluations of the TriPollar clinical efficacy.

METHODS: Human skin samples were collected and subjected to a UV aging process accomplished by exposure to UVA (365 nm) at a fluency of 12 J/cm² together with UVB (312 nm) at 2 J/cm² from a UV radiation source (Vilbert-Lourmat, France). Such UV exposure has previously been shown to induce premature structural and cellular skin photo aging effects on fibroblasts and dermal collagen in human skin explants (Boisnic, *Skin Pharmacol Physiol*, 2005, 18 (4): 201-8) maintaining. Then one session of STOP™ (on facial skin fragments) or POSE™ (on abdominal skin fragments) was realized. All skin samples were then placed in inserts which were positioned in culture wells at 37°C in a sterilizer with 5% CO₂. A survival medium, which approximates in vivo metabolic conditions, was added at the bottom of the wells, enabling a slow diffusion between the compartments through a 12 µm porous membrane. The survival medium was changed three times a week. Skin samples were maintained alive for 12 days. To analysis restructuration efficacy of the 2 devices, dosage of new collagen synthesis and morph metric analysis of dermal collagen was made. Skin tightening was also evaluated by dermal histology and quantitative analysis of collagen. Fat metabolism was evaluated by dosage of hypodermal glycerol release and fat layer histology.

Results: Histologically, a significant improvement (28%) of dermal collagen fibres after treatment TriPollar STOP™ was measured by computerized image analysis.

Moreover, a significant improvement of dermal fibroblasts' metabolism with increased pro-collagen synthesis was observed: 17.1 µg/mg biopsy after treatment TriPollar STOP™ technology in comparison with 12.1µg/mg for skin altered skin by UV (40% of increase). Collagen synthesis increased significantly by 31% following POSE™ treatment. In addition, ex-vivo model indicated a significant increase of 82% in hypodermal glycerol release and histology revealed 34% alteration of adipocytes appearance following POSE™ treatment.

Conclusions: The reported results demonstrated safety and efficacy of the new TriPollar home-use devices for body contouring and skin tightening. The home-use STOP™ and POSE™ has been demonstrated to affect significant collagen remodeling, in term of structural and biochemical improvement of collagen synthesis on treated skin samples. A significant increase in hypodermal glycerol release was detected using the POSE™ device showing efficacy on cellulite.

FRÉDÉRIC BRACCINI, MD

Medical rhinoplasty: How to select the right patient
Session: New Trends in Medical and Surgical Rhinoplasty
FPS institute Nice & American Hospital of Paris

Saturday April 10th, 4.30 - 6.30
Auditorium Prince Pierre

Background: Medical rhinoplasty became a "headlight indication" in esthetic medicine

The relative poverty of the nasal mobility, associated with solids anatomical supports (cartilage, bone), induces on the injections, a precision and a durability not equalized on the other areas of the face.

Extremely of an experiment of almost 300 medical rhinoplasties, we expose which are the new trends and the various solutions to modify in safety a nose without surgery.

Introduction: Rhinoplasty is one of the most frequently procedure in plastic surgery. It remains a surgical act but the new fields of aesthetic medicine modify its philosophic and technical approach.

As well as the whole of the treatments of the ageing of the face the procedures of rhinoplasty evolve/move and are simplified with for objective of the reduced surgical traumatism and an optimization of the time of hospitalization These procedures grow rich by treatment has minimum that it is of the operational acts ("minirhinoplasty") or about the care of esthetic medicine. The use of botulinum toxin in the treatment of the nasal wrinkles and the correction of the dynamics of the tip offers enthralling prospects for treatment. Indeed the nasal musculature contributes at the time of the expressions of the face has to deform or raise a disgrace. For example the filling of the naso-frontal angle by the corrugator, the development of wrinkles on the dorsum by the contraction of the complex procerus-transverse.

But the action of theses muscles is especially obvious on the level of the nasal tip to the smile by the traction of the septi-nasi muscle which will improve the hump. The nostrils are also under the muscular dependence of groups that the botox can balance. Concerning the fillers, associate or not with procedures combined with botulinum toxin, they allow to correct the defects, the irregularities of the nasal frame. They authorize a true "nasal modeling". The medical rhinoplasty is born! These acts of medicine occupy a prevalent place today and make it possible to widen our field of activities.

Objectives: To describe the new methods of medical rhinoplasty, associating fillers and botulinum toxin without invasive surgery, to evaluate their effectiveness by a retrospective analysis of an experiment of 247 patients over 4 years and to discuss precise indications of this new approach.

Materials and methods: between January 2006 and October 2009, 297 patients profited from nonsurgical treatment of esthetic disgrace of the nasal pyramid. They were 222 women and 75 men. The distribution of the indications was the following one: 207 primary rhinoplasties, 90 final improvements of rhinoplasty. It was of a treatment by fillers in 183 cases, of a treatment by botulinum toxin isolated in 30 cases, and about an association of the 2 procedures in 84 cases. The botulinum toxin used was a toxin of the type A. Concerning the fillers, it acted of hyaluronic acid in 228 cases, of hydroxyapatite of calcium in 30 cases, phosphate of calcium in 2 cases, poly-lactic acid L in 5 cases and of polyacrylamid gels in 2 cases.

Results: In this series of 297 cases, the index of satisfaction is very high, higher than that obtained in the treatment of the other wrinkles and defects of the face (apart from the effects of botulinum toxin). The rate of complication is much reduced because only one reversible complication with type of infection of the tip (multi operated case). The duration of the results depends on the product used: 4 months for botulinum toxin, 12 to 14 month after 2 injections for the temporary fillers.

Conclusion: The medical rhinoplasty offers a new range of therapeutic solutions for many corrections of the nose. The ratio benefit/risk of any esthetic treatment must be high, which implies to obtain the best result with the simplest protocol, the least invasive and the least brutal. This new approach of the rhinoplasty corresponds thus completely to current waitings of the patients.

JACQUES BUIS, MD - CO-AUTHORS: CLAUDE LASSUS^a SANDRINE ROMAN^c

The "head down" position: A clinical model for a new strategy of surgical facial rejuvenation
Session: Innovations and What the Future Holds

Friday April 9th, 4.30 - 6.30
Room Nijinski

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Background: It has been traditional to examine patients in the sitting position to assess them for surgical rejuvenation of the face. The conclusions made in this position are often interpreted differently given that there are currently multiple different techniques of which none have demonstrated a real superiority. The face of a patient is more youthful in the supine position. A position with the head slightly lower augments this rejuvenation. This particular position, which enhances the youthful appearance, provides a unique model to study surgical methods of rejuvenation. The clinical model was used as the basis in this study to analyse the anatomical modifications that occur in the transition to the head down position and the technical manoeuvres that are necessary to ensure the maintenance of the facial rejuvenation on return to the sitting position.

Methods: A patient presenting with classical signs of ageing was photographed with frontal, three-quarter and profile views in

the sitting position and then head down. The rejuvenation obtained in the latter position and the modifications produced on the contours, volumes and the apparition of particular wrinkles were analysed clinically.

Results: The study suggests the following. There is a negligible role on the signs of ageing by structural changes of fatty tissue, septae and bone in contrast to the apparent importance of the mechanical effect of the skin. Two vectors very close to the vertical appear necessary for rejuvenation of the medial half of the midface and imply the need for orbital fixation. Two vectors near the horizontal but slightly oblique superiorly appear necessary for rejuvenation of the lateral half of the midface and neck. The vertical and horizontal vectors must be performed simultaneously to ensure the rejuvenation is homogeneous and complete. The steps necessary to maintain the rejuvenation obtained in the lower head position on return to the sitting position should be focused on the fixation of the volumes at the level of the particular wrinkles which appear in the head down position. Undermining and resection of skin should be limited to the zones of skin excess at the level of the wrinkles and stabilisation of the volumes. No tension is necessary when suturing the skin. Anatomical modifications produced by classical surgical procedures do not appear necessary to obtain the observed rejuvenation (but they could have a role in the maintenance of the observed result when returning to the sitting position).

Conclusions: This study of the observed rejuvenation in the head down position provides the basis of a novel approach to surgical rejuvenation of the face in which the objective is no longer aimed at achieving rejuvenation (the rejuvenation having been "spontaneously" achieved by the "head down" positioning) but rather at insuring the stability of the volumes and contours achieved in order to maintain the result once returned to the sitting position.

JACQUES BUIS, MD

Sculpted body! Plastic surgery and/or so-called non-invasive medical techniques?
Session: Full Management of Weight and Silhouette

Saturday April 10th, 2.00 - 4.00
Room Nijinski

Background and aim of the study: Today, patients are increasingly turning their backs on surgical techniques to sculpt their body. While this situation is understandable from the point of view of the general public (fear of surgery), is it justified by any real shortcomings in the solutions currently offered by plastic surgery?

On the other hand, non-surgical techniques to tighten the skin and correct the figure are enjoying quite a boom. The question is whether the results currently obtained with the various available systems live up to the very legitimate buzz that these systems are generating in the media?

Materials and methods: The author analyses its personal clinical results obtained with surgical techniques versus non surgical techniques in body contouring as using Thermage[®], Ultrashape[®] and lipolaser Pharaon980[®] since 2006.

Results: If we compare with the results we are able to obtain with surgical techniques, it appears obvious that non surgical techniques specially designed to address skin and /or volume excess present today some considerable limitations and are not totally free of risk for the patients.

Conclusions: That is why, before treating excess skin and local fat deposits, we believe the best approach is to carefully examine the indications, the respective results and the possible combinations of surgical techniques and non-surgical techniques. In the event that a non-surgical technique is chosen, it is also important to take on board the respective indications of the various available systems and to provide the patient with realistic and honest information.

ISABELLE CATONI, MD

Pilosité des fesses
Session: Create the Perfect Buttocks

Thursday April 8th, 4.30 - 6.30
Room Nijinski

La pilosité des fesses, dans notre pratique d'épilation laser de plus de 10 ans, représente moins de 5% de notre activité laser épilation.

Le plus souvent cause d'une demande esthétique, son traitement sera pratiqué différemment au laser Alexandrite long pulsed ou Yag long pulsed selon le phototype et le type de poils du sujet. Elle peut poser parfois des problèmes de stimulation ou de résistances que l'on développera et source alors de problèmes thérapeutiques.

En cas d'hypertrichose ou d'hirsutisme, nous rechercherons une anomalie hormonale. Elle peut être à l'origine de pathologie, fréquemment rencontrées en dermatologie : kératose pileaire, folliculites.

Plus rarement, la pilosité s'associe à des dysembryoplasies comme les hamartomes de Becker, les hamartomes pigmentaires géants, les kystes dermoïdes. Quant aux exceptionnelles queues faunesques, elles feront pratiquer les bilans de dysgraphie.

HENRIQUE LADVOCAT CINTRA M.D

Transpalpebral browlift : A stepwise approach
Special Brazilian Session: New Trends in Brazilian Aesthetic Surgery

Friday April 9th, 11.00 - 1.00
Auditorium Prince Pierre

Forehead rejuvenation goals are to raise the eyebrows, attenuate forehead wrinkles, and decrease glabellar frown lines. The best way to accomplish this has been subject of passionate discussion.

We present a fully nonendoscopic procedure with a transpalpebral approach combined with minimal scalp incision that can provide a cosmetic effect comparable to that produced by the coronal incision technique.

It also allows safe direct visualization of anatomic structures comparable to that allowed by the endoscopic-assisted technique but dispenses with tedious endoscopic instrumentation, and avoids the risk of a blind dissection close to the frontal branch of the facial nerve.

We present a stepwise approach to clarify our surgical systematization. It is an easy technique and the only essential requirement is thorough knowledge of the relevant anatomy.

Material and methods: A forehead lift with transpalpebral subperiosteal and subsuperficial temporal fascia undermining,

combined with a limited temporal incision and sometimes to corrugator muscle resection was performed in 35 female patients and followed up for three years.

The fixation method: On both sides three suspension 2-0 nylon sutures are placed at the superior edge of the temporal incision and with a modified Reverdin needle that enters and leaves the anterior skin through the same point, a consistent amount of anterior galea is lifted. To reinforce the adhesion between the deep and superficial temporal fascia, a window of 2/2 cm of deep temporal fascia was removed exposing the temporal muscle fibers.

The temporal incision is made as high in the scalp as a coronal incision is usually placed. The resulting suspension vectors will affect both the mid and lateral portion of the brow.

After releasing its inferior attachments, the whole composite forehead flap with a very stable periosteal platform and the temporal flap itself, is suspended towards the upper edge of the temporal incision with two cable sutures placed at the temporal hairline 2cms apart from each other and a third one at the superior temporal line as low as possible to maximize the effect of brow suspension and still avoid a noticeable skin dimpling.

The transpalpebral approach: As the lateral temporal and supraorbital adhesions are not more than two centimeters far from the upper blepharoplasty incision, it is possible to release them under direct vision increasing the safety of this dissection. For a very experienced plastic surgeon or those with skills in craniofacial surgery it may seem unnecessary to combine this approach with a temporal incision.

However a blind dissection through the temporal port brings more risk of injury to the frontal branch of the facial nerve and makes more difficult the release of the dense and firmly attached supraorbital periosteum. We are then proposing a stepwise approach to the brow lift that even for less experienced surgeons could be safe and effective.

Results: In this series we did not have any hematomas or infection and there was just a light edema. The patient could return to its social activities after three to four weeks. After an initial phase when we could observe some overcorrection of the brow ptosis, the final position was gradually obtained and remained stable as we could see in a three years follow-up.

There was no definitive frontal paralysis although we had three cases of transient paresis that totally recovered after three months. Also transient alopecia was observed at the temporal incision.

Conclusion: Endoscopic-assisted views of the anatomic landmarks and planes helped surgeons better understand the dynamics of brow ptosis. We are now adopting the same principles but avoiding the cumbersome endoscopic equipments with a direct visualization of the anatomic landmark in the orbital rim and inferior region of the forehead through the upper blepharoplasty incision and combined with a transtemporal access to provide a safe and reliable brow elevation.

HENRIQUE LADVOCAT CINTRA M.D

Brazilian style

Session: The breast around the world

**Saturday April 10th, 11.00 - 1.00
Room Nijinski**

The author presents its personal experience with augmentation breast surgery for the past 25 years and also an overview of the evolution of the aesthetic concepts in breast surgery in Brazil. New trends are always challenging the plastic surgeon to adapt its clinical approach.

As a result we expect an evolution that should provide surgical techniques with less recovery time, more predictable and consistent results.

In aesthetic breast surgery we have experienced an increased request for breast augmentation and for larger implants. The new generation of cohesive silicone gel implants made it possible and we also could improve the association of mastopexy and breast augmentation with shorter scars and more natural reshaping.

The polyurethane foam coated silicone breast implant has a very low rate of capsular contracture and may be the best option for its management.

For this reason this is our first choice implant. We are presenting the long term results of this approach. We are presenting the long term results of this approach.

EMMANUEL CLAQUE, MD

A new technique of filling the nasolabial fold: Pillars of bridge injections

Session: Best of Lips and Peribuccal Rejuvenation

**Saturday April 10th, 11.00 - 1.00
Auditorium Prince Pierre**

Purpose: I want to avoid the very frequent migration of the filler to the jugal edge of the fold.

Principles: Elevation of the labial edge by "the pillars of bridge" technique

Results: Outstanding improvement regarding previous techniques even in deep folds.

Materials: More than hundred patients treated and followed, slides and pictures

Français

Comblement des sillons nasogéniens par la nouvelle technique du Docteur Emmanuel Claque

But : combler le pli en évitant toute fuite de filler vers la joue

Principe : relever le versant labial du sillon et uniquement lui en déposant le filler comme les piliers de pont.

Matériels : plus de cent cas étudiés et suivis, vidéo et diaporama

OLIVIER CLAUDE, MD

Total body-lift after weight loss

Session: Full Management of Weight and Silhouette

**Saturday April 10th, 2.00 - 4.00
Room Nijinski**

Lower bodylift is still considered as an extensive surgery. Nevertheless thanks to bariatric surgery, this procedure has become more and more performed recently and well codified. If we respect basic rules, this surgery allows to treat contour deformities

of the abdomen, the thigh and the buttocks resulting from massive weight loss as well as from pregnancy and aging.

This circumferential bodylift provide a dramatic improvement in skin tightness and restore youthful contours especially to the buttocks and thighs. An abdominoplasty can only treat the front part that represents no more than one quarter of the trunk. The result will be not harmonious and balanced like the one after a bodylift.

Bodylift represents the ultimate solution for a total body reshaping. By respecting patient selections and following preoperative planning we produce long lasting result with low risk of complications.

KARINE CLEMENT

The adipocyte not just a lipid but also an endocrine cell
Session: Innovations and What the Future Holds

Friday April 9th, 4.30 - 6.30
Room Nijinski

INSERM, U872 (Eq.7), Nutriomique, Paris, France; Université Pierre et Marie Curie- Paris 6, Centre de Recherche des Cordeliers, UMRS 872 and Assistance Publique-Hôpitaux de Paris, Pitié-Salpêtrière Hospital, Nutrition Department, Paris, France

Background: Obesity is a disease of society and economic transition spreading at an epidemic pace throughout the world. According to the World Health Organization, obesity is defined as an increased or abnormal accumulation of body fat mass to the extent that individual's health is negatively affected.

Overweight is considered as top at risk condition in the world and it is mandatory to identify the physiopathological causes involved in adipose tissue enlargement and related metabolic and cardiovascular health disorders. In this context adipose tissue has been under focus in the last decades and pivotal concepts have emerged from the studies of their complex biology. The adipose organ is not simply a site for passive energy storage. White adipose tissue (WAT) is composed of mature adipocytes, precursors (preadipocytes), endothelial cells, macrophages, mast cells, blood vessels, nerves and lymphatic and connective tissue.

Material and Method: The phenotype, amount and biology of each WAT component have been studied in human samples.

Result: In addition to adipocyte metabolic dysfunction (i.e lipogenesis and lipolysis capacity), cellular stress including inflammation, oxidative, reticulum endothelial stress and hypoxia are part of the biological alterations which attract and retain inflammatory cells within the WAT and promote adipocyte insulin resistance. Chemokines as MCP1 and Rantes/CCL5 not only contribute to inflammatory cell adhesion and tissue transmigration but also may exert physiological action as shown recently for CCL5 being antiapoptotic for adipose tissue macrophages. Human adipocyte and preadipocytes demonstrate profound modifications of their biology when co-cultured with human macrophage media. A pro-inflammatory state, increased lipolysis and resistance to insulin are observed in adipocyte while the capacity of preadipocyte to differentiate is altered in presence of inflammatory stimuli. Inflammatory preadipocytes also acquire capacities to migrate and to synthesize profibrotic components. The evaluation of transcriptomic interactions characterizing the adipose tissue of weight-stable obese subjects demonstrated the strong relationship linking inflammatory processes to extra cellular matrix (ECM) remodelling components. Our group showed that interstitial fibrosis accumulates in obese WAT as in many organs affected by low-grade inflammation in chronic diseases (i.e. liver, lung, kidney pathologies).

Conclusion: In this conference, some illustrative examples will be taken regarding the pathological alterations of the adipose tissue in human obesity including the local altered biology of the adipose tissue and the discovery of new biomarker linking enlarged adipose tissue to obesity complications.

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ARNAUD COCAUL, MD

How nutrition can prepare and make body contouring surgery last longer?
Session: Full Management of Weight and Silhouette

Saturday April 10th, 2.00 - 4.00
Room Nijinski

The development of consensus guidelines for nutrition before and after surgery is complex. Most fad diets are just a bright star that quickly fades.

With so many fad diets, so many publications, so many dietary guidelines, so many claims, many find it difficult to know what action is appropriate in the management of weight especially before and after a body surgery. Consumers urgently need simple and practical tools to help them make healthy choices in a real life setting. It's necessary to translate nutrients into healthy foods and healthy eating patterns.

A comprehensive history relevant to the patient's history should be obtained. Some data suggest that both general adiposity and abdominal adiposity are associated with the risk of death and support the use of waist circumference in addition to BMI (the weight in kilograms divided by the square of the height in meters). We put emphasis that an evaluation of both dental status and chewing ability in patients scheduled for surgery will be systematic.

Eating slowly increases the postprandial response of the anorexigenic gut hormones like Peptide YY and Glucagon Like Peptide 1. The patients must decrease the size of food portions. Weight loss is known to occur as a consequence of reducing the proportion

of calories from fat.

To maximize adherence rates, we encourage the patients to consume a variety of protein especially from vegetarian sources, maintain carbohydrate and to avoid trans fat. Dietary advice should encourage increasing consumption of grain, cereals, fibre as well as vegetables and fruits. Before and after a surgery, an evaluation of the oxidative stress with a blood sample seems to be necessary to improve the morbid mortality

Appropriate goals of weight management include promotion of weight loss, maintenance and prevention of weight regain. Lifestyle changes must incorporate physical activity to optimize the success in the weight stabilisation. We should focus on realistic goals and lifelong management to optimize body surgery. Nutrition counsel should be based on good clinical care and evidence based interventions. Patients should understand that weight management will need to be lifelong.

BERNARD CORNETTE DE SAINT CYR, MD - CO-AUTHOR: CLAUDE AHARONI, MD

Upper lip surgery
Session: Best of Lips and Peribuccal Rejuvenation

Saturday April 10th, 11.00 - 1.00
Auditorium Prince Pierre

When people get older the upper lip gets longer. The red lip is looking down instead of looking ahead. This surgery makes it sexier. It is very different from lip injections. It does not thicken the lip. It can be combined with HA injections after one or two months but not often needed.

The author revisits a classical technique to associate it in the process of facial rejuvenation. It consists in shortening the upper lip through a sub and intranasal approach.

The author shows pre and post op results.

PHILIPPE COSTIL, MD*

Bariatric surgery: A necessary step for obese patients before starting aesthetic surgery
Session: Full Management of Weight and Silhouette

Saturday April 10th, 2.00 - 4.00
Room Nijinski

*General and digestive Surgery, Neuilly sur Seine, France

The goal of this work is to present bariatric surgery as it is performed in 2010.

The number of bariatric procedures increases regularly: in 1998, 40 000 procedures were carried out in 38 countries, including 30.000 in the USA; in 2008, 350 000 interventions (92% by laparoscopy).

The objectives of the treatment of obesity are:

- Substantial and constant weight loss (> 10 years)
- Improvement of co-morbidity.
- Good quality of life (alimentary comfort, social life).
- Lengthening of life expectancy.
- Reduction of costs for social services.

Currently, a multidisciplinary approach integrating a surgical procedure (bariatric program) can agree with all objectives.

Bariatric surgery is indicated for obese people, from 18 to 65 years:

- With Body Mass Index (BMI) > 35 and stable weight.
- Who sincerely want to lose much weight?
- Who already made modes, which failed?
- Who are ready to modify food practices?
- Who are ready to begin a more regular physical activity?

Contra indications of bariatric surgery are:

- Important inflammation of the digestive tract.
- Cardiac, pulmonary or other severe diseases making dangerous a general anesthesia.
- Previous gastric surgical procedure.
- Not stabilized depression.
- Alcoholic dependence.
- Serious psychiatric disorders

All procedures are performed by laparoscopy.

Currently, the 3 surgical procedures generally performed are:

One restrictive procedure: Laparoscopic Gastric Banding (LGB) which slows down food intake.

Advantages: simplicity, easy reversibility.

Disadvantages: bad alimentary comfort (frequents vomiting), very demanding follow-up, long-term complications.

Results (Excess Weight Loss): 40% EWL at 1 year, 50% EWL at 5 years.

Two restrictive and metabolic procedures: Roux en Y Gastric Bypass (RYGB), is restrictive, and also decreases food absorption and feeling of hunger (by decreasing the rate of ghrelin).

Advantages: very good efficiency, very good alimentary comfort, few long-term complications.

Disadvantages: very complex surgery with operative risks (< 5%), regular vitamin intake, dumping syndrome.

Results: 70% EWL at 1 year, 80% EWL at 5 years.

Laparoscopic Sleeve Gastrectomy (LSG) is restrictive and also decreases sensation of hunger (ghrelin).

Advantages: high efficacy, good alimentary comfort, no long-term complications.

Disadvantages: complex surgery with operative risks (< 5%), recent intervention (outcome unknown after 7 years).

The overall mortality of bariatric surgery is 0.3%

Approximately 0,9% after RYGB, 0.1% after LGB and 0.3% after LSG.

Early postoperative complications are bleeding and fistula. They are rare after LGB, more frequent after RYGB et LSG.

Late complications are rare after LSG (vitamin deficiencies) and RYGB (vitamin deficiencies and occlusions). They are more frequent after LGB: pouch dilation (10%) intra gastric band migration (< 2%) requiring laparoscopic band removal.

Failure (EWL < 50%) is the most important complication of bariatric surgery.

Causes of failure are always:

- Lack of follow up
- No amelioration of food practices
- No regular physical activity

Causes of success are always the same:

- Initial motivation
- Correct choice of the procedure
- Regular follow up

Conclusion: Bariatric surgery is a safe and efficient procedure when it is included in a multi disciplinary approach and performed by experimented teams.

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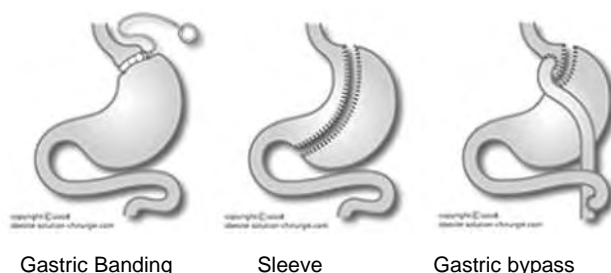
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To learn more, please consult the website www.weight-loss-surgery.fr



YVES CRASSAS, MD* - CO-AUTHOR: DENIS BLACHE, MD**

Non invasive adipocytolysis: New concept, new prospect
Session: Short Contributing Lectures in Medical and Surgical Body Reshaping

Thursday April 8th, 2.00 - 4.00
Room Van Dongen

* chargé de cours à l'Université Claude Bernard Lyon I - France

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Introduction: The non-invasive treatment of disgraces of the silhouette has been effective for 10 years thanks to Steven HOEFFLIN. The media passion and the unrealistic request of the patients caused many anarchistic attempts which were often badly evaluated in various directions which have in common to be empirical steps: the use of chemical solutions (Lipostabil) of hypotonic solutions and ultrasounds whose theoretical bases are often not well documented.

For the scientific community and the researchers in the field of fat tissues, time comes to re-think of these promising treatments, according to recognized scientific protocols, to develop and evaluate these new processes.

For the two last years, we have communicated and published our original technique of adipocytolysis using an aqueous solution with very low osmotic pressure combined.

It now becomes essential to communicate on:

1. The theoretical limitations of the method: the destruction of a large quantity of adipocytes releases very large amounts of free fatty acids and cellular fragments which are not drawn up if one wants to keep the non-invasive character of the procedure. This method is not without setting up fundamental and practical problems which are far from all to be well solved. But still our researcher biologists work hard to find reliable solutions.

2. The evolution of our theoretical concepts and new ways of research: the things are not as simple as it appears to at first glance: the adipocytolysis is not like a simple "bursting" of the cell; we discover the true structure of the cellular membrane of the adipocyte and the way of weakening it, leading to new promising approach.

Material and methods : Rational : Use of a hypotonic very original solution and a patented membrane weakened.

The cellular destruction is combined with the action of external ultrasounds. The new ways of research are described for the development and the validation of new substances aiming to weaken the membrane as well as the development of ceramics and specifically designed ultrasounds generating machines to achieve the destruction of the adipocytes.

The procedure is now well set up and as follows:

- previous specific biological check up
- drawing of the zones to be treated

- evaluation of the local parameters: cutaneous and of the fat panicle
- techniques of injection
- efficient and safe dilutions are now well specified
- the injection in tumescence like is simple
- the use of low frequency ultrasounds in phase
- the evolution and the original management of the post-operative period are described indeed:

The evolution of the first 15-day post operative period appeared to us completely different from that observed after liposuction. So we can propose an original and well-adapted protocol of care and follow-up. If necessary, a previous antioxidant supplementation is also recommended.

Complications although exceptional and benign must be managed with experience. They enabled us to isolate a specific and extremely rare clinical form of residual non-inflammatory steatonecrosis.

Results: They were evaluated on pre and post operational pictures, by echographic measurements and controls according to the various localizations. They were the subject of a rigorous evaluation on a significant cohort of 100 patients: with more than 1 year of post-treatment.

Clinical study, echography, biochemical assay of free fatty acids: at time 0, +1h, +24h, +5 days
Anatomopathological study of adipocytes at time 0, +15 mn, +2h, +5 days, + 21days

Discussion

- The last improvements make it possible to treat complete anatomical zones: trunk and chest, buttocks and circulars of lower limbs, by mobilizing 2 litres of fats per meeting.

- This is the power of technique as being evaluated on significant cohort and by reliable means which differentiate our process from the other attempts which were not still validated in a rigorous way. The adipocytolysis is indeed the only non-invasive method which allows the treatment of a complete anatomical territory and that it only can be described as true alternative to the liposuction.

- It is a still recent concept and technique, whose field of application will extend quickly. This expansion could be done only with a combination of both fundamental research and clinical evaluation. However, the limits of this non-invasive lipo-sculpture appeared to us and will be discussed. The higher are the achievements, the more are some disadvantages related to the number of adipocytes destroyed and cellular debris left in place and which may exceed the capacities of resorption of the body. This may involve :

1. An increase in the circulating levels of free fatty acids that, even in low concentrations, may lead to localized or generalized oxidative stress and proinflammatory reactions.
2. The persistence of nodules of cytosteatonecrosis in the treated zones which cannot be completely reabsorbed by the macrophages. It results from dilated and lipid-free adipocytes, free from any fibrosis and which are easily aspirated with microcanula.

Consequently, the limits of treated volume, currently seems to us to have to be fixed at 2 litres of fat per session. The research perspectives are as follows: - it is necessary to continue the in vitro test on culture of adipocyte for better including/understanding the structure of the cellular membrane and finding new and safe agent to weaken the membrane

- it is still necessary to test and optimize the most adapted saline concentrations
- in vivo and according to biochemical protocols, it is necessary to better appreciate the induced inflammatory and oxidative reactions and to treat them by pre-operational actions
- clinical evaluation must be carried out according to recognized protocols by using the IRM.

Conclusion : The lipolysis is a new process of non-invasive treatment of the silhouette that is effective and reliable. However, it is necessary to adopt an extreme prudence in the development of techniques and to evaluate the overall procedures according to well established clinical protocols to afford a safe validation of new improvements.

BERNARD DAUM, MD

Beauté du pied : avons-nous des critères ?
Session: Legs and Feet Beautyfication

Friday April 9th, 8.30 - 10.30
Room Nijinski

C'est à la lecture des contes et légendes du monde entier, provenant de civilisations très anciennes que l'on note l'importance de ce membre : le pied.

Décrit, magnifié, il devint même symbole :

- symbole de l'âme c'est-à-dire rapport aussi bien que point de contact entre le corps et la terre
- symbole des réalités
- symbole érotique universel

Pour ce symbole essentiellement, on retenait différents critères de beauté. Actuellement, il est habituel de classer le pied en fonction du seul canon des orteils. Le pied est ainsi égyptien, carré ou grec. Outre la douleur, c'est surtout la déformation du pied et ses désavantages qui font consulter un podologue ou un médecin. Le pied doit être beau, net, sans callosités, cors, durillons et autres problèmes qui ne permettraient pas de les exhiber en été. Mais il y a plusieurs siècles, les critères étaient beaucoup plus contraignants, et nous savons tous que pour réunir les critères de beauté du pied tels qu'ils les recherchaient, les Chinois n'hésitèrent pas à torturer les pieds des petites filles jusqu'à l'âge adulte pendant des siècles.

Repris selon les légendes indo-européennes et égyptiennes, le conte de Cendrillon est encore présent à ce jour dans notre imagerie, alors que trouver des chaussures quand on a un très petit pied relève de l'exploit... Depuis des années, la mode a changé les données : le pied doit s'adapter à des modèles de chaussures extravagantes, à des talons vertigineux. C'est l'ensemble pied et chaussure auquel s'attache le critère de beauté. Le pied, lui, en ressort meurtri.

JACQUES-ANDRÉ DAVID, MD

New technology of easy-to-use skin analysis. ANTI-AGING SD
Session: Innovations and What the Future Holds

Friday April 9th, 4.30 - 6.30
Room Nijinski

Lately, the developments in anti-aging treatments based on the improvement of skin characteristics and aspect have let many expectations between aesthetic practitioners and their patients.

Most advanced bio-physical digital technology, now enables the objective recognition and spectacular accreditation of any patient's cutaneous parameter.

Two softwares are available to make best use of the Anti-aging SD analysis module:

Aphrodite is a software designed to make a quick balance sheet of patient's facial skin. It measures several parameters (such as keratin, sebum, Hydration, pores, wrinkles, etc..), it scans macro images of the skin, measures, memorizes, compares, etc.. The software analyses results, determines the patient's skin condition by comparing it to an age-standard, provides recommendations and grants an easy access to all patients' medical history at any time.

Image DB is specifically used to analyze any type of skin condition, follow the evolution of any cutaneous incident (marks, melanomas, acne, etc..), illustrate and quantify with very high precision the results of an anti-aging treatment (width and depth of wrinkles, cutaneous variations).

It documents results and enables spectacular 3D presentations. All images can be stocked, compared and reused at any time.

Français:

ANTI-AGING SD: Le développement des traitements anti-aging pour améliorer l'aspect et les caractéristiques physiques de la peau, est en train de créer de nombreuses attentes entre les professionnels et leurs patients.

La plus haute technologie biophysique digitale permet maintenant de déterminer objectivement et documenter de façon spectaculaire les paramètres cutanés de chaque patient. Nous disposons de deux logiciels afin d'exploiter efficacement le module d'analyse Anti-aging SD:

Aphrodite est un logiciel qui permet de faire instantanément un bilan de la peau du visage en mesurant plusieurs paramètres (tq kératine, sébum, hydratation, pores, rides, etc..), de numériser des macro-photos, mesurer, mémoriser, comparer, etc..

Le logiciel analyse les résultats, détermine l'état de la peau en comparant l'état réel de la peau du patient avec l'état standard correspondant à son âge, il fournit des recommandations et permet de consulter à tout moment l'historique complet de chaque patient.

Image DB permet d'analyser tout type de détail de la peau des patients, suivre l'évolution de n'importe quelle incidence cutanée (taches, mélanomes, etc..) documenter et quantifier avec une précision absolue le résultat des traitements anti-aging (largeur et profondeur des rides, relief cutané etc...).

Il documente les résultats et permet des présentations spectaculaires en 3D. Tous les clichés peuvent être gardés en mémoire, comparés et réutilisés à tout moment.

DENIS DELONCA, MD

Circumferential liposuction of the calves and the ankles
Session: Legs and Feet Beautyfication

Friday April 9th, 8.30 - 10.30
Room Nijinski

Among the different areas we can treat by liposuction, legs calves and ankles are often neglected because of the bad reputation of surgery on these zones.

However, these areas are the most visible ones in the female way of dressing and these patients cannot live and wear properly: boots, fit jeans, do any sport are forbidden for them!

The author presents his twenty years old experience, in legs reshaping by CIRCONFÉRENCIAL LIPOSUCTION.

Here are emphasised: preop. skin-markings; the placement for the points of approach; the perop. positions of the patient ease the access to the different aspects of the legs; the average volume removed is of 2.0 l of pure fat for both legs ; the type of canulae used and their specific use; the postop. elastic garment allowing the patient to walk without any delay; the postop. care, and the final results obtained.

RESULTS often overpass both surgeon and patients expectations!

DENIS DELONCA, MD

The Express Minilift without surgery
Session: Short Contributing Lectures in Medical and Surgical Facial Rejuvenation

Saturday April 10th, 4.30 - 6.30
Room Van Dongen

Key words: Ageing Face, Aesthetic anatomy, Volumetry, Volume-restoration, Anti-Ageing injections, Fillers, Botulic Toxin, Medical Lift, Hyaluronic Acid, Naso-Labial folds, Marionett folds, Tear troughs, Wrinkles treatment, Clinique esthétique aquitaine

Background and aims: This procedure aims to propose a "mini-invasive" technic for ageing face rejuvenation for patients searching for non surgical anti-ageing treatments.

Technique and methods: All the ageing signs are concerned: At the upper third of the face: Muscular hyper- activity around the look is dramatically improved by Botulic Toxin injections in conjunction with temples and periorbital filling.

For the middle third and the lower third of the face, volume restoration by fillers are, not a panacea, but a very valuable medical alternative to micro-fat grafting: Only biodegradables fillers are studied here, such as Hyaluronic acid, calcium hydroxyapatite, collagen...

The main indications are: Hallowed temples, Tear troughs, Malar fat pad, Nose, Lips, Naso-labial folds, Marionette folds, Chin, Mandibular border and angle,

All of them can be treated, by a quick office procedure, under local anaesthesia. All the face, at one time, can be done: that's the

"MEDICAL EXPRESS MINILIFT" combining during the same session muscular moderation by toxin plus fillers for various precise areas, following a subtle analysis of the "aesthetic anatomy" of the patient's ageing face. But a step by step procedure may be preferred by some patients or by their doctors at the beginning of their learning curve.

Tear troughs treatment is detailed. Endo-oral injection technique for peri malar volumetry is emphasized here. Over correction management is detailed.

Maintenance schedule is described. Results can be raised, when necessary, by blepharoplasty and later on eventually, by a conventional face lifting.

Results and discussion: A real rejuvenation of the appearance of his ageing face can be offered to the patients. Naso-labial folds are of course the better known area to be treated so. Tear troughs are the trickiest areas to do, and one must not begin by them; the same can be recommended for the lips. A couple of days as recovery period is always prudent to be announced before, as patients can present bruising at lips or tear troughs, or dark eyes (when periorbital treatment)

Conclusion: The aim is to treat our patients:

- With real rejuvenating results concerning their appearance,
- On a conservative way for their expression,
- avoiding definitively any excess of volume not to "transform" them.

Respecting these rules, the "medical express minilift" is an extremely efficient mini invasive rejuvenating treatment to allow our patients remaining themselves, at the must of their age!

Français

Le " Minilift Express " sans chirurgie

Objectifs: L'auteur présente ses 3 années d'expérience dans le rajeunissement purement médical de certains visages. En effet, devant la demande croissante de nos patientes de procédures légères non chirurgicales, réalisables au cabinet du chirurgien, il devient utile de conceptualiser les effets obtenus dans le rajeunissement du visage par l'association: injectables neuro-modulateurs pour le regard et le front et, injectables volumateurs pour ce qui est des pertes de volume, des creux, ou des rides à combler.

Matériel et méthodes : Une série de 28 patient(es), 21 femmes, 7 hommes ont été traité(es) entre janvier 2007 et août 2009. L'âge varie de 39 ans à 64 ans.

Dans certains cas, seuls les injectables volumateurs ont été nécessaires tandis que dans d'autres le rajeunissement du regard et du front a nécessité l'association de toxine botulique pour moduler les rides d'expression.

Sont exposés : l'information en consultation du patient, les possibilités et les limites du traitement, les marquages opératoires, les techniques d'injection, le choix des injectables (acide hyaluronique plus ou moins réticulé, hydroxiapatite calcique) en fonction des sites à corriger, le traitement des éventuelles complications, la pérennité des résultats, et le planning de leur maintien dans le temps.

Discussion : Le chirurgien plasticien connaît l'anatomie esthétique du visage. Certains résultats sont réellement surprenants. Ce qui est le plus positif c'est le haut degré de satisfaction apporté aux patient (e)s en terme de réponse à leurs attentes en matière de rapport bénéfice/risque en esthétique.

Résultats : Le volume moyen d'injectable utilisé varie de 3ml pour traiter un regard isolé, jusqu'à 10 à 12 ml pour un visage émacié complet englobant : les cernes, les creux des tempes, les volumes des pommettes, les creux des joues, la vallée des larmes, les plis nasogéniens, le réourlage discret des lèvres, l'alignement du rebord mandibulaire inférieur au niveau de l'ovale du visage.

Conclusion: En matière de rajeunissement Médical du visage, le "MINILIFT EXPRESS" permet de répondre à l'attente de patient (e)s qui souhaitent peu ou pas d'éviction socioprofessionnelle et ne sont pas encore prêts pour la chirurgie dont l'heure peut ainsi être retardée.

Le "MINILIFT EXPRESS" affirme que le plasticien est bien l'expert médico-chirurgical de référence en Esthétique.

Mots clés: minilift express sans chirurgie - rajeunissement médical - injectables neuro modulateurs - injectables volumateurs - toxine botulique - acide hyaluronique - hydroxiapatite calcique - anatomie esthétique - rapport bénéfice / risque - expert médico chirurgical de référence en esthétique

BRUNO DE MEYERE, MD

Buttocks enhancement with hyaluronic acid
Session: Create the Perfect Buttocks

Thursday April 8th, 4.30 - 6.30
Room Nijinski

Co-authors: Per Hedén, Colette Carmen Camenisch, Sebastian Mir-Mir, Juan Peñas

Volume restoration and contouring of the buttocks: efficacy and safety of stabilized hyaluronic acid-based gel of non-animal origin

Background: Hyaluronic acid-based gel of non-animal origin (NASHA™-based gel) is a biocompatible, biodegradable, injectable gel implant. Macrolane™ VRF30 is a formulation of NASHA-based gel developed specifically for body shaping. The present study was performed to assess the safety and efficacy of NASHA-based gel when used for volume restoration and contouring of the buttocks.

Method: This was a prospective, single-arm study. Participants had to be aged at least 20 years and be seeking buttock augmentation. Exclusion criteria included skin disease in the treatment area, liposuction within the previous 6 months, and insufficient tissue cover. A maximum of 400 ml of NASHA-based gel was injected during one or two treatment visits (optional touch-up was permissible 3-8 weeks after initial treatment). Efficacy was assessed using the Global Esthetic Improvement Scale (GEIS) 3-6 weeks post-treatment and magnetic resonance imaging (MRI). Safety was assessed by subjects' assessment of the injection procedure and adverse event (AE) reporting.

Results: At the time of this analysis, 29 subjects had completed 3-6-week follow-up. The mean total volume of NASHA-based gel injected was 344 ml (range: 200-400 ml). According to GEIS assessment, most subjects (90%) rated their appearance as

improved, while investigators rated all study participants as improved. At least 60% of the gel was located within subcutaneous fat in 6 out of 8 subjects assessed by MRI. Pain during the injection procedure was mainly considered to be mild or moderate, and the majority of subjects (69%) found the treatment to be acceptable. All 29 study participants reported anticipated AEs, such as redness, swelling, tenderness, pain, bruising and itching, within 2 weeks of treatment. Considering the nature of the treatment procedure, there were no unexpected AEs. In addition, there were no serious AEs.

Conclusion: These preliminary data suggest that NASHA-based gel is effective and well tolerated for aesthetic augmentation of the buttocks, and a high level of satisfaction was observed among treated subjects.

BRUNO DE MEYERE, MD

Breast enhancement - European style
Session: The Breast Around the World - Beauty and Breast Enhancement

Saturday April 10th, 11.00 - 1.00
Room Nijinski

There is no such thing as a typical European breast augmentation. Taste differs from country to country and techniques differ from surgeon to surgeon. Flemish women invariably want a natural looking breast with a straight or even slightly hollow upper pole. Dutch patients really hate this and go for a full bosom which still has to look natural in the vast majority of patients. The German patients we see like an even fuller breast which in most cases may be even a little overdone...

When questioned about their technique at a meeting of the Belgian scientific society, half of the surgeons place most of the implant under the major pectoral muscle whereas the other half prefers to implant above the muscle...

In our private hospital setting breast augmentation is by large the most frequent intervention. In this presentation focus is put on the challenge of the small breasted woman. Until about four years ago the only possibility to help those women was to put the implants behind the pectoral muscle, with all the well-known drawbacks. However in 2006 the dual gel prosthesis produced by Mc Ghan (now Allergan) was available. With its thin upper edge and its concave back side, this prosthesis could be implanted in front of the muscle even in very skinny patients.

From August 2006 till January 2010, 43 patients were treated in our centre using this specific prosthesis, both in primary and secondary cases. Especially the two year follow-up results illustrate the amazing potential of this relatively new prosthesis. The choice of prosthesis size depends mainly on the width of the breast basis and the thickness of the available breast tissue. At the time of the operation the measurement of the inner diameter of the pocket is paramount to determine which prosthesis size is most suitable. This measurement can easily be done using a gynaecologist's pelvimeter.

In conclusion this presentation illustrates the possibility to put breast prosthesis in front of the muscle in very flat breasted women. The way to choose the right prosthesis before and during surgery is illustrated. Follow-up of more than two years illustrate the durability of the results and the shape of breasts that are created.

KATRIN DREISSIGACKER, MD

Minimally invasive facial volumisation with hyaluronic acid:
Preventing pain and hematoma, needles or cannula
Session: Technical Steps Before, During and After Injections

Saturday April 10th, 2.00 - 4.00
Auditorium Prince Pierre

Modern hyaluronic acid fillers meet today's demands for minimally invasive facial volumisation at a high level. The limits are primarily set by the cannulae and the injection techniques. This is particularly true for extensive treatment concepts building up deep and surface structures of fatty tissue. The traditional sharp needles often cause substantial traumas with unpredictable results. Post treatment, many patients complain about partially substantial hematomas, swelling and pain. To minimize those side effects and, in turn, to shortcut downtime, the French manufacturer Thiebaud developed a blunt cannula (pix'L) targeting hyaluronic acid injections. Its blunt design enables separation of the natural fibrous connections on penetration instead of piercing the tissue, and thus allows for a non-traumatic and virtually painless penetration and progression in the subcutaneous tissue. Since April 2009 I have been using this device with excellent results. I will specifically demonstrate the possibilities of the pix'L cannula and present a concept for treating large areas of the face. I will also present data of a controlled application study I have been carrying out between April and December 2009 on 30 female patients with appropriate indications. All of those patients have been treated in the concept of an extended facial volumisation.

Technically the treatment follows the structural fat grafting and is conducted with the pix'L cannula and hyaluronic acid fillers of the Restylane product range (Q med, Sweden). Most of these patients had undergone earlier hyaluronic acid filler treatments, conducted with traditional sharp needles.

I will discuss multiple aspects of the results including patient satisfaction and complications such as swelling, hematoma, pain and downtime.

Keywords: minimally invasive facial volumisation, blunt cannula, pix'L cannula, sharp needle, hyaluronic acid filler, hematoma, pain.

MOHAMMAD DEEB ALI EED, MD, FRCS

Circumferential Brachioplasty
Session: Short Contributing Lectures in Medical and Surgical Body Reshaping
Eed Clinic Technique

Thursday April 8th, 2.00 - 4.00
Room Van Dongen

Brachial dermolipectomy which has been performed by several decades became more frequent again with the advent of bariatric surgery. Weight loss patients with severe sagging of skin which is extending from axilla to well below elbow region.

Various options for addressing excessive skin with varying amount of fat are liposuction with mini lift or axillary lifting.

Longitudinal brachioplasty with L or T extension in axilla are well described and practiced. But the solution for the excess skin sagging below elbow was not addressed properly. Even the mini lift (Axillary Lift) is barely sufficient, the longitudinal brachioplasty result in ugly hypertrophic scar with residual dog ear deformity at elbow which need extension of skin incision below elbow level. To correct this problem and to reduce vertical excess skin we developed "Circumferential Brachioplasty-Eed Clinic Technique".

The technique of surgery will be described in detail in our presentation. But in brief we do this procedure on selective case to case basis. To start with we do circumferential arm liposuction or area of adiposity. In 2nd step, the circular dermolipectomy done as marked before surgery. To make sure for lymphatic drainage with excise only skin and leave alone the deep adipolymphatic tissue. The excess skin excised and remaining flap was tension free and sutured in 3 layers.

The end result is more aesthetically looking arm with no excess skin at elbow. The concern for circumferential scar is address with camouflage with tattoo. Our technique rationale and result are far better than contemporary techniques.

RUSSEL EMERSON, MD

How to manage fillers and botulinum toxin complications?
Session: Technical Steps Before, During and After Injections

Saturday April 10th, 2.00 - 4.00
Auditorium Prince Pierre

The presentation will discuss complications of Botulinum toxin therapy and dermal fillers with photographic illustrations of cases. The presenter will discuss how to avoid some of these complications and management of problems that may arise in aesthetic practice.

HOSSAM M.T. FODA, MD

The Droopy Nasal Tip
Session: New Trends in Medical and Surgical Rhinoplasty

Saturday April 10th, 4.30 - 6.30
Auditorium Prince Pierre

The droopy tip is a common nasal deformity in which the tip is inferiorly rotated.

500 consecutive rhinoplasty cases were studied to assess the incidence and causes of the droopy tip deformity, and to evaluate the role of three alar cartilage modifying techniques, lateral crural steal (LCS), lateral crural overlay (LCO), and tongue-in-groove (TIG), in correcting such deformity. The external rhinoplasty approach was used in all cases.

Only one of the three alar cartilage modifying techniques was used in each case and the degree of tip rotation and projection were measured both pre- and postoperatively. The incidence of droopy tip was 72% and the use of an alar cartilage modifying technique was required in 85% of these cases in order to achieve the desired degree of rotation. The main causes for the droopy tip included; inferiorly oriented alar cartilages (85%), overdeveloped scrolls of upper lateral cartilages (73%), high anterior septal angle (65%), and thick skin of the nasal lobule (56%). The LCS increased nasal tip rotation and projection, the LCO increased tip rotation and decreased tip projection, and TIG increased tip rotation without significantly changing the amount of projection. The LCO resulted in the highest degrees of rotation, followed by the LCS, and finally the TIG technique.

According to our results; the LCS is best indicated in cases with droopy underprojected nasal tip, the LCO in cases of droopy overprojected nasal tip, and the TIG in cases where the droopy nasal tip is associated with an adequate amount of projection.

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LINDA FOUQUE, MD

Light-Emitting Diodes (LEDs): Amazing therapeutic potential
Session: Sheeding New Light on Photomodulation

Friday April 9th, 8.30 - 10.30
Room Van Dongen

In 1980, NASA developed the properties of LED on tissues in particular on healing at 0 gravity.

Today thanks to a better knowledge of the mechanisms of LEDs the applications are multiplying as well in the industrial domain as in the medical domain.

The principal aim of LEDs is the cytochrome oxidase situated in the internal membrane of mitochondria.

The LEDs offer a multipotential therapy because there are many biological effects, many targets and a large spectrum of light. One can see: an increase in mitochondrial activity with ATP, NADH synthesis, Angiogenesis, reduction of collagenase, blockage of nociceptif message.

All the cells constitute a potential targuet: fibroblast, keratinocyte, endothelial cell, adipocyte, osteoblast...

The wave length used have privileged actions on tissues according to their penetration and their absorption: for example the blue light (415nm) is succfull for acne, the Red light for inflammation, the orange light (yellow and red) potentilize the action on fibroblast.

The therapeutic of LEDs is attractive because of the absence of side effects and by multitalented applications: Antiinflammatory, Healing, Antiaging, Antalgic and Immune System action.

LEDS are effective for treating or improving the aesthetic of Dermatological illnesses: acne, rosacea, herpes, scars, stretch marks, melasma, and varicosities.

In oncology LEDs are used in dynamic Phototherapy to treat keratosis and non melanocytic cancer of the skin. They have the advantage to treat the carcinologic field at the same time as giving good aesthetic results.

The overview of all the possibilities is far from finished and the future is exciting for many more applications.

ALINA A. M. FRATILA, MD*

New trends to treat photoaging
maximum aesthetic improvement
Session: New trends for Dermatological Surgeons

Thursday April 8th, 4.30 - 6.30
Auditorium Prince Pierre

*Medical Director, Jungbrunnen-Klinik Bonn, Germany

Photoaging is characterized by solar elastosis with dyspigmentation, telangiectasia, rough skin, enlarged pores, and rhytids. Several lasers and light sources can be utilized to reverse the aging process, i.e. for photorejuvenation. Nonablative, nonwounding therapy with intense pulsed light (IPL) is in my opinion the most effective treatment modality to reverse signs of photoaging. IPL system is emitting yellow, red and infrared light simultaneously and therefore several components of photoaging can be treated concurrently. The most visible changes include reduction of dyspigmentation, both epidermal and dermal, and reduction of telangiectasias, including diffuse redness and rosacea. Due to induction of new collagen and extracellular matrix synthesis an overall smoother texture and tone with improvement in pore size, solar elastosis, and rhytids can be seen. IPL can be used to treat photoaging not only on the face, but on the neck and chest as well. Unfortunately the learning curve to very good results with minimal side effects is a long one. The most commonly employed pulse durations and pulse combinations as well as the additional use of photo sensitizer will be described in order to improve efficacy, compliance, and patient satisfaction.

ALINA A. M. FRATILA, MD*

The full spectrum of ablative rejuvenation:
From traditional to fractional CO2 laser skin resurfacing
Session: Lasers, Lights and Related Technologies

Friday April 9th, 11.00 - 1.00
Room Nijinski

*Medical Director, Jungbrunnen-Klinik Bonn, Germany

With increasing longevity and greater ultraviolet damage to skin, the number of individuals asking for skin rejuvenation has also increased. Additionally, an increasing acceptance for esthetic skin rejuvenation procedures in the last years has been noticed. Ideally, both surgeon and patients expect the removal or correction of actinic rhytides, lentigines, pigmentary dyschromias, actinic keratoses, and superficial (acne) scarring, with improvement in both quality and tightness of the skin. The choice of skin resurfacing procedure depends on the type of skin blemish, the skin type to be treated and the patient's lifestyle. The goal is to achieve the greatest improvement with the least down time. Traditional CO2 laser skin resurfacing is the most effective treatment for tissue rejuvenation. It is an ablative surgical method with the depth of vaporization being precisely controlled. In order to eradicate deep rhytides and epidermal lesions the basal cell layer must also be removed. The more intense the residual thermal damage to adjacent tissue the greater the dermal stimulation and inflammatory reaction, the more neoangiogenesis and new collagen occur, and thus the better and longer the clinical results due to tissue remodelling. But higher thermal injury produces a more intense erythema with prolonged wound healing and recovery time. Therefore, to achieve great improvement with lesser morbidity and shorter healing time, the physician can offer ablative fractional skin resurfacing. Some obligatory side effects immediately post treatment must clearly be pointed out: edema, erythema, and burning sensation, appear as part of the healing process but are more common and pronounced after traditional than after fractional skin resurfacing. On the other hand pinpoint bleeding and crust separation are side effects more common with fractional resurfacing and can be very pronounced according to the depth of laser penetration. Potential complications, more common after traditional skin resurfacing are: prolonged erythema and induration, hypertrophic scarring, and hyperpigmentation. Fractional resurfacing can nicely reduce pore size, improve lax skin and deep scarring or attenuate broken blood vessels. To avoid complications, we recommend treating neck, chest, and dorsal aspects of the hands, as nonfacial regions, only with fractional resurfacing. A highly precise vaporization and tightening of the skin without significant complications is now possible using the properties of the CO2 lasers for fractional resurfacing.

ALINA A. M. FRATILA, MD*

My favorite approach to the lower eyelid rejuvenation to achieve
maximum aesthetic improvement
Session: Best of the Periorbital Area and Mid-Face Rejuvenation

Friday April 9th, 2.00 - 4.00
Auditorium Prince Pierre

*Medical Director, Jungbrunnen-Klinik Bonn, Germany

Because there is no single procedure that produces a satisfactory outcome in every patient, esthetic lower eyelid blepharoplasty demands a precise evaluation in order to select the most appropriate surgical approach. In lower eyelid blepharoplasty the following changes related to senescence have to be analyzed and improved concurrently: herniation of orbital fat, suborbicularis fat hypertrophy or hypotrophy, drooping of the lateral canthal angle, ectropion and actinic elastosis with progressive development of fine rhytides, crow's feet or even festoons.

Transconjunctival laser-assisted blepharoplasty is the technique of choice when only herniated fat pads need to be removed from the lower eyelid. When dermatochalasis and static wrinkling of the lower eyelid are a concern as well, transconjunctival lower eyelid blepharoplasty needs to be combined with periorbital laser skin resurfacing, to correct the skin laxity. It is very important that the patient be informed about additional risks and downtime related with the laser skin resurfacing procedure.

The best tightening result is achieved when performing traditional UltraPulse® CO2 laser skin resurfacing, but prolonged downtime and erythema last longer than after fractional laser skin resurfacing. I recommend combining DeepFX™ as a fractional tightening procedure with ActiveFX™ as a fractional resurfacing procedure to achieve a better tightening effect on the infraorbital skin. These procedures are more effective if combined at least two weeks preoperatively with the use of Botulinum toxin type A for the treatment of dynamic periorbital wrinkles. Considerable dermatochalasis on the lower eyelid may also require a subciliary pinch excision of the infraorbital skin but if very pronounced dermatochalasis or even festoons are present, a transcutaneous subciliary approach may be the method of choice. If lower eyelid laxity is present, a simultaneous lateral tendon to periosteum canthopexy should be additionally performed at the time of surgery in order to avoid lower eyelid retraction with rounded eye, sad look, and scleral show.

A conservative CO2 laser-assisted transconjunctival fat pad resection with preservation and repositioning of orbital fat pads may be recommended in patients with prominent orbital rim or "tear trough" deformity or depression in the nasojugal groove area. The depressed or atrophic areas may be filled with the removed excessive infraorbital fat (after a special preparation) or with fat gained during a classical lipofilling procedure, converting more effectively the double convexity deformity present.

JÜRGEN FREVERT, MD

NT 201 - a new development in botulinum type A toxins: purity, potency, stability and low immunogenicity

Session: The Science of Botulinum Toxins

Friday April 9th, 8.30 - 10.30
Auditorium Prince Pierre

NT 201 (Xeomin®/Bocouture®, Merz Pharmaceuticals GmbH) represents a new development in botulinum toxin A products, as it is free from complexing proteins - unlike other commercially available formulations. The production of NT 201 includes chromatographic steps, which remove these and other contaminating clostridial proteins. Furthermore, the manufacturing process of NT 201 yields only the active 150 kD neurotoxin with the highest specific biological activity (units/ng protein) in comparison to other botulinum toxin A products thereby minimizing the foreign protein load.

Importantly, a high specific activity has been associated with low immunogenicity. For example, evidence from experiments in rodents confirmed that injection of the full botulinum toxin type B complex resulted in higher antibody titres than injection of the 150 kD neurotoxin type B alone. Similar findings have been demonstrated with type A neurotoxin, where repeat injections into rabbits led to the development of neutralizing antibodies in 20% of the animals treated with a botulinum toxin preparation containing inactivated (or partially inactivated) toxin and complexing proteins compared to none of those treated with NT 201. Putative roles for complexing proteins have been suggested including an effect on diffusion. However, studies have shown that the neurotoxin dissociates immediately from the complexing proteins following injection into muscle. In addition, the migratory potential of the active substance has been shown to be comparable between NT 201 and a licensed botulinum toxin containing complexing proteins (Botox®/Vistabel®, Allergan). Thus complexing proteins have no effect on diffusion.

Complexing proteins also have no effect on the stability of the neurotoxin. Experiments have shown that, unlike other commercially available botulinum toxins, which all require refrigeration;

NT 201 is stable at room temperature for up to 4 years. Furthermore, equipotency with the botulinum toxin A preparation from Allergan has been demonstrated in several comparative, randomized, double-blind trials that are the largest of their kind.

In conclusion, the manufacturing process of NT 201 ensures a highly purified botulinum toxin preparation, free from the complexing proteins and free from inactivated neurotoxin that serves no therapeutic purpose. NT 201 has a low potential for immunogenicity, has demonstrated equipotency to another commercially available botulinum toxin preparation (Botox®/Vistabel®, Allergan) and is highly stable at room temperature.

VÉRONIQUE GASSIA, MD

Experts consensus for the use of BoNT-A: 7 years of follow-up

Session: The Science of Botulinum Toxins

Friday April 9th, 8.30 - 10.30
Auditorium Prince Pierre

On a botulinum toxin A has been used for seven years in France in the treatment of the aging upper face. Fifty seven French practitioners reviewed practices and techniques to develop consensual recommendations.

The treatment of glabellar frown line is now viewed as a contributing phase in the brow shape and eyebrows position harmonisation.

Treatment of the forehead is more conservative to preserve some muscle mobility. Treatment of crow's feet lines is performed near the orbital ridge with higher doses and after good analysis of the part of zygomatic and orbicularis contraction.

Treatment of lower eyelid rhytides is rare only in younger patients without skin laxity or eyelid drooping or oedema.

It's very important to consider the position of the eyebrows because brow is a dynamic anatomical structure affected by elevator (frontalis) and depressor muscles. It's possible to modify the form, position and symmetry of eyebrows. You see together how!

Judicious lowest effective dose treatment, a better knowledge of muscular balance and understanding of facial aging, and adjunctive treatment modalities lead to satisfactory results with youthful, and natural looking face with a very safety product.

ALESSANDRO GENNAI, MD

Breast enhancement by hyaluronic acid injection

Session: The Breast Around the World - Beauty and Breast Enhancement

Saturday April 10th, 11.00 - 1.00
Room Nijinski

Breast reshaping with Macrolane™: Personal technique

We have been using Macrolane™ for breast reshaping in the last two years for the patient who refused implants or had not enough fat for lipofilling.

We have performed 87 breast reshaping with Macrolane™ with minimal complication and great satisfaction of surgeon and patients (we had evaluated our results with G.E.I.S.). In the procedure our goal is to perform a natural reshaping of the breast avoiding a "ball shape" of the breast and a natural position of the areola.

In our technique we mix two different way to implant Macrolane™: we use "bolo technique" under the glandular cone to perform a good projection and an upward rotation of the areola, than we use "multitunnels technique" for the upper pole and periferical zones to have a natural increasing in volume without any palpability or visibility of Macrolane™.

The procedure is under local anaesthesia, the patients are from 21 to 55 years old and the average of Macrolane™ implanted is 120cc for breast.

Nous ne reviendrons pas sur l'intérêt de la pose des fils crantés comme substitut médical au lifting chirurgical, chez les patients présentant des ptoses modérées du tissu facial. Il s'agit ici, de simplifier la technique, de raccourcir le délai de pose et de diminuer au maximum le traumatisme lié à l'acte, tout en gardant autant d'efficacité. Cette technique est le résultat d'une expérience personnelle de 8 années suite à un stage initié par le Professeur FOURNIER, chez le Docteur SULAMANIDZE, et à l'élaboration des premiers fils longs (notamment avec le Docteur ACCARDO), et grâce aux différents travaux de médecins esthétiques (les Docteurs ISTRIA et GUILLO).

Actuellement, les différentes techniques utilisent soit :
 Des décolleurs comme le Docteur GUILLO ;
 Des guides, à type d'aiguilles péridurales ;
 Ou différents matériels complexes comme le Docteur ISTRIA.

A - Cette technique est simplifiée par :

- Un set stérile jetable de pansements,
- Une aiguille NOKOR 16 gauges ou une lame de 11,
- Un ciseau à bout rond ;

2- Les fils : Il s'agit, ici, de ligaments élastiques de 30 à 50 cm de long (UPACTIV), fournis par le laboratoire COUSIN à crans inversés à partir de leur milieu en polypropylène de couleur blanche, et serties à chaque extrémité d'une aiguille droite en acier de 20 gauges et de 15 cm de longueur.

L'intérêt de ces ligaments élastiques est de permettre une meilleure tenue dans le temps en épousant les mouvements de la face, évitant ainsi les contraintes liées à ces mouvements sur les crans.

3- Technique de pose : Cette technique simplifiée, dite "des relais" permet de poser des fils crantés comme nous l'a montré le Docteur GUILLO, jusqu'à l'apex crânien et de faire des noeuds ; de laisser les fils libres en implantation haute dans le cuir chevelu ou de les poser en V, comme le pratique le Docteur ISTRIA, afin de suspendre le ligament zygomatique. Elle présente l'intérêt de ne pas employer de trocars-guides, à l'intérieur desquels les fils doivent être glissés, ni de décolleurs traumatisants. Elle raccourcit substantiellement le temps de pose.

B - La préparation :

- 1- un tracé externe au feutre du trajet des fils.
- 2- Une désinfection soigneuse (notamment shampoing désinfectant des cheveux)
- 3- Anesthésie locale soigneuse sur le trajet des fils à la xylocaïne adrénalinée à 2% diluée à moitié dans du sérum physiologique et tamponné par du bicarbonate de Na
- 4- La mise en place de champs stériles, le patient étant en position de décubitus dorsal en 1/3 assis.

C - La technique :

Elle permet de corriger le principal défaut des fils serties par une aiguille droite qui est la difficulté de pénétration en sous-cutané au niveau du cuir chevelu, ne permettant pas une implantation assez haute, et, donc une moins bonne tenue.

D - Implantation des ligaments :

- 1- L'incision principale de départ se fera toujours à la limite d'implantation des cheveux, soit :
 - Temporale, en avant de l'oreille, pour traiter la zone malaire, ou ascensionner la partie médio-faciale,
 - Occipitale, en arrière de l'oreille pour traiter la région cervicale antérieure sous-mandibulaire.

Cette incision sera punctiforme, soit à l'aide d'une aiguille NOKOR, soit à l'aide de la pointe d'une lame de 11. Elle peut être tunnellisée légèrement vers le haut et le bas sur 2 mm, en utilisant le ciseau à bout rond. Le fil sera passé dans la partie basse et mobile du visage en suivant le tracé externe, soit par la technique dite "de la corde de l'arc", gardant ainsi l'aiguille droite, soit en courbant l'aiguille en fonction du trajet voulu. Après saillie, à travers la peau, l'aiguille sera extraite en totalité avec une partie du ligament de manière à ce que le milieu du fil corresponde à l'incision principale.

2- La 2^{ème} incision punctiforme tunnellisée sur 2mm, sera pratiquée dans le cuir chevelu à moitié du trajet entre la 1^{ère} incision et l'apex crânien, c'est à dire environ à 7 à 8 cm.

3- La 2^{ème} aiguille droite, sertie à l'extrémité de la partie du fil destinée à la fixation dans le cuir chevelu, sera introduite par la 1^{ère} incision en direction de l'apex crânien, et fera saillie facilement par la 2^{ème} incision, 7 à 8 cm plus loin. Elle sera extraite en totalité avec la partie des fils restants puis réintroduite par la même incision en direction du sommet du crâne, 7 à 8 cm plus loin. Elle sera alors extraite par transfixiance, à travers la peau du cuir chevelu.

4- Les fils seront alors tendus et adaptés de façon classique en position assise du patient et leur extrémité coupée.

5- L'incision basse sera refermée par des stéri-strips, gardés 4 jours.

6- L'incision dans le cuir chevelu suturée par un fil 4/0, mais le plus souvent laissée sans suture car, punctiforme, sans perte de substance et cicatrisant en quelques jours. On suturera ou pas en fonction du profil du patient et des règles d'hygiène strictes du cuir chevelu pendant 4 jours.

7- Les conseils habituels de dormir sur le dos et d'éviter au maximum tous mouvements faciaux excessifs répétés et traumatismes externes, pour une durée de 15 jours, seront donnés.

Conclusion: Cette technique présente les avantages d'être peu traumatisante et de rentrer réellement dans le cadre d'une technique médicale de pose de fils, de raccourcir le temps de pose (3mn par fil environ), améliorant ainsi le confort du patient. Elle présente aussi l'avantage de simplifier toutes les autres techniques avec une excellente accroche au niveau du cuir chevelu, puisqu'elle permet d'implanter très haut le ligament grâce à un ou même 2 relais.

Une attention particulière doit être portée sur la non pénétration de cheveux dans les incisions provoquant des défauts de cicatrisation. Cette technique peut être améliorée en prenant une direction plus oblique lors du dernier relais coudant ainsi le fil dans les 7 derniers cm et améliorant la fixation. J'utilise cette technique depuis un an avec une satisfaction totale des patients et une pratique simplifiée et efficace.



MARIO GOISIS, MD

Volume restoration with hyaluronic acid (NASHA). Preliminary experience
 Session: Short Contributing Lectures in Medical and Surgical Body Reshaping

Thursday April 8th, 2.00 - 4.00
 Room Van Dongen

Objective of the study: To describe a retrospective study about resorbable hyaluronic acid gels specifically developed for minimally invasive volume enhancement.

Methods and procedures used in the study: A review of the authors' experience on 243 patients was conducted to formulate the most important requirements for successful utilization of hyaluronic acid fillers (Macrolane). Indications for optimized product injection categorized by anatomical location are described. The treated areas were so divided: 79% breast, 10% calves, 7% buttocks, 4% arms. The efficacy and durability of results are also discussed.

Results: The medium follow-up of 272 days, realized by clinical evaluation and ultrasound examination, has reported a medium resorption rate of 26% in 6 months and 45% in 12 month. There were no severe complications in any patient; 86% had complained of pain in the first week after treatment, 47% of patients have shown nodularity of the treated areas, disappeared completely within 30 days of treatment. In 12 patients was observed the formation of breast pseudocapsula resolved with squeezing or aspiration.

Conclusions: Macrolane allows for safe use and great efficacy in contour various body deformities and in female breast augmentation.

KATY Z. GOLDMAN, MD

Localized Fat: How we use phosphatidylcholine and deoxycholate?
 Session: New Trends in Brazilian Cosmetic Dermatology and Aesthetic Medicine

Saturday April 10th, 8.30 - 10.30
 Auditorium Prince Pierre

Phosphatidylcholine injections became an increasingly popular technique to treat localized fat accumulation. This formula is composed primarily of phosphatidylcholine and sodium deoxycholate, a bile salt used to solubilize the natural phospholipid in water.

Phosphatidylcholine was initially used in emergencies and in the treatment of atheroma plaques in cardiac diseases. The use of injections to reduce localized fat deposits, first discovered in Italy in the 1980s, is very popular in Brazil.

The phosphatidylcholine formula works primarily as a detergent causing nonspecific lysis of cell membranes and the sodium deoxycholate is the major active component responsible for cell lysis. It is believed that the injected substance leads to fat cell destruction with subsequent acute panniculitis followed by a repair process of the treated fat tissue.

The most common localized side effects are swelling, erythema, burning, stinging, pain, tenderness and bruising. Also, they are more pronounced on the deoxycholate treatments and the total incidence of systemic side-effects is rare and self-limited.

In January 2003, Brazilian government prohibited the use of phosphatidylcholine formulae to treat localized fat; therefore, we have been using only deoxycholate with good results. However, small nodules can appear at the injection sites and might persist for more than two months.

Using the correct technique, phosphatidylcholine and deoxycholate injections are a safe and efficacious alternative to lipoplasty on smaller areas for patients objecting to, or unable to undergo surgery. The ideal patient is one with small to medium fat deposits that do not disappear by exercise and diet. The injection with lipolitics is not a replacement for a necessary change of lifestyle, nor is it a method of weight reduction or a treatment for obesity.

NILTON GOLDMAN, MD

Management of facial telangiectasis
 Session: New Trends in Brazilian Cosmetic Dermatology and Aesthetic Medicine

Saturday April 10th, 8.30 - 10.30
 Auditorium Prince Pierre

Facial telangiectasis have been estimated to concern millions of people and these malformations have a multifactorial etiology, affecting mostly the Fitzpatrick I and II phototypes. It is important to remember that due to the very peculiar characteristics of telangiectasis of the face, the treatment is very different from using traditional for lower limbs. The dilated vessels of the face, in most cases, are true spider veins, resulted from arteriovenous microfistulas. They are always very shallow, its wall is thin, have pulsatile flow, intense and worsens with sun exposure, topical retinoic acid and steroids hormones. A certain degree of genetic predisposition is also present.

Various modalities have been employed to treat facial telangiectasis: electrocautery, cryosurgery and sclerotherapy and nowadays, for better results, a variety of laser systems have been tried. However, it must be remembered that these vessels are also recurrent as well as the lower limbs veins.

NILTON GOLDMAN, MD

How to manage complications arising from injectable agents
 Session: New Trends in Brazilian Cosmetic Dermatology and Aesthetic Medicine

Saturday April 10th, 8.30 - 10.30
Auditorium Prince Pierre

As the age of the population has increased over recent years, facial soft-tissue augmentation has become very often nowadays. In the appropriate patient and with appropriate training, fillers can help patients seeking a refreshed appearance, eliminating wrinkles and defects. Understanding the anatomy, limitations of the filler and proper technique can reduce the risk of adverse effects, but all of these dermal filler can cause complications.

These adverse effects can be divided into short and long term complications, from bruising to necrosis tissues. When a complication occurs, the physician should understand how to manage them from observation to surgical intervention.

BERNARD HERTZOG, MD

Techniques of deep injection: Needle or Canula?
 Session: The Risk Factor in Deep Facial Injections

Thursday April 8th, 2.00 - 4.00
Auditorium Prince Pierre

- Historical review.
- Using canula with Voluma 2005 to 2007
- Birth of the new injection concept, resulting from the creation of " non-pricking needles "
- Description of "MN" needles and their innovative character: the movement executed in using them is completely new because the needle has to slide
- Advantages provided by the use of "MN" needles versus traditional sharp needle or canula.
- Application in the field of Aesthetic medicine: Injections of hyaluronic acid with "MN" needles. A study was done on more than 400 using between December 2007 and January 2010. All areas of the face were treated.
- "S.I.T." procedure is a new injection procedure which will revolutionize our aesthetic approach of the face in the coming years. "Facial Remodeling": Several areas were treated at the same time during the same session.
- A supplementary study has been done to validate the technique; about 100 observations by 3 surgeons and 5 physicians

MASAMITSU ICHIHASHI, MD, PHD*

How does light contribute to keeping healthy and young skin?
 Session: Transversal Session - Anti-aging for Optimal Aesthetics

Saturday April 10th, 11.00 - 1.00
Room Van Dongen

* Skin Aging and Photo-aging Research Center, Doshisha University, Kyoto Japan
 Kobe Skin Research Institute, Kobe Japan
 Sun Care Institute, Osaka Japan - Morinomiya Medical University of Medical Science

In 1996, Fitzpatrick et al showed that ultra-pulse carbon dioxide laser is useful for resurfacing of the skin, but this technique was limited due to prolonged healing time, possible complications of pigmentation and discomfort. Later, pulsed dye laser, Nd:YAG laser, intense pulsed light and erbium:glass laser were developed as non-ablative rejuvenation of sun-damaged skin. In the last decade, visible light (VL) and infrared light (IRL) are shown to be effective in the treatment of aged and photo-aged skin.

Four types mechanisms are suggested in the reaction of skin cells exposed to low dose visible and infrared light, changes in redox properties and acceleration of electron transfer, one electron auto-oxidation, photodynamic action and changes in biochemical activity induced by local transient heating of chromophore. Among these, changes in redox properties of terminal enzymes of respiratory chains are proposed to be the possible mechanism of VL and IRL induced rejuvenation of the skin, by increased production of ATP. Since the introduction of IPL emitting VL and IRL for the treatment of photo-aged skin in 2000, IPL has been used worldwide to treat pigmented spots and reduce the depth and length of wrinkles. The therapeutic efficacy was confirmed clinically, particularly for reduction of melanin pigmentation. The mechanisms of the therapeutic effects have been shown basically to eliminate selectively pigmented epidermal keratinocytes killed by heat. IPL is also shown to decrease of skin tone and pigmentation by increased epidermal turnover.

Increased collagen synthesis could be one of the main factors to reduce the depth and length of wrinkles due possibly to increased ATP synthesis by VL and IR radiation, though we need more detailed understanding of the mechanisms of light to stimulate epidermal and dermal cell proliferation and production of proteins to make skin younger and healthy. Fractional mid-IRL resurfacing is now applied to the treatment of photo-aged skin, scars, rhytides and textural diseases. Further, light is expected to promote the proliferation and function of transplanted autologous fibroblasts in the photo-damaged and aged skin, leading to the rejuvenation of the skin, and light may enhance the anti-aging effect of cosmetics applied to the intrinsic and extrinsic aged skin.

Finally, we have to pay attention to the effect of visible and infrared light on matrix metalloproteinases (MMPs) expression and collagen synthesis at different intensity, doses and wavebands of each irradiation sources, since IRL is shown to introduce wrinkle by activating MMPs by heat above 43C and reactive oxygen species.

JAN JERNBECK, MD

Body volume restoration: medical vs surgical
 Session: Short Contributing Lectures in Medical and Surgical Body Reshaping

Thursday April 8th, 2.00 - 4.00
Room Van Dongen

Treatment opportunities with stabilized hyaluronic acid-based gel of non-animal origin vs surgical and other non-surgical treatments

Background: Cosmetic body shaping procedures can be performed by surgical or non-surgical treatment methods. Permanent implants (e.g. silicone) or fillers can be used. Resorbable filler based on NASHA™- gel has been developed for volume restoration and contouring of body surfaces, including breast enhancement.

Method: The experience of surgical procedures for breast and buttock enhancement and fat transplantation procedures for penile enhancement were reviewed and compared to minimally invasive procedures using NASHA-based gel. The benefits and

disadvantages with the different procedures were discussed including treatment techniques and results.

Results: The surgical procedures often require general anaesthesia, while the minimal invasive procedures could be performed with local anaesthesia or in combination with sedation. The treatment procedure for breast and buttock enhancement performed using NASHA-based gel has the benefits of being a quick and tailor-made treatment using an adjustable implant volume, and is associated with less pain, less post-treatment scars and shorter recovery period than with silicone implants. For penile enhancement NASHA-based gel is, compared to autologous fat transplantation, a very quick, simple and predictable technique. Injections with fat include bigger risks for irregularities and the final result is unpredictable. Silicone implants are permanent and for fat transplants there are approximately 25% ingrowths, while NASHA-based gel will be degraded with time. All techniques are associated with an acceptable safety profile.

Conclusion: Use of NASHA-based gel is a promising minimal invasive procedure for body contouring, including breast, buttocks and penile. The procedure is in general quick, safe, and has a short patient recovery time.

MICHAEL KANE, MD

Safety and efficacy of topical Botulinum toxin Type A for the treatment of moderate to severe lateral canthal lines

A review of the US phase 2 experience

Session: The Science of Botulinum Toxins

Friday April 9th, 8.30 - 10.30

Auditorium Prince Pierre

Background: The topical application of botulinum toxin type A (BoNT-A) to crow's feet wrinkles eliminates complications from injections (e.g. bruising, discomfort). An investigational drug, RT001 Botulinum Toxin Type A Topical Gel, is being studied to treat lateral canthal lines (LCL). RT001 contains a proprietary, 150 kDa BoNT-A combined with a peptidyl transport system to facilitate transcutaneous delivery without altering the function of BoNT-A.

Objective: Evaluate the safety and efficacy RT001 to treat moderate to severe LCLs.

Methods: Three randomized, double-blind, controlled studies were conducted in 168 adults. Subjects received a single application of RT001 or control to each LCA. Endpoints included 1-pt. or 2-pt. improvement at rest or smile and were evaluated 28 days post-treatment. In one study, endpoints were also evaluated at Days 60 and 90. Safety evaluations included adverse events, skin and ocular irritation, clinical laboratory tests, and evaluation of cranial nerves.

Summary: Across the studies RT001 achieved primary and secondary endpoints. RT001 consistently demonstrated statistically significant 2-pt. improvement at rest vs. control and 1-pt. or 2-pt. improvement at smile. In the study that evaluated duration at Days 60 and 90, RT001 demonstrated statistically significant duration at both time points. There was also a clear dose response trend without an increase in AE's. Treatment was well tolerated and treatment-related AE's were all mild or moderate. There were no notable changes in clinical laboratory tests.

Conclusions: RT001 demonstrated a significant efficacy response and duration of effect with an acceptable safety profile; indicating that BoNT-A can be delivered effectively by topical administration for the treatment of LCLs.

RAJ KANODIA, MD

What keeps my patients faithful to my practice?

Session: Technical Steps Before, During and After Injections

Saturday April 10th, 2.00 - 4.00

Auditorium Prince Pierre

Ongoing successful plastic surgery practice is a combination of art, design and science.

1. Patients continue to return for injections because they feel comfortable with my artistic design. Both my patients and I emphasize a great deal on the fact that any injection we do should NOT be obvious to the human eye. The compliments that people want to hear is that they look good and NOT because their cheeks or lips were enhanced. My objective always is to refine, fine-tune and enhance and NOT to impart a whole NEW look.
2. Patients feel very assured when they know that I personally use the Botox and Hyaluronic acid fillers and laser treatments to rejuvenate my face.
3. If a patient seeks more Botox or more fillers (bigger lips) and if I deem it's going to be excessive, I say NO and give them an explanation. For eg, too much Botox is not attractive (frozen, non-expressive face).
4. Patients are happy to know that I keep in tune with the latest developments pertinent to injections - newer and safer materials and techniques. For instance, Tear Trough - injections are still work in progress. There are problems even in the best hands. I tell them to wait till the technique is perfected.
5. Despite my 30 years of practice and experience, I keep my prices reasonable so that patients feel they are receiving great expertise and knowledge for a fair price.

ANDREAS D KATSAMBAS, MD PHD*

New trends in pigmentary disorder therapies

Session: New trends for Dermatological Surgeons

* A. Sygros' Hospital, University of Athens, Greece

Thursday April 8th, 4.30 - 6.30

Auditorium Prince Pierre

The main indications for topical bleaching agents (TBA) are melasma and post-inflammatory hyperpigmentation. Moreover, topical bleaching agents have been used worldwide as an alternative option for the treatment of pigmented cosmetic dermatitis, hydantoin intake, actinic lichen planus and ephelids.

The ideal TBA must have a potent bleaching effect, a rapid time of action (less than two months), no short or long-term side effects and finally, to remove the undesired pigment permanently.

TBA can be categorized into phenolic compounds (Hydroquinone, Kojic acid etc), non-phenolic compounds (retinoids, azelaic acid, L. ascorbic acid etc) and combination formulas. Of all the topical bleaching agents, hydroquinone, in various strengths (2-10%), alone or in combination formulas, remains the most effective topical hypopigmenting agent.

Due to the fact that sunlight exacerbates all hyperpigmentary disorders, daily use of a broad-spectrum sunscreen is needed for an indefinite period of time.

ANDREAS D KATSAMBAS, MD PHD*

Making the best of botulinum toxin: Tips and tricks
Session: The Art of Botulinum Toxin injections

Friday April 9th, 4.30 - 6.30
Auditorium Prince Pierre

A. Sygros Hospital, University of Athens, Greece

The cosmetic use of Botulinum Toxin-A continues to increase since its approval some years ago. Despite the fact that more than 80% of patients using Botulinum Toxin-A are satisfied with the results, there still remains the 20% of patients who express dissatisfaction with the final outcome.

Moreover, even in successfully treated patients, there is still room for improvement. Some of the reasons for dissatisfaction include: inadequate dosing, lack of consultation and poor injection techniques. The reason for such unsuccessful treatments and the various ways of improving the degree of satisfaction will be discussed in further detail.

BRUCE E. KATZ, MD*

The "Fractional Eyelift"
Session: Lasers, Lights and Related Technologies - Part 1

Friday April 9th, 11.00 - 1.00
Room Nijinski

Clinical Professor, Mt. Sinai School of Medicine - Director, Juva Skin & Laser Center - Director, Cosmetic Surgery & Laser Clinic, Mt. Sinai Medical Center - New York, USA

A prospective study of the improvement in peri-orbital wrinkles & eyebrow elevation with a novel fractional CO2 laser

Background and Objective: The purpose of this study was to assess the efficacy and safety of a new fractional CO2 laser system for improving periorbital rhytids, tightening skin, and elevating the eyebrow.

Materials and Methods: One hundred subjects with periorbital wrinkles, tissue laxity, photoaged skin, and moderate dermatochalasis of the face were prospectively treated 1 to 4 times in the periorbital area with a fractional CO2 laser device equipped with a scanning handpiece. Improvements in eyelid wrinkles, crow's feet, and skin laxity were evaluated photographically by two blinded, independent observers. Eyebrow elevation was measured by the investigators. Subjects also scored satisfaction and tolerability.

Results: Approximately half of subjects achieved or maintained 26% to 50% improvement at 12 months. Nearly 40% of subjects maintained 1 to 2 mm elevation of the brow at 6 and 12 months after treatment. Subject satisfaction was high and the procedure was well tolerated. Mild to moderate erythema and edema persisted for up to 3 to 4 days.

Conclusion: Treatment with a fractional CO2 laser device improves periorbital rhytids, tightens skin, and elevates the eyebrow with minimal adverse effects.

BRUCE E. KATZ, MD*

The laser approach to lipolysis: Are there limits?
Session: Lasers, Lights and Related Technologies - Part 2

Friday April 9th, 2.00 - 4.00
Room Nijinski

Clinical Professor - Mt. Sinai School of Medicine- Director, Juva Skin & Laser Center - Director, Cosmetic Surgery & Laser Clinic - Mt. Sinai Medical Center - New York, USA

A pilot study of the efficacy of a 1064nm and 1320nm sequentially firing Nd:YAG laser device for lipolysis & skin tightening

Background: Laser assisted lipolysis with a medium pulsed 1064 nm Nd:YAG system has been used since FDA approval in October 2006. [i] Since then, this technology has been advanced to include an additional wavelength (1320 nm) and an accelerometer designed to improve efficacy and safety.

Objective:

1. Evaluate the efficacy and safety of a sequentially firing 1064nm and 1320nm Nd:YAG laser device for lipolysis.
2. Evaluate the skin tightening effect by photographic documentation and skin measurements.
3. Assess new collagen formation by histologic and scanning electron microscopic studies.

Methods: Twenty subjects with unwanted local adiposities and skin laxity were enrolled. An Nd:YAG laser with sequentially firing wavelengths of 1064nm/1320nm was used to treat localized areas of body adiposities. Digital photographs were taken before and after treatment, blinded independent observers graded improvement utilizing a percentile evaluation scale and subjects performed self-assessments.

Five of the twenty subjects had the following tests performed:

1. placement of 4cm x 4cm square India Ink tattoos for measurement of skin tightening
2. histology and electron microscopy
3. biopsies prior to the procedure, 3 days and 1 month after the procedure to determine the presence of new collagen markers.

Results: Results showed reduction in localized adiposities with no adverse events from use of this device. Independent observers found 76-100% improvement in adiposities in 85% of subjects and 51-75% improvement in 15% of subjects. Of the subset of five patients, India Ink tattoo maps demonstrated an 18 percent decrease in surface area indicating a significant skin tightening effect. Histology by H&E, Methylene blue stains and electron microscopy indicated new collagen formation compared to baseline.

Conclusion: The 1064nm Nd:YAG and 1320nd:YAG sequentially firing device with an accelerometer appears to be an effective and safe treatment for localized adiposities with the additional benefit of skin tightening.

BRIAN M. KINNEY, MD, FACS, MSME*

Volume restoration techniques with deep facial injections versus facelift
Evaluation of techniques

Thursday April 8th, 2.00 - 4.00
Auditorium Prince Pierre

Session: The Risk Factor in Deep Facial Injections

*Clinical Asst. Professor of Plastic Surgery - University of Southern California (USC)

The face ages non-linearly with time and differentially based on anatomic regions and aesthetic subunits. Not only do tissues fall under the influence of gravity, the skin dehydrates and thins, the facial fat atrophies and redistributes and other features change. Many variables that are a part of a pleasing facial aesthetic - texture, perfusion, muscle tone, soft tissue atrophy, and pigmentation - are often not best treated with formal surgical techniques. Laser therapy, intense pulsed light, chemical peel, radiofrequency treatment, topical cosmeceuticals and other options are available as an adjunct or in the place of surgery in the younger patient. Percutaneous injection with botulinum toxin, hyaluronic acid filler, calcium hydroxyapatite, poly-L-lactic acid, autogenous fat, human skin allografts, collagen-coated polymethylmethacrylate and even the standby collagen are essential aspects of a comprehensive facial rejuvenation program.

In the ideal world, to the extent the tissues have fallen, they would be lifted, to the extent they have atrophied they would be augmented, to the extent they have been dried they would be hydrated, to the extent they are underperfused they would be reperfused and each tissue would be replaced with like tissue.

There are dozens of soft tissue fillers worldwide. When done well autologous fat remains the gold standard. Of those available to my practice, the most commonly used are Juvederm Ultra and UltraPlus, Restylane and Perlane, Radiesse, Sculptra and Prevelle Silk. My method of making an intelligent choice for their use depends on basic, first principles: replace like with like to the extent possible. An in-depth analysis of the pros and cons of various fillers will be presented for different anatomic regions and aesthetic subunits. A comparison of hyaluronic acid chemistry will be presented.

BRIAN M. KINNEY, MD, FACS, MSME*

Scientific and practical comparisons of Botulinum Toxins - PureTox®

Friday April 9th, 8.30 - 10.30
Auditorium Prince Pierre

Session: The Science of Botulinum Toxins

*Clinical Asst. Professor of Plastic Surgery - University of Southern California (USC)

While the disease botulism had been known since the 18th century, it was not until 1944 that Schantz et al. began purifying the botulinum toxin type A. In the 1950's and 60's the type A was purified and optimized as a 900 k Dalton complex. In 1968 A. Scott first began evaluating its medical use and it was first approved in 1980 for clinical use. In 1989 Botox-A began clinical development for cervical dystonia and other uses; however, it was a type B preparation that was approved in 2000 for this indication. In 1997 the current preparation of Botox-A, only 5 nanograms per 100 units, received clearance by the FDA for marketing.

All the toxins exist as complexes with hemagglutinin, nontoxic proteins and the toxin itself. Variations in the protein complexes directly affect clinical parameters such as onset and diffusion, while they may also influence longevity. Purification and formulation methodologies differ in the various commercial preparations.

For type A toxin, Botox (Allergan, Inc., Irvine, CA, USA) 20 units are generally seen in clinical use to be equivalent to 50 units of Dysport (Medicis, Inc. Scottsdale, AZ, USA). Others have suggested the ratio is 1:3 instead of 2:5. Either way the biological behavior of these molecules is not interchangeable. Lowe has reported that 1 Botox unit is equivalent to approximately 50-150 units of Myobloc (Elan Pharmaceuticals). In the FDA Trial for PureTox (Mentor/Johnson and Johnson, Santa Barbara, CA, USA) 30 units of PureTox have been used in five injections of 0.1 ml each at 6 units/0.1ml, whereas the Allergan recommendation is five injections of 0.1 ml each at 4 units/0.1ml.

The PureTox FDA Trial 3(b) reached completion and "data lock" in March 2009. A one year study, it contained two cycles of toxin A injection followed by a final cycle of randomization of toxin A versus saline. The PureTox FDA Trial 3(c) is now completing the second year in March 2010 of a three year continuing access study. Data groups have not been unblinded and pooled for the various test sites, so statistical validity cannot be established. However, a few general clinical observations can be made on patients in my study group. Clinical experience has been favorable and patient examples will be presented.

BRIAN M. KINNEY, MD, FACS, MSME*

The breast around the world - American style and the body logic system
Session: The Breast Around the World - Beauty and Breast Enhancement

Saturday April 10th, 11.00 - 1.00
Room Nijinski

*Clinical Asst. Professor of Plastic Surgery - University of Southern California (USC)

While it is extremely easy to place an implant in a breast pocket and initial satisfaction rates are very high, the data for re-operative surgery submitted to the FDA in the United States shows that up to 30% of patient eventually undergo additional surgery, about 20% after three years in the Inamed pre-marketing approval (PMA) study group for silicone implants. This group of 94 patients was a part of the 494 silicone gel augmentations who underwent 248 procedures in 112 re-operations. Studying this data and choosing the appropriate operation based on specific consideration of individual patient anatomy is crucial for optimizing results and minimizing re-operation.

Reoperation can occur due to surgical errors (e.g. pocket asymmetry), mechanical failure (e.g., implant rupture), post-operative complications (e.g., capsular contracture) or a change in the patient (e.g., weight gain or loss, pregnancy or a desire for implant size change). The patient's point of view is more important than the surgeon's measurements; however we do not always have the capacity to control the variables of greatest interest to the patient.

Three dimensional variables are what patient discusses. In an ideal history and physical exam, the major, intrinsic, integrated, three dimensional variables (3D) would be most important. This would include shape, asymmetry, geometry and position of the

breast mound on the chest wall, tissue laxity, size, skin envelope to gland volume ratio, firmness and distribution of parenchyma and related variables. While patients are concerned with three dimensional variables, they are much more complex for the surgeon. Two dimensional variables are what surgeons can generally control easily. Minor, extrinsic, linear, two dimensional variables (2D) include, width, height, sternal notch to nipple distance, thickness and areolar diameter. We use those because we are not always capable of controlling the more complicated variables that are of more interest to our patients.

Several primary principles for good outcomes are based on precise understanding of the anatomy: "control the pocket - control the shape of the breast," and "control the anatomy - control the breast." Shapes and geometry are major variables. Linear measurements are minor variables. A new method of analysis of breast anatomy will be presented based on 2D old-style measurements and 3D new considerations - The Body Logic System developed by a team of surgeons. It is thought that accumulating these anatomic data will improve operative results, patient satisfaction and correlate reduced re-operation rates.

Finally, however, we must appreciate the aesthetic of the patient because a major portion of re-operation stem from patient choices. Some are potentially preventable (size change) and some are most certainly not (aging related changes in the breast). In my Southern California plastic surgery practice, the American woman includes many Hispanics, Asian-Americans, African-Americans, Europeans involved in the Hollywood and Entertainment Industry and Americans from a more traditional background. In this environment, it is critical to listen carefully to the women's desires, make choices in harmony with her ethnic and personal sensibilities, as well as her anatomic characteristics. Size does matter. So does the shape of the pocket, careful anatomic dissection, hemostasis, anasepsis and preservation of the tissues. These are Halsted's four surgical principles and they are no more important anywhere else than in breast implant surgery.

NINA KOUTNA, MD

Fractional radiofrequency in skin rejuvenation. Our first experiences
Session: Short Contributing Lectures in Medical and Surgical Facial Rejuvenation

**Saturday April 10th, 4.30 - 6.30
Room Van Dongen**

Background: Fractional radiofrequency is very new option of skin rejuvenation. Currently several different devices are on the market, all representing this interesting technology.

Method: 40 patients with different kinds of scars, wrinkles and skin aging were treated by fractional radiofrequency device of frequency 40,68 MHz. This machine provides 2 possibilities of fractional treatment: by roller handpiece working "in motion" and "stationary" handpiece for small areas or scars. The handpiece is unipolar and should be held just in light contact with the treated skin, providing so generation of "microplasma" (ionised air). Microsparks generated between the handpiece and the skin surface lead to controlled fractional ablative and thermal damage of treated area. The treatment is very fast, especially by the roller handpiece. In our group of patients, 1-7 passes in one treatment were performed depending on the state of the skin. Altogether from 1 to 4 treatments were done depending on the demands of the patient and on the effect based on collagen rebuilding, the intervals between the treatments were from 1 to 3 months. The patients feel burning discharges or shots during the treatment and some patients need topical anaesthesia. Healing time is relatively very short, typically from 3 to 5 days, the patient can apply make-up, some do so immediately after the treatment.

Results: All patients observed some level of improvement and all appreciated very short and comfortable healing time. Deep lines required more aggressive and repetitive treatments. The results in the treatment of scars were varying. Old, tough or deeper scars were more resistant to the treatment. Acne scars were more difficult to treat than linear scars.

Conclusion: Fractional radiofrequency is very versatile, potent, fast and easy to perform method of skin rejuvenation, useful in the treatment of skin tiredness and aging, wrinkles, different types of scars or skin unevenness. It can be very well individualised for the problems of particular patient. Combinations in time with other methods, including the treatment by bipolar or unilarge handpiece of the same machine are possible.

JASMINA KOZAREV, MD

The Q switched Nd:YAG laser in a treatment of delayed HA granuloma reaction
Session: Lasers, Lights and Related Technologies - Part 2

**Friday April 9th, 2.00 - 4.00
Room Nijinski**

Background: Temporary and permanent dermal fillers were approved for plumping up soft tissue, filling in facial wrinkles and smoothing the skin. Many patients require more than one injection to achieve the desired effect, with results typically lasting only six months or so, as fillers are gradually absorbed by the body. There is no question that injectable filler procedures have the potential for side effects even when administered by the most skilled physician.

Delayed granulomatous reactions have been attributed to collagen, silicone, polylactic acid, polyacrylamide, HA, porous polytetrafluoroethylene, methacrylate implants and combinations of methacrylate-collagen or ethyl-methacrylate-HA.

Objective: The objective of this study was to investigate the efficacy of frequency-doubled Q-switched Nd:YAG laser and fractional ErY:AG laser as a possible noninvasive technique for treating delayed immune-mediated adverse effects related to HA injections.

Methods: Seven patients with delayed adverse effects related to HA injections were lased by a three treatment sessions of a Q-switched Nd:YAG laser with 4 mm spot size, fluence of 4.5 to 5.6J/cm², and frequency of 10 Hz. Only patients with intermediate or delayed adverse effects related to HA injection were included. Patients underwent clinical management, follow-up, blood tests and when possible biopsy.

Results: Average latency period to onset of symptoms was 5 months (range 2-12). Tender, inflammatory nodules, granulomas and hyperpigmentations were commonly seen. Laboratory abnormalities were found in 4 analyzed cases. The follow-up time was 6-10 months (mean 8). Six patients (85.7%) showed good to excellent results, and 1 (14.28%) patients had fair results. There were no side effects. After 8 months average follow-up, all patients were in remission, with no recurrences.

Conclusion: The Q-switched Nd:YAG laser is an effective noninvasive treatment for local and regional delayed and recurrent granulomatous reactions which complicate HA gel injections.

Key words: Q-switched Nd:YAG, delayed filler granuloma reaction

OLIVER PH. KREYDEN, MD

Botox in men! Is It Different?

Session: The Art of Botulinum Toxin Injections

Friday April 9th, 4.30 - 6.30

Auditorium Prince Pierre

Gender Specific Therapy Concepts

Men and women are different. Not better or worse - just different. Both biology and society play an important role in the gender specific differences. In the 70s of the last century due to (or because of) the emancipation inheritance was absolutely neglected. Differences were strictly seen as socially based, as a product of sex role conditioning through paternal education. Nowadays we begin to understand that biology and inheritance is most important for gender specific differences. Baron-Cohen showed that the amount of intrauterine testosterone concentration is liable for the development of the brain. The higher the testosterone concentration is, the less empathy is developed, the stronger is the interest for systems (S-brain, male) and vice versa the lower the concentration the higher developed are feelings and care for the environment (E-brain, female) [1].

Testosterone is also responsible for different muscle development. The amount of skeletal muscles is significant higher in men than in women absolutely (33kg vs 21 kg) and in relation to BMI (38.4 vs 30.6%) [2] and androgens cause muscle hypertrophy. The amount of the androgene receptors contrariwise increase with training [2, 3, 4].

Alone in the US in 2008 3.2 Mio botulinum toxin (BTX) treatments and 1.6 Mio hyaluronic acid (HA) treatments were performed for aesthetic indications. Of all these treatments the male part was 8 - 14% which reflects a increasing of 700% in the last 10 years. Men begin to understand the sozio-economic aspects of good looking. The ideal face differs completely between female and male. Where men have real brow ptosis with low and horizontal eyebrows female have arched eyebrows. Because of the higher muscle mass men need approximately the double amount of BTX when treating the glabella [5]. However men are more difficult to treat as they tolerate less side effects as hematomas or swelling, they are much more sensitive to pain and because they present themselves in general very late with deep wrinkles they often need combination therapies (BTX, HA, Lasers). Aesthetic treatments for men are increasing but due to the different circumstances in men indication and treatment are challenging and should be performed by experienced physicians only.

References

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JEAN-CLAUDE LARROUY, MD

The Fractional CO2 Laser: New Indications

"French Riviera Experts" Session

Thursday April 8th, 4.30 - 6.30

Room Van Dongen

Introduction: After 3 years of effective use of fractional CO2 laser is well established. This new scanner has repropose resurfacing in a population of people frightened by the consequences of chemical peels and laser. The indications of conventional fractional CO2 lasers are the aging of the skin (dermal elastosis; facial, neck, chest laxity), acne scars. The procedure of use of fractional CO2 laser: 2 sessions more often, spacing of 1 at 3 months, herpes treatment if mouth and eyelids are treated, little or no down time (5 to 8 days), no dressing, but use of a suitable topical, minimal pain relieved by the use of lidocain cream or cold air (burning intensely regressive quickly upon discontinuation). A session is then proposed maintains every 6 to 12 months.

The New Indications: (Note: these treatments were made with a scanner issue of splitting a continuous CO2 laser; the author cannot guarantee the same effects with other types of scanners splitting pulsed emission).

The surgical scars: the number of sessions is greater (3-4 sessions for facial scars; 4-8 sessions members, breasts, abdomen). The results on the facial scars are excellent (lift, flaps, hypertrophic scars)

The Stretch Marks: Before proposing this treatment should be laundered recent injury with pulsed dye laser (7-8 J/cm²-1.5ms-7mm) 2 or 3 sessions spaced 2-3 months. Then the fractional CO2 can be offered to women with too lax in the breast and abdomen. For the moment we refuse areas subject to high tension (shoulders, buttocks, thighs). 2 sessions spaced 3-4 months with moderate power. One session per year to maintain the good result.

Forgotten areas (arm, abdomen, Elbows, knees with hyperlaxity): the healing time is quite long (average 20 J), 2 sessions with an interval of at least 3 months.

Phototypes> IV: it is a surprise to deal with skin types V without hyperpigmentation at day 20 and 90.

The foreign body granuloma: autoimmune reaction depends on the final skin implants (silicone, acrylic gel ... etc.). We combine the method of fractional resurfacing and continuous mode with extraction shafts.

The hands can be rejuvenated by combining 2 treatments: 2 sessions of fractional CO2 and 2 sessions of Nd: YAG LP 150 J/cm²-20ms-5mm on the dorsal hand veins in order to narrow the diameter of these veins and not make them disappear.

Traps to be avoided: On the glabellar lines must always be a session of botulinum toxin because the muscles can be strengthened during the wound healing process of the skin - involve filling and fractional CO2 laser is possible if the depth is sufficient injection (subcutaneous, deep dermal), otherwise the filler surface disappears after the laser session.

Conclusion: These new indications, often with surprising results demonstrate the value of fractionated treatments on sensitive areas, and the darker skin types.

Français

Le laser CO2 fractionnel : Nouvelles indications

Introduction : Après 3 ans d'utilisation, l'efficacité du laser CO2 fractionnel n'est plus à démontrer. Ce nouveau scanner a permis de repopuler le resurfaçage à une population de gens effrayés par les suites des peelings chimiques et laser. Les indications classiques des lasers CO2 fractionnels sont : le vieillissement cutané (élastose dermique, hyperlaxité du visage cou décolleté) et les cicatrices d'acné.

Le mode d'utilisation du laser CO2 fractionnel : 2 séances le plus souvent, espacées de 1 à 3 mois, prévention herpétique si traitement péri-orificiel, pas ou peu d'éviction sociale (5 à 8 jours), pas de pansement mais utilisation d'un topique adapté, douleur minime calmée par l'utilisation de crème à la lidocaïne ou d'air froid (sensation de brûlure intense rapidement régressive dès l'arrêt du traitement). Une séance d'entretien est ensuite proposée tous les 6 à 12 mois.

Les Nouvelles Indications : (Avertissement : ces traitements ont été réalisés avec un scanner fractionnant une émission de laser CO2 continu ; l'auteur ne peut garantir les mêmes effets avec les autres types de scanners fractionnant des émissions pulsées).

Les cicatrices chirurgicales : le nombre de séances est plus important (3-4 séances pour les cicatrices du visage ; 4-8 séances sur les membres, seins, abdomen). Les résultats sur les cicatrices du visage sont excellents (lifting, lambeaux, cicatrices hypertrophiques)

Les Vergetures : Avant de proposer ce traitement il convient de blanchir les lésions récentes avec le laser colorant pulsé (7-8 J/cm²-1.5ms-7mm) 2 ou 3 séances espacées de 2-3 mois. Ensuite le CO2 fractionnel ne pourra être proposé qu'aux femmes présentant aussi une hyperlaxité au niveau des seins et abdomen. Pour l'instant nous récusons les zones soumises à de fortes tractions (épaules, fesses, cuisses). 2 séances espacées de 3-4 mois avec une puissance modérée. Une séance par an d'entretien est proposée.

Les zones oubliées (bras, abdomen, coudes, genoux). La durée de cicatrisation est assez longue (20 J en moyenne), 2 séances avec un intervalle de minimum 3 mois.

Les phototypes > IV : c'est une surprise de pouvoir traiter des phototypes V sans avoir le rebond pigmentaire du 20ème et 90ème jour.

Les Granulomes à Corps étrangers : réaction souvent auto-immune au dépend d'implants cutanés définitifs (silicone, gel acrylique etc...). Nous associons la méthode des puits au resurfaçage fractionnel.

Les mains peuvent être rajeunies en associant 2 traitements : 2 séances de CO2 fractionnel et 2 séances de laser Nd:YAG LP 150 J/cm²-20ms-5mm sur les veines dorsales des mains dans le but de rétrécir le diamètre de ces veines et non pas de les faire disparaître.

Les pièges qu'il faut éviter :

-Sur les rides de la glabelle il faut toujours prévoir une séance de toxine botulique car les muscles peuvent se renforcer pendant la cicatrisation cutanée.

-Associer le comblement et laser CO2 fractionnel est possible si la profondeur d'injection est suffisante (hypodermique, dermique profond), sinon le produit de comblement superficiel disparaît après la séance de laser.

Conclusion : Ces nouvelles indications avec souvent des résultats surprenants démontrent l'intérêt des traitements fractionnés sur des zones très difficiles, et sur les phototypes foncés.

MARC LEFEBVRE-VILARDEBO, MD*

Is varicose vein removal really aesthetic surgery?
Session: Legs and Feet Beautification

Friday April 9th, 8.30 - 10.30
Room Nijinski

* Centre de Chirurgie des Varices Paris Défense - Neuilly sur Seine - France

From a series of 4248 urban varicose patients, cosmetic complaints are evaluated at 79% among women and 44% among men. Consequently varicose surgery must be considered as a cosmetic one, with the major difference that the background is a venous pathology instead of natural evolution of soft tissues. Such a conclusion is highly confirmed by the economical approach of many countries where varicose surgery is not reimbursed whatever the kind of healthcare insurance, except in case of severe skin disorders (C4 to C6 of CEAP classification).

In order to give cosmetic results (which means long lasting absence of varicose veins and invisible therapeutical marks), surgery must be performed according to 5 precise rules.

1. Surgery must remove all clinically visible varicose veins to give the initial results.
2. Surgery must remove all non-visible varicose veins to give long lasting results. Varicose disease is usually considered as a chronic unavoidably evolutive disease. But recurrences are mainly secondary reactivation of residual varicosities. Our experience has shown that treating all sources and ways of reflux during the same procedure gives 50% chances to be still free of varicose veins 9 years later, in contrast with the internationally accepted rate of 50% recurrences rate at 5 years after conventional stripping. This confirms our concept that a varicose network must be treated as a benign infiltrating tumour with a local recurrence potential.
3. In order to achieve such programs, each limb must be carefully explored first, clinically and with duplex scan. The varicose network is drawn on a large 3-sided limb pattern giving a complete and precise understanding. Such cartography allows deciding the best therapeutical strategy using surgery and per-operative sclerotherapy. There is no standard procedure. Each procedure is tailored to the network to be treated.
4. Varicose surgery becomes a meticulous vascular one which requires a specific training for veins dissection and conventional rules of cosmetic surgery. The 4 main techniques are gentle dissection of deep veins, invagination for trunks ablation, 1-3 mm incisions to remove all varicose tributaries and injection of sclerosing agents inside inaccessible or non removable networks. The more experienced surgeon, the smaller or hidden incisions, the lesser rate of complications. A local complication may be a major source of anaesthetic result.

5. If decided, surgery must be as extensive as possible, without any bet on the effectiveness of complementary post-operative sclerotherapy. It leaves only reticular and spider veins, whose treatment is the last essential step. Obviously this new surgical concept is time consuming (1-4 hours operations). Nevertheless, surgical aggression is reduced by the mini-invasive surgical techniques and moreover by the systematic use of tumescent local anaesthesia. No general or epidural anaesthesia has been used for 25 years. 40mmHg immediate post-operative compression with elastic stockings and early walk are the best means to avoid deep veins thrombosis (0.4% among 4206 patients, mainly in gastrocnemius veins). Such a protocol usually induces a poor functional impotence with a quite normal familial and social life after 2-3 days and return to work before D5 for 74.5% patients.

Conclusion: Up to date varicose surgery can and must be performed as a cosmetic one, with the goal of giving a new long lasting "no varice state" without visible scars. Extensive but poorly aggressive surgery allows us to take up this challenge.

GUSTAVO LEIBASCHOFF, MD*

Carboxitherapy and buttocks (remodeling, striae)
Session: Create the Perfect Buttocks

**Thursday April 8th, 4.30 - 6.30
Room Nijinski**

*President of the International Union of Lipoplasty

During many years the cosmetic surgeons and aesthetic medicine doctor try to find the best treatments for improve the beauty of the buttocks. Many techniques was applied but most of them without a good scientific research. I present my experience where the comprehensive treatment over an anatomic, instrumental and biodynamic study help to give to the patients a good, aesthetic and healthy result.

I follow these steps :

1. diagnosis of the buttocks problem
 - a. use of instrumental diagnosis, like Ultrasound 10 Mhz
2. the biodynamic study
3. the preparation of the skin and connective tissue with :
 - a. mesotherapy
 - b. carboxitherapy
4. the use of lipografting and Liposculpture
5. the deployment of the sutures in the buttocks, in two steps

I find with this comprehensive treatment good and aesthetic results in the patients without complications and no downtime

SERGE LETESSIER, MD

Skin resurfacing by CO2 laser ablation
Session: Best of Lips and Peribuccal Rejuvenation

**Saturday April 10th, 11.00 - 1.00
Auditorium Prince Pierre**

There are many treatments by surgery or injections to improve the aesthetic aspect of the peri-oral area.

The age and the social activity of the patient are the main criteria in order to choose one technique or another. The injection of a biodegradable product will not stop the usual activity but the aesthetic improvement will not last more than few months.

If the patient can stop any activity for 10 days, the CO2 laser resurfacing will be the technique of my choice.

1- The operation is done in one session under local anaesthesia.

2-We can erase often 100% of the wrinkles.

3-We get a long lasting result for years.

The new laser technology, as the ablative or no ablative fraxel procedures, is very interesting but results are not as good as expected. In additional this procedure requires several sessions.

As any surgical procedures we can see very few complications and a good training is required.

AMOS LEVIAV, MD

Skin tightening and body contouring using novel TriLipo™ technology
Session: Short Contributing Lectures in Medical and Surgical Body Reshaping

**Thursday April 8th, 2.00 - 4.00
Room Van Dongen**

Background: Aesthetic solutions for non-invasive localized fat removal and skin tightening are constantly desired worldwide. Invasive and surgical procedures are often accompanied with some risk and a long recovery time, thus there is a growing demand for pain-free, mild, non- invasive treatments. Currently existing non- invasive procedures are limited in term of efficacy and safety.

The TriLipo technology offers a novel solution for localized fat tissue reduction combined with actively stimulated lymphatic drainage and skin tightening via collagen remodeling, using a simultaneous triple action in a safe, lunch-time procedure.

Technology: A new device was recently introduced to the market by Pollogen Ltd. The novel technology is based on simultaneous triple action of combined energies: TriPollar® radiofrequency (RF), mechanical manipulation of the tissue and muscle activation. Internal heating of the fat tissue under the skin by RF energy accelerates natural fat cells metabolism resulting in release of liquefied fat from the cells into the extra cellular matrix. Patented body applicator enhances liquefied fat removal by applying simultaneously mechanical force from outside and activating internal muscles contraction from inside. The dual forces result in squeezing of the skin tissue and accelerating lymphatic drainage to remove the liquefied fat from the treated fatty tissue. The RF energy also heats collagen fibers in the dermis and stimulates fibroblasts metabolism resulting in immediate tightening of the skin and long lasting increase in new collagen production.

Results: Preliminary clinical evaluations of the new technology demonstrated safety and efficacy in skin tightening and fat deposits reduction.

Results of a pilot study using objective measurement tools will be presented demonstrating an increase in local blood flow and oxidation.

Conclusion: The novel technology provides a unique alternative to surgical treatments for localized fat deposits and skin tightening. Treatments are suitable for body and facial areas, in patients of all skin types. Following a treatment session most patients benefit from measurable and visible results.

SERGIO LEVY SILVA, MD, SBPC MEMBER, ISAPS MEMBER

Complex SMAS - Platysma and senility
Session: New trends in Brazilian Aesthetic Surgery

Friday April 9th, 11.00 - 1.00
Auditorium Prince Pierre

Following an anatomy study of 18 hemifaces, the authors show the modifications to and the behavior of the complex SMAS-Platysma in the process of senility. Though this investigation, they succeeded in better understanding the anatomic modifications to the face's deep structures caused by the loss of tonicity and consequent flaccidity of the integument upon them. The investigation also showed the ligamentary fixations existing among the SMAS, the parotid-masseteric fascia, the major and minor, zygomatic muscles, and the adherences of the platysma to the periosteum. With those studies the author perform a surgical treatment of the deep facial structures.

By that, we gathered the patients in 4 groups:

- 1st group: patients which face and cervical region have large fat pad with little flaccidity and thick skin. The surgical plan in this case is: large cervical liposuction and fat removal in the face by liposuction or trimming with scissors. Large smasectomy and moderated skin resection.
- 2nd group: patients with thick skin and little facial and cervical fat pad. Surgical plan: moderated liposuction only in cervical region. Large smasectomy and moderated skin resection.
- 3rd group: patients with thin skin, moderated flaccidity, moderated cervical and facial fat pad. Surgical plan: cervical liposuction, smas plication, platysmal undermining traction and suture. Large skin removal.
- 4th group: patients with thin skin and large flaccidity with little facial and cervical adiposity. Surgical plan: cervical undermining with cannula, facial undermining with scissors and finally, selection undermining by cannula. Smas placation, incision, traction, platysma suture and a large skin resection.

With this sequence, we are able to project our surgical plan easily, executing it in a shorter surgical time and with satisfactory follow up results.

JEAN-LUC LEVY, MD

Effective transcutaneous therapy for antiaging treatment
Session: Short Contributing Lectures in Medical and Surgical Facial Rejuvenation

Saturday April 10th, 4.30 - 6.30
Room Van Dongen

Français

La peau est un organe complexe avec de nombreuses fonctions biologiques. Non seulement elle maintient un contrôle strict de la perte d'eau transdermique, mais aussi protège l'organisme face à l'environnement externe et l'entrée de substances exogènes.

Bien que la peau soit un endroit propice pour l'administration systémique et topique de molécules actives, l'excellente fonction de barrière de la couche cornée limite le nombre de molécules qui peuvent être délivrées par cette voie.

Le TMT System permet d'augmenter la perméabilité de la peau, et donc le passage d'une quantité considérable de principes actifs, destinés à agir au niveau des couches plus internes de la peau. Notamment, le derme.

Pour ceci, Deux phénomènes électriques se mettent en marche simultanément, et permettent de pouvoir délivrer des molécules de toutes tailles et en concentration élevée.

- L'électroiontophorèse permet le passage de molécules chargées, ioniques.
- L'iontophorèse par le biais d'un faible potentiel électrique continu, peut donc augmenter la diffusion transdermique augmentant de manière réversible la perméabilité de la peau. Elle est particulièrement utile au transfert des molécules chargées qui ne peuvent pas être administrées de façon conventionnelle, et a été utilisée pour le passage local et systémique de petites molécules et peptides de taille moyenne. Il y a deux mécanismes de transport iontophoriques : l'électromigration, qui dépend du potentiel appliqué pour faire que les molécules chargées traversent la couche cornée. La proportion de molécules qui sont transportées est proportionnelle à leur mobilité électrique. L'autre mécanisme est l'électro-osmose qui permet le passage de molécules neutres. Ceci dû au potentiel induit du soluble qui va de l'anode vers la cathode tenant compte de la charge négative de la peau à PH physiologique.
- Le deuxième phénomène, fera que le reste de molécules non ioniques et avec une taille plus importante puissent franchir la barrière naturelle de la couche cornée. Il s'agit de l'électroporation. Celle-ci, grâce à un courant alterné qui évoque des impulsions rapides à voltage élevé provoque d'une façon réversible l'ouverture de micropores au niveau de la membrane cellulaire. Molécules de jusqu'à 10 KDaltons peuvent pénétrer la peau.

L'équipement offre la possibilité de travailler avec 7 programmes déjà préétablis et programmés par le software. Chacun d'eux a une ou plusieurs indications esthétiques.

Ce medical device, permet la diffusion transdermique d'une très grande quantité de produits dans une zone déterminée grâce à l'action simultanée de ces deux phénomènes électriques : l'électrophorèse, et l'électroporation.

TEIMURAZ LEZHAVA - JOKHADZE T

Anti-aging peptide bioregulators induce reactivation of chromatin
 Session: On the Front Lines of Preventive and Anti-Aging Medicine

Thursday April 8th, 4.30 - 6.30
 Auditorium Camille Blanc

Background & Aim of the study: Peptide bioregulator (Epitalon, Livagen and Vilon) stimulates lowering for the risk of premature aging, increased average life span, has a antitumor activity and stimulates functioning of immune system and reparative processes. The effect of synthetic peptide bioregulators on structural and facultative heterochromatin of cultivated lymphocytes has been studied.

Materials & Methods: The level of condensed chromatin - identified by the method of differential scanning microcalorimetry; level of C-banded; Ag-positive NORs and association of acrocentric chromosome; unscheduled DNA synthesis and the frequency of sister chromatid exchanges (SCE) under the effect of bioregulators (Epitalon Livagen, Vilon) have been studied in lymphocyte cultures from individuals at the age of 80 and over.

Results: The data obtained indicate that Epitalon, Livagen and Vilon:

- 1) activate synthetic processes, caused by reactivation of ribosomal genes as a result of deheterochromatinization (decondensation) of nucleolus organizer regions;
- 2) induce unrolling (deheterochromatinization) of total heterochromatin;
- 3) release genes repressed by heterochromatinization (condensation) of euchromatic regions forming facultative heterochromatin;
- 4) Epitalon and Livagen induce deheterochromatinization (decondensation) of pericentromeric structural heterochromatin of the chromosomes 1 and 9. However, Vilon does not induce deheterochromatinization of pericentromeric structural heterochromatin.

Conclusions: These results indicate that peptide bioregulators Epitalon, Livagen and Vilon cause activation (deheterochromatinization) of chromatin in lymphocytes of old individuals. Our data can be important for the revealing new information about the remodeling of constitutive and facultative heterochromatin induced the bioregulators in aging and aging pathology. Chromosome deheterochromatinization is an area where one should seek the ways for prolonging the lifespan.

LEONARDO MARINI, MD

New trends in vascular disorders therapies
 Session: New Trends for Dermatologic Surgeons

Thursday April 8th, 4.30 - 6.30
 Auditorium Prince Pierre

Dermatologic surgeons have been always involved in the diagnosis and treatment of superficial venous and lymphatic alterations dealing with capillaries, venules, veins, and varices. Many different options are currently proposed to effectively treat vascular disorders. Surgical, chemical, photo-thermal, electro-thermal, and pharmacological approaches should be considered according to the origin and evolution of specific vascular alterations. Combinations of different techniques can be also selected according to personal experience, technical, and proper pre-, intra-, and post-operative monitoring systems availability.

Vascular disorders are extremely common and continue to stimulate a large body of research which recently provided new, extremely interesting treatment options like systemic propanolol to promote involution of infantile haemangiomas, endoluminal IR laser endosclerosis, endoluminal electro-thermal endosclerosis, just to mention a few. Transcutaneous IR laser photo-thermal vascular sclerosis has been also quite improved following the introduction of more effective epicutaneous cooling systems, and more powerful light sources.

Modern trends are definitely moving towards minimally invasive treatment strategies associated to moderate-to-minimal intra and post-operative discomfort, minimal complications-side effects, and short recovery time. Proposing and performing effective vascular treatments is therefore quite challenging and should always be based on proper pre-op information to obtain what should be also considered as a really effective informed consent.

LEONARDO MARINI, MD

Ablative Fractional Lasers and TCA chemical peel: An effective synergistic combination
 Session: Laser, Lights and Related Technologies - Part 1

Friday April 9th, 11.00 - 1.00
 Room Nijinski

Fractional laser technology has revolutionized dermato-surgical treatment strategies allowing a complete control of penetration depths and extent of surface treatment. Skin areas different from densely sebaceous gland populated facial regions can be treated selecting appropriate parameters without fearing post-op scarring complications. Photo-thermal fractional resurfacing and associated dermal remodelling has produced very interesting clinical improvements in post-acne scars, chrono- and photo-aging, post-inflammatory hyperpigmentation and melasma.

The precise network of trans-epidermal 250-300 μ micro-dots generated by ablative fractional photo-vaporization induces an immediate, temporary decrease of the skin barrier which can be easily penetrated by many different actives. TCA is a time-honoured, highly versatile, non-toxic chemical peel. Its penetration depth depends on its concentration and number of coatings applied to the skin.

Considering the short-time skin permeability (SSP) window generated by ablative fractional lasers, we thought to take proper advantage of this temporary skin barrier weakness to generate an enhanced TCA chemical peel limiting the concentration to 15%. One or two coatings are applied immediately after photo-thermal fractional microablation generating an almost immediate superficial, uniform light frost. TCA penetrates through the microdots and gently resurface the skin.

The chemical effects of fractional peels act synergistically with the photo-thermal tissue alterations induced by laser light prolonging a beneficial inflammatory reaction which concurs to stimulate long lasting skin renovation and remodelling.

Patient satisfaction has been very high without prolonging pure ablative fractional resurfacing post-op down time.

LEONARDO MARINI, MD

Laser-Layering Technique (LLT) and Photo-thermal Tissue Rejuvenation
 Session: Laser, Lights and Related Technologies - Part 2

Friday April 9th, 2.00 - 4.00
Room Nijinski

Many different lasers, polychromatic high intensity light sources (PCLs), and RF devices have claimed clinical efficacy in rejuvenating the skin. Sequential combinations of different laser wavelengths can be used to produce reliable and progressively evident clinical improvements optimizing treatment parameters thanks to their synergistically positive photo-thermal and photo-biological effects on involved tissues. Temperature-induced intracellular synthesis of stress proteins could theoretically stand as the very base of tissue rejuvenation process.

Specific wavelengths identify specific penetration depths and "photo-thermal cores" from where pure thermal effects expand through tissue. Deep knowledge of laser and light tissue interaction can lead to interestingly new and effective treatment strategies minimizing side effects and optimizing clinical results.

RÔMULO MÊNE, MD

Hand rejuvenation using a chemical peel
 Session: Full Enhancement of the Hand: An Increasing Request

Thursday April 8th, 2.00 - 4.00
Room Nijinski

Introduction

Different types of chemical peels are used in medical practice today. Some of these peels are designed to penetrate deep into the skin, causing the remodeling of collagen. The deep chemical peels are procedures that produce extensive tissue necrosis and, require long healing periods. Phenol is a well-known chemical agent used in this type of treatment. Although it was introduced in the United States in 1930, however, only since the 70's did its use became more frequently owing to the histology work carried out by Baker et al. During the past two decades Trichloroacetic Acid (TCA), another chemical agent became widely used in the USA. This new product can, at high concentrations, also produce medium and deep chemical peels without the serious risks that patients are submitted to when using phenol.

From the beginning of the last decade of the twentieth century a new substance, Glycolic Acid (a-hydroxy acids or AHA), was added to the arsenal of chemical products to be used as peeling agent.

By the end of the twentieth century a new series of peels was developed by different authors. These peels use combined chemicals that when applied seek synergy with the skin.

The most popular of these peels, use a combination of Glycolic Acid - a-hydroxy acids or AHA with Salicylic Acid (-hydroxy acid).

Probably the greatest revolution in the dynamics of superficial, medium and deep chemical peel, is the possibility of using Retinoic Acid and its derivatives in concentrations of between 2% and 8%, to promote superficial peeling with a mild epidermolysis, but with a potentially of deep dermal stimulation (strong vasodilatation)

TCA PEEL - The best choice for a fast result

Trichloroacetic Acid, or TCA, is a peeling agent that promotes the clotting of important proteins in the cells when it comes in contact with the skin. Classically the TCA is used in a liquid form in concentrations ranging between 15% and 50%, suitable for causing facial chemical peels. TCA in the liquid form should be only used by physicians that have a high degree of training in the use of chemical peels, because of the diagnostic skills needed to identify the type of lesions that are to be treated with Trichloroacetic Acid. TCA in the liquid form and above a 30% concentration may cause necrosis in the form of a protein coagulation that reaches the epidermis and papillary dermis and/or reticular dermis and thus can cause a deep epidermolysis with a residual inflammatory process that can last from three to eight weeks. The undesirable side effects are quite common, including the post-inflammatory hyperpigmentation, hypochromy, infections and hypertrophic scars.

A new way of using Trichloroacetic Acid or TCA, as a selective and safe peeling agent, is in a lotion format, combined with Glycolic Acid, as this agent promotes an improved efficiency in the penetration of the TCA. In other words, the chelation of the TCA molecule, attached to amino acids does not allow this molecule to penetrate deeply into the skin, this way avoiding unnecessary necrosis of the dermal layer.

The beneficial consequences are:

- The necrosis occurs exclusively in the epidermis and causes a selective and clear epidermolysis
- With the absence of the necrosis in the dermis, we avoid an extended inflammatory process, common with the use of liquid TCA
- After the flaking, which occurs between the 4th and 5th days, the residual inflammatory process will remains (on average) for 8 to 10 days

Contraindications to the use of a TCA Peel are:

The presence of any inflammatory process on the skin that needs to be treated, recurrent herpes infection, an active life in the sun, are mentally unbalanced or has cognitive impairment.

THOMAS MODSCHIEDLER, MD

Treatment of breast ptosis with the autostatic "curtain" procedure
 "French Riviera Experts" Session

Thursday April 8th, 4.30 - 6.30
Room Van Dongen

The author proposes a new concept in the approach of the treatment of the breast ptosis. His thinking and the achievement of this new procedure are following the last progress in breast surgery. It is also the successful outcome of a long experience with traditional techniques of which the results are not always worth the residual scarring.

All techniques are more or less based on the reshaping of the glandula, its fixation on the pectoralis muscle and the adjustment of the cutaneous tissue with skin resection. The center of gravity being still in the inferior segment, it is necessary to have strong support with the cutaneous envelope. Important skin resilience, very common in breast ptosis, cannot compete with the weight

and leads inevitably to new ptosis. The famous mastopexies pinned on the pectoralis muscle have never proved their efficiency. To fix a static system such as the breast glandula on a dynamic and moving muscle can only lead to a release of the stitches.

The aim is clear: to get a long lasting result, to reduce the scars, to preserve the original shape of the breast, to minimize the glandular cutting when reshaping to avoid inter-glandula fibrosis allowing an easier radiological supervision of the breasts.

The pre-pectoralis aponeurosis is the main part of this new procedure. It allows the creation of a sustaining system like a curtain or a drape which remains attached to the glandula. This way, the inferior segment is discharged of the breast weight providing a much more limited cutaneous resection. The fixations on the pectoralis muscle are not necessary; the muscle mobility does not interfere on the breast stability. The glandular cutting is limited to only one vertical incision giving access to the pre pectoral aponeurosis. The scars are shorter and thinner, mainly because there is neither tension nor pressure nor pulling on the inferior segment.

After 3 years of research and necessary adjustments, the results of this new procedure are stable on a medium term basis and promising for the future.

DANIEL MORIN, MD PHD - DENIS GUILLO, MD

Facial rejuvenation using barbed threads

Saturday April 10th, 4.30 - 6.30

Session: Short Contributing Lectures in Medical and Surgical Facial Rejuvenation

Room Van Dongen

Actuality about Facial and breast rejuvenation using barbed threads:

- Using "spring threads" in facial and breast rejuvenation (from intuition to clinic studies)
- Using local anaesthesia, for several years, they improved the technique.

The actual tendency is to associate barbed threads in conjunction with classic polyamid de type 0.

Français:

Rajeunissement facial par les fils crantés

Le point sur l'utilisation de fils crantés longs avec des boucles relais

- Application pour les tissus relâchés du visage
- Application pour la ptose mammaire (seins petits et moyens).

Certains fils crantés longs élastiques présentent des caractéristiques mécaniques qui permettent de procurer un effet tenseur souple et élastique.

- Nous présentons des séries dont certaines sont issues d'une étude clinique.

WILLIAM MURILLO, MD

Buttocks: Diagnosis, classification and treatment with fat grafting

Thursday April 8th, 4.30 - 6.30

Session: Create the Perfect Buttocks

Room Nijinski

Recontouring the buttocks requires a good knowledge of its anatomy plus an understanding of its relationship with all neighbor areas being part of the posterior outline. In order to smooth the progress of diagnosis and classification, the author has divided the buttock into four direct areas, Gluteus maximus, Iliac, Throcanteric and Ischio-rectal; into two indirect topographical areas, Femoral and sacral as well into a "borderline" area that could be called gluteo-femoral.

The technique is discussed in detail, taking into account that the total amount of adipose cells to be transferred must be in accordance with the surrounding areas. Clinical assessment has estimated a 20 percent loss of enhanced effect during the first 4 postoperative months, stabilizing afterwards.

With the help of Magnetic Resonance Imaging, the intramuscular injection of the fat and its permanence is confirmed.

YOSHINORI NAGUMO, MD*

Three trends of augmentation mammoplasty in Japan

Saturday April 10th, 11.00 - 1.00

Session: The Breast Around the World - Beauty and Breast Enhancement

Room Nijinski

* Nagumo Clinic, Tokyo, Japan

In augmentation mammoplasty, the selection of implant type (surface, contents, and shape) and surgical procedure (incision and dissection) are puzzled for plastic surgeons. It is well known that textured surface prevents capsule contracture by causes a disruption the alignment of collagen around the implant in the capsule formation. And the textured implant doesn't move and rotate in the capsule, because capsule size is same as implant size. It is also said that cohesive gel doesn't easily migrate into the surrounding tissue, even if an implant ruptures. Cohesive gel implant has a breast-shaped anatomical profile, because it does not change the form by physical position. And anatomical implant requires textured surface to prevent the mal-rotation of the implant. Therefore, textured, cohesive, and anatomical implant is the optimum combination and called as "stable concept". Stable implant doesn't move in capsule, feels firm, doesn't change its shape, and difficult to be inserted from incision of axilla or small areola. The infra-mammary fold incision provides correct and sufficient dissection, absolute hemostasis, and easy insertion of stable implant. The combination of stable implant and infra-mammary fold incision is the mainstream in Europe. However, the Asian whose wound is easy to become hypertrophic tends to choose axillary incision. From axillary incision, only the smooth, soft cohesive and round implant can be inserted. This combination of implant provides mobile, soft, shape-changeable breast if without capsule contracture, and named as "mobile concept". But if with capsule contracture, it turns into firmness, deformity, and upper deviation. Because the dissection from axillary incision is a blind procedure, the dissection is incorrect and insufficient, and the hemostasis is impossible. Recently, I have advocated hybrid concept which combines the direct vision technique via armpit incision and insertion of textured round implant beneath superficial abdominal fascia.

Medical rhinoplasty and complications
Session: New Trends in Medical and Surgical Rhinoplasty

Saturday April 10th, 4.30 - 6.30
Auditorium Prince Pierre

Objective: The management of nasal deformities has always been a typical area of interest in surgery. In the author's experience many of these problems can be successfully approached with a new medical technique, which consists of using only hyaluronic acid for the correction of nasal angles and botulinum toxin for patients with hyperactivity of the depressor septi nasi muscle.

Materials and methods: 25 patients were treated between January 2008 and December 2009. The average age of the patients was 46 years. In all of the cases, the treatment was conducted with hyaluronic acid (24 mg/mL), the same substance used for face rejuvenation. The amount varied from 0.6 to 1.2 mL.

Results: Results were evaluated using a definitive graduated score calculated by patient's and doctor's satisfaction score (range, 1-5) and by photographs' score at time 0, after 20 days, and after 180 days. It ranged from 3 to 5 (average of 3.1). No significant side effects were reported.

Conclusion: The medical rhinoplasty is a simple and very effective technique with immediate results. It can be used in those cases where patients are reluctant to undergo surgery, or as primary indication in the correction of minor nose defects. Results are satisfactory and no side effects have been reported so far. Results will last for at least 12 months. This new approach for rhinoplasty fits in totally with actual patient expectations. The main inconveniences of this approach are the short durability of results and the cost of the procedure repetition

XAVIER NOEL, MD

Perioral rejuvenation: The surgeon's approach
Session: Best of Lips and Peribuccal Rejuvenation

Saturday April 10th, 11.00 - 1.00
Auditorium Prince Pierre

The lip rejuvenation is a usual demand during aesthetic consultation. By his own or for a full face rejuvenation women are waiting a lot on this area. Topography and analysis of this area allows a better understanding on what happens during the life.

Revue of 72 photographs of lips (young and old) was the beginning of the study

It allows a classification and contributes and chooses a correct treatment. At first upper lip is never more important than lower lip on the frontal view and on the lateral view. In 1/4 of the cases they are equal. This is a very important thing to have in mind during the discussion and the treatment.

The classification has 3 levels

Wrinkles in dynamic movement

Wrinkles in static position fine lines

Deep lines

Lengthening of the white lip with diminution of the vermillion.

Treatment for surgeon begins with feelers in the first stage. In the second stage feelers and resurfacing can be discuss. The lip lift can be discussed at the end of the treatment if patient and physician analyse the lip as too long.

Conclusion: Treatment begins by a good knowledge of the aging process. It is often a progressive treatment beginning by fillers. Multi stage treatment is quite usual and can be surgical procedure in the end.

HERVÉ S. PADEY, MD - Co-Speaker with Pr Armand PARANQUE

What can be done with Mesotherapy?
Session: Full Enhancement of the Hand: An Increasing Request

Thursday April 8th, 2.00 - 4.00
Room Nijinski

What about hands?

Hands are now considered as full face or full body. Marks of time alter your hands' character. Up to now, most of the rejuvenating treatment procedures on back hands gave disappointing results. In aging hands, we can observe changes in skin physiology and clinical appearance after microdroplet placement of Hyaluronic Acid (HA).

Full enhancement of the hand: how to manage? During the last decade, mesotherapy products such as HA fillers with cross-linking (Restylane Vital and Macrolane), or without cross-linking (Cytocare 532 and Revitacare Bio-Revitalisation) have received official agreement. Still, these products have been mainly confined to the treatment of lines and folds associated with hand aging.

Treatment areas: Only back hands are treated. We will talk about their architecture, their anatomy, their properties: density, thickness, cutaneous elasticity...The most often used techniques are quite represented by injections of Hyaluronic Acid (HA), combined with Mesotherapy (complex of Hyaluronic Acid, vitamins). The selected injections protocols are specifically formulated to work in harmony with the natural anatomy of the hands.

Hyaluronic acid specificities: The injection of Hyaluronic Acid is the smart and easy way to add volume and smoothness to your skin. Hyaluronic Acid (fillers or pure mesotherapy) enhances a natural look by restoring your skin's volume, creating softness and revitalizing your appearance:

- Directly add volume and softness to the signs of ageing and your features.
- Provides instant results.
- Ensures minimal downtime.
- Is long lasting, though not permanent.
- Is natural and safe, with a low risk of adverse events.

Recommendations: As in any injection, we must use sterile conditions to prevent infection.

We must consider as possible risks:

- A slight pain

- A redness of the skin
- A swelling
- Haematomas

We must mandatorily recommend resorbable materials (as Hyaluronic Acid).

Different techniques can be combined

- Peeling
- Laser
- IPL to treat pigmented lesion

We get a proven efficacy of hands rejuvenation with Restylane Vital and Cytocare 532.

Study findings:

- Skin elasticity and skin smoothness
- Hydration and transepidermal water loss
- Duration of effect

A few examples: We will show some significant results obtained by accurate research.

Aging skin is a degenerative process:

- Decrease in the origin of the natural moisture
- Decrease of HA in the dermis
- Decrease of the viscoelastic properties of the skin
- Decrease the power of water retention

HA used as filler and mesotherapy gives hydro-reserve:

- Provision of HA stabilized
- Long-term hydration of the dermis
- Restoration of viscoelastic properties of the skin
- Decrease in skin roughness

Protocols: I shall specify the protocols and the duration of these kind of injections. In order to optimise the results, we can combine Mesotherapy treatments.

Procedure:

- 1 or 2 weeks interval
- 4 to 6 sessions
- then followup sessions, according to patient's condition

Conclusion

Fully proven skin rejuvenating action:

- Statistically significant biophysical properties of the skin.
- Satisfaction rate: 85%.
- Renewal of the hydration system of the skin depth.
- Non-permanent, longlasting.
- Instant result.

HERVÉ S. PADEY, MD

Particularities of perioral rejuvenation in men
Session: Best of Lips and Peribuccal Rejuvenation

Saturday April 10th, 11.00 - 1.00
Auditorium Prince Pierre

Men lips - extended mouth area

Lips are special. Marks of time alter your face character.

- Lips create visual impact on first meeting.
- The most sensuous feature of the face, they attract the attention of the opposite sex.
- There is nothing attractive about thinning, ageing lips or flat lips.
- Downward turning lips can create a misleading first impression.

Before considering any treatment on men lips, it seems important to compare it with female lips.

Before speaking only about lips, I shall make a small presentation to introduce the differences between males and females, which must be considered before starting any treatment.

Treatment areas: We will talk about their architecture, their anatomy, and their properties: density, thickness, elasticity... When we speak of the lips, we must consider not only the lips themselves, but the perilabial area as well (folds, philtrum...). The most often used techniques are quite represented by injections of Hyaluronic Acid (HA) combined with Mesotherapy (complex of Hyaluronic Acid, vitamins, trace-elements and amino-acids).

The selected injections protocols are specifically formulated to work in harmony with the natural anatomy of the lips. Usually, these techniques are more used for males after a treatment of teeth (implants, bridges, crowns and periodontology), after surgeries (liposuction, lifting, rhinoplasty...), after dermatological treatments (peeling, dermabrasion, laser ...). Usually, we do associate the injections of the lips with those on the Nasolabial folds, Marionettes folds, Mandibular, Chin, Neck.

It's important to create a masculine aspect after these injections, and the same is required for their surrounding area. We must respect a good balance between the volume of the upper lip and the lower one, even more yet for men than for females.

Hyaluronic acid specificities : The injection of Hyaluronic Acid is the smart and easy way to add volume and smoothness to your skin.

In the same way, the profile is very important and some techniques allow us to get a nice curving of the lips, and I shall show you some slides to present my technique.

Further to my experience, I used different Hyaluronic Acids for injections, and among them my favorite ones are the Restylane

Products.

Restylane enhances your natural looks by restoring your skin's volume, creating softness and revitalizing your appearance:

- Directly add volume and softness to the signs of ageing and your features.
- Provide instant results.
- Ensure minimal downtime.
- Are long lasting, though not permanent.
- Are natural and safe, with a low risk of adverse events.

I combined different injections, firstly deeper with Restylane Sub-Q (sharp needles) especially on the nasolabial folds, mandibular and chin - then with Perlane on the Marionettes folds and even on the nasolabial folds. Restylane is an injectable gel which should always be administered by a trained, medically qualified practitioner. This requires a sound knowledge of the anatomy, backed with a solid experience.

For the lips, I inject quite often either Restylane Perlane or Restylane Lips. I used both, and I also got good results, like Teosyal Kiss, Teosyal Ultra Deep, and Revanesse.

Hyaluronic Acid gives a plump, hydrated and more sculpted look - as can be observed for females. It can correct a lip's asymmetry as well. Hyaluronic Acid has dynamic properties designed to work with lip movements, and to support their natural purposes such as talking, laughing, smiling, kissing...

Hyaluronic Acid:

- Creates a natural fullness in the body of the lip.
- Enhances the vermillion border.
- Increases definition to the philtrum ridges.
- Corrects thin, flat lips.
- Creates lips that have impact but still look natural.

Protocols: It seems important to inject first the lips' contours and to work afterwards on the volume. Then I shall specify the protocols and the duration of these kind of injections. In order to optimise the results, we can associate Mesotherapy treatments.

Conclusion: Male anti-ageing techniques are more and more considered. The demand for such treatments is hugely growing among men. They are becoming an essential treatment, complementing at best any surgery, periodontal, dental and dermatological acts. They must be well tailored and combined, in order to get a nice aspect and good-looking of the males.

MICHÈLE PELLETIER AOUIZERATE, MD

"Stretch marks and the rainbow power" - A luminous fairy tale: the LED
Session: Sheeding New Light on Photomodulation

Friday April 9th, 8.30 - 10.30
Room Van Dongen

Now the daily partner of our environment, LED's (Light emitting Diodes), like tiny fairies, seems to wait patiently for a public recognition. Emitting at very high "luminance", they offer varied colors that range from 400 to 700 nm (visible). This luminescent light is produced by an electric current of small intensity of 2 to 3 volts when crossing a semi-conductor and is highly promising for aesthetic medicine indications.

The ancient Egyptians always honored with devotion the sun god RA, source of joy, good health and energy. Thus the idea of using the thermal solar synergy that creates, in about twenty days, a true protective melanin shield of the keratinocytes, so called sun tan, came. The harmful ultraviolet A are the generators of this "most wanted in winter" artificial suntan and also the source of a tempting marketing. In reality it is more the subtle mixture of the sun radiations that creates a harmonious good looking and long lasting sun tan rather than UVA itself.

Our matter is not to praise for sun tan but to start thinking about using LED Luminescent light for repigmentation of the white stretch marks, a daily request in aesthetic medical practice. Hidden in our skin are melanin reservoirs like the ones in the outer root sheath of hair or the epidermis melanosome situated at dermo-epidermic junction that are sensible to light actions.

For the purpose of starting a repigmentation process of the white stretch marks we had the idea of preparing the skin by picking technics before applying LED light at mixed wavelength. Thus the prepared skin is therefore exposed to a high power LED device (Triwings) combining 4 colors (blue, purple, red and yellow) at subtle high energy luminance level, sequence and timings. In light of the good results obtained this non thermal radiative synergy seems promising for stretch marks repigmentation. We will describe our procedure and are very keen to open a discussion and share experience.

Of course, doing so, we will all continue to devote the highest respect to RA...Get to much closer to him would mean taking the risk of burning our wings ...

MICHÈLE PELLETIER AOUIZERATE, MD

LEDs and stroke: a new insight
Session: LEDs and stroke: a new insight

Friday April 9th, 8.30 - 10.30
Room Van Dongen

With increasing frequency and tragic consequences, strokes are presenting deadly menace in our industrialized world. It is provoked by genetic predisposition, and "state of mind".

Unhealthy way of living, stress, unhealthy diet, smoking, drinking and drug abuse are mayor causes of stroke which is an incident. Therefore individuals and society in whole should be aware of this fact and prevention is key word. Aging is as well playing roll and ¾ of man/women over age of 65 are affected.

We, humans are mortal, due to programmed cell death "Apoptosis". Prolonging quality life is our task; thus slowing down "unwanted toxic cell death".

More than ever "mens sana in corpore sana" (healthy spirit in healthy body) returns to us "l'ordre du jour". Out of fashion proverb, which was overused is becoming modern. Anti-aging is of concern to captioned group which is increasing. LED opens new field within photo medicine: "medicine vibratoire" and new inside of ourselves. How and why LED and stroke? This short lecture is

drawing visionary frame for LED as emergency aid in the future of stroke treatment.....

Français

Accidents vasculaires cérébraux : "un nouveau regard"

Avec une incidence croissante et dramatique, les accidents vasculaires cérébraux représentent dans nos sociétés industrialisées, une menace mortelle. Provoqués par de facteurs prédisposants, ils peuvent aussi être le reflet de leur "mal être". La mauvaise hygiène de vie, le stress, la "malbouffe" doivent, à coup sur, faire l'objet d'une prévention soutenue. C'est aussi de vieillissement qu'il s'agit, les $\frac{3}{4}$ surviennent chez les plus de 65 ans (hommes et femmes).

Plus que jamais "mens sana in corpore sano" revient à l'ordre du jour. Diction démodé, à force d'usage, annonce une étrange modernité. L'"anti-aging" concerne aussi cette population qui ne cesse de croître.

Parmi les photo-médecines, les LED annoncent l'avènement des médecines vibratoires, mais aussi un nouveau regard sur nous mêmes. Au cours de ce bref exposé, nous dresserons un tableau visionnaire des soins d'urgence du futur...

VINCENZO PENNA, MD*

The aging lip: Classification (based on photomorphometry, MRI and histology) and Therapy
Session: Best of Lips and Peribuccal Rejuvenation

Saturday April 10th, 11.00 - 1.00
Auditorium Prince Pierre

Co-authors: G.-Björn STARK, MD*+, Steffen U. EISENHARDT, MD*, Holger BANNASCH, MD*+, Niklas IBHLER, MD*

* Department of Plastic and Hand Surgery - University Medical Center Freiburg and + Erich-Lexer-Clinic, Freiburg, Germany

Introduction: Upper lip rejuvenation is achieved by a large variety of different treatment approaches lacking a scientific background of the aging processes of the upper lip complex. We present a scientific evaluation of the underlying anatomic changes and facial proportions of the senile upper lip. Basing on these analyses we present a classification of the aged upper lip together with a therapeutic algorithm.

Methods: (1) In 182 standardized subject photographs proportions of the upper lip were measured, compared to facial dimensions and correlated to age. (2) In cranial MRI scans of 30 women aged 20-35 and 30 women aged 65-80 relevant anatomical dimensions were measured. (3) Histological cross cuts of the upper lip complex of 20 individuals in two age groups, young (< 40 years, n = 10) and old (> 80 years, n = 10), were analysed. HE and EvG stains were performed and the relevant anatomical structures measured and compared using a Student-t-test. (4) With regard to the previous mentioned studies a classification of the aged lip was established.

Results: All studies showed statistically significant lengthening of the aging upper lip.

The photomorphometric study further shows an increase of prolabium skin at the cost of a decreasing visible upper lip vermilion. The MRI scans showed a decrease in thickness. A loss of volume could not be shown. Histomorphometric analysis revealed statistically significant thinning of the cutis, thinning of the orbicularis oris muscle and an increase of the orbicularis oris muscle angle defining the vermilion border in the old lip group. Elastic and collagen fibers undergo degeneration. The orbicularis oris muscle is not subject to degeneration but shows signs of atrophy.

Conclusion: The performed analyses and the presented classification shed light on the so far only unsystematically and episodically described process of upper lip aging on a scientific level.

LUIZ HAROLDO PEREIRA, MD

Reshaping of the lower limbs by lipomodeling
Session: Legs and Feet Beautification

Friday April 9th, 8.30 - 10.30
Room Nijinski

In the last 25 years, several different techniques of lipoinjection have been developed. The authors performed a perspective study to evaluate the outcomes and patient satisfaction of autologous lower limb lipograft in 25 patients during January 2002 and January 2006. All the patients that were included in the study were candidates for lower limb augmentation. Overall satisfaction with the lower limb appearance after lipografting was rated on a scale of 1 to 5, whereas 1 is 'poor', 2 is 'fair', 3 is 'good', 4 is 'very good' and 5 is 'excellent'. The evaluation was made at follow-up time of 24 months. The total amount of clean, adipose tissue transplanted to the limbs varied from 60 to 220 ml. There were noted 3 cases of liponecrosis and were treated by aspiration with a large-bore needle connected to a 10-cc syringe, performed as an outpatient procedure.

Infection of the grafted area also happened in 1 patient and was treated by incision drainage and use of antibiotics. There was no case of compartment syndrome or other major complications. Three of the patients expressed the desire of further lower limb augmentation. Two of them had further lipografting and the other one received calf silicone implants. At 24 months seventy percent reported that their appearance after lower limb lipografting was 'very good' to 'excellent' (32% 'excellent' and 38% 'very good') and 23 % responded that their appearance was 'good'. Seven percent of the patients continued to think that their appearance was less than good. The average follow up time for this group of patients has been 6.2 years.

The key for a successful lower limb fat grafting is familiarity with the technique, knowledge of the topography, and understanding the goals of the patient. With experience, the surgeon can predict the amount of volume needed to be grafted in order to produce the desired result. Although the aim of every surgeon is to produce the desired augmentation of the lower limbs by autologous fat grafting in one stage, the patient should be advised that a secondary procedure may be needed in order to accomplish the desired result.

LUIZ HAROLDO PEREIRA, MD

Refinements in breast aesthetic surgery
Session: New Trends in Brazilian Aesthetic Surgery

Friday April 9th, 11.00 - 1.00
Auditorium Prince Pierre

The goal of aesthetic breast surgery is to improve the shape of the breast while minimizing visible scars. To achieve this end

result, multiple procedures and countless modifications of aesthetic breast surgery procedures have been presented. The aesthetic goals of those procedures are to obtain a more youthful appearance, improved projection, and reduced ptosis. Unfortunately, aesthetic improvement comes at the cost of scars. Although breast augmentation and mastopexy themselves are usually straightforward operations and achieve high patient satisfaction, they present specific risks and complications. Controversy currently exists with the use of mesh and with the use of liposuction in breast-lifting procedures.

The use of prosthetic mesh has been well-described for shaping the breast mound. While this technique has been shown to be safe and successful, concerns regarding the reaction of prosthetic mesh in the breast have limited its use. Liposuction has been recommended to provide a minimally invasive procedure, which can reduce some of the breast fullness and allow elevation of the nipple-areola complex (NAC). Since breast tissue is removed but not examined histologically, and since breast tissue architecture is altered, critics question the safety of this technique. Plastic surgery has an increasing need for body contouring procedures, including mastopexy in patients who undergo massive weight loss.

These patients can be technically challenging because of breast deformities including breast asymmetry, a redundant and inelastic skin envelope, nipple ptosis, disposition of the NAC, and prominent skin rolls. The future of mastopexy surgery lies in the ability to obtain lasting results while minimizing visible scars.

ERIC PLOT, MD - Co-author: PATRICK TRÉVIDIC, MD

Axillary and periareolar techniques for breast implants
Session: Video Corner: The experts' showcase

Saturday April 10th, 8.30 - 10.30
Room Nijinski

This film aims to show you the technique and indications for each approach (indications, drawings, surgical procedure) as if you were there.

Keywords: Breast augmentation, axillary approach, peri areolar approach, technical procedure.

ERIC PLOT, MD

Laser lipolysis with Lipocontrol®
Session: Video Corner: The experts' showcase

Saturday April 10th, 8.30 - 10.30
Room Nijinski

This video will show you the laser lipolysis technique. It will also show you how Lipocontrol* allows us to control quality and homogeneity of our work, to help to skin retraction and so to improve our results.

Keywords: Laser lipolysis, Lipocontrol*, skin retraction, homogeneity of our work.

ERIC PLOT, MD

Classical Liposuction versus Laser lipolysis
Session: The Art of Lipoplasty

Saturday April 10th, 4.30 - 6.30
Room Nijinski

Liposuction is second only to breast augmentation as the most commonly performed cosmetic procedure in the United States. As a plastic surgeon, we were very used to remove fat with classic liposuction and our results were excellent when skin retraction occurs secondarily.

Liposuction removes fat through very small skin incisions, with atraumatic, blunt-tipped cannulas. Simplicity, quality of results and relatively rare complications are but a few benefits that explain its success. Its main limitation is the minimal skin retraction achieved after the procedure.

Laser lipolysis is based on a thermal effect. The laser can vaporize, melt tissues, and coagulate blood vessels. More importantly, the laser stimulates the formation of collagen in the region, enhancing skin elasticity and promoting skin contraction in the treated areas.

After eighteen months of use of laser lipolysis and because of recent progress of the machine (lipocontrol)-which now allows us to exactly know the quantity of energy delivered in each zone and the increase of heat obtained- we think that laser lipolysis is becoming a safe technique whose results are very interesting by its both action on fat and skin retraction.

This review aims to describe traditional liposuction and laser lipolysis and discuss the difference between the two techniques

Key words: Liposuction, laser lipolysis, lipocontrol, direct control, safety technique, homogeneity, skin retraction, thermal effects

SYLVIE POIGNONEC, MD

Radiofrequency and combined treatments in facial rejuvenation
Session: Lasers, Lights and Related Technologies - Part 1

Friday April 9th, 11.00 - 1.00
Room Nijinski

Since 24 months the author has used a new monopolar radiofrequency 4 MH for the skin tightening: LE PELLEVE in combination with facial plastic surgery such as face lifting and blepharoplasty

Before the surgery, patients received 2 sessions of radiofrequency (20w) during 10 mn in periorbital area, around the mouth and on the cheeks. One month after surgery, 3 others sessions were performed every 3 weeks.

Blepharoplasty and face lifting were also performed with the surgical hand piece which permitted a more precise and less bleeding section. The coagulation was performed with the bipolar hand piece (1,7MH) using the same machine called DUAL (mono and bipolar).

The author analyses results and complications of this new procedure: Using the same radiofrequency generator improve the surgical results and permit a skin tightening, a best quality of the skin and decrease the wrinkles.

BERNARD POULAIN, PHD*

Understanding the scientific aspects in order to improve its practical uses
Session: The Science of Botulinum Toxins

Friday April 9th, 8.30 - 10.30
Auditorium Prince Pierre

* CNRS, Institute for Cell and Integrative Neurosciences, Strasbourg, France

Several bacteria of the Clostridium genus (*C. botulinum*) produce 150 kDa di-chainal protein toxins referred to as botulinum neurotoxins or BoNTs. They associate with different type of non-toxic companion proteins (haemagglutinins) to form complexes of different molecular size covered by the generic term "botulinum toxin". Since the toxin complex dissociates very fast at physiological pH, the neurotoxin is quickly released from the toxin complex. This has two important consequences: the initial size of the toxin complex cannot determine the diffusion properties of the products; immunization against the non-toxic proteins cannot be neutralizing. The BoNTs specifically inhibit vesicular neurotransmitter release. When applied at the neuromuscular junction, the only effect of the neurotoxin is a specific blockade of acetylcholine release and ensuing myorelaxation.

The spread of botulinum neurotoxin away from the site of intramuscular injection is produced by either diffusion or mechanical propulsion during injection. The capillary network surrounding muscle fibers is damaged during injection. Thus, a portion of injected toxin undergoes hematogeneous dissemination. At the doses injected in aesthetics, no systemic effects are observed however. As for the field of effect around the injection site, many clinical studies have shown that it is influenced by the dose, volume, site and technique of injection.

All the commercially available products used in aesthetics are based on botulinum toxin type A (the complex comprised of BoNT-A and haemagglutinins), thus sharing the very same mechanism of action and intraneuronal target (SNAP-25). However, the toxin/neurotoxin load for each differs, as well as the process of production and formulation. Also, the difference in the unit systems used for the various products does not relate to intrinsic differences between the toxins/neurotoxins but to the methods used to evaluate the biological activities of the commercial toxins. The excipients present in the different formulations are essential to minimize non-specific absorption of the neurotoxin on the vial and syringe walls. The excipients of some non-approved toxins may induce undesired effects.

BoNT-A duration of action is fully reversible. Once the neurotoxin is eliminated from the nerve endings, acetylcholine release is possible and the muscle contracts again.

GUILLAUME ROUGEREAU, MD

La chirurgie esthétique du pied existe-t-elle ? / The foot, The orphan of the aesthetic world
Session: Legs and Feet Beautification

Friday April 9th, 8.30 - 10.30
Room Nijinski

Français

Nous faisons 40 000 pas par jour soit environ deux fois à deux fois et demie le tour de la Terre dans une vie. L'axe prioritaire du pied est la fonction. On ne peut pas en méconnaître l'esthétique. Dans l'esthétique il y a deux choses : le pied nu et le pied chaussé.

Faut-il adapter la chaussure aux pieds ou les pieds à la chaussure ?

1 - La première réponse à la question est non. En effet la fonction prime. De plus les patients et patientes, dans mon expérience, n'ont pas d'idée précise de l'esthétique de leurs pieds nus mais plutôt de l'envie d'un chaussage fin et élégant. Le pied est adaptatif de l'appui de l'individu au sol. Par exemple, le pied plat aura tendance à augmenter l'appui interne et à favoriser, ou à faire récidiver un hallux valgus. Dans ce cas, l'objectif ne saurait être atteint.

Que faut-il pour enfiler et supporter un chaussage fin et élégant ? Un avant pied fin et souple, une cheville et un tendon d'Achille totalement fonctionnels. Et ceci ne tient pas compte des parties molles, comme le gonflement, les problèmes lymphatiques et veineux.

Que peut-on leur proposer ? Dans le cadre des avant pied triangulaires les ostéotomies de fermeture de cet éventail vont améliorer le chaussage. Dans ce cas la réponse peut-être oui.

Cette chirurgie a ces contraintes et a ces risques.

Il y a 20 ans, la connaissance du pied et technique opératoire ne permettait pas de correction ni faciles ni très satisfaisantes. Les pieds étaient opérés tardivement et les résultats ne pouvaient pas être optimisés notamment concernant l'esthétique du pied. L'amélioration attendue se situait sur la douleur et la chaussabilité.

Actuellement, les déformations sont prises en charge plus tôt. En effet l'âge moyen des patients opérés diminue d'année en année. Dans 20 ans, les mêmes déformations seront vraisemblablement opérées encore plus tôt, les gestes étant plus simples les suites opératoires le seront aussi.

En tout état de cause, cette chirurgie est réalisée de préférence tôt quand les déformations apparaissent.

Il faut aussi tenir compte des durées de prise en charge ainsi que les risques. Un pied opéré ne remarche pas correctement avant au moins 6 semaines. Il peut rester gonflé, donc mal chaussable 6 mois, Une chirurgie non fonctionnelle uniquement motivée par l'esthétique tel être risquée ?

Même la chirurgie mini invasive et la chirurgie percutanée sont des opérations du pied. Les délais de cicatrisation sont un peu plus courts, mais ils sont longs. N'oublions pas qu'un seul pied est opéré à la fois dans la grande majorité des cas. Il faut aussi tenir compte des cicatrices.

Sans entrer dans des considérations psycho pathologiques et les pieds peuvent être le reflet d'un mal-être qui ne peut pas être corrigé par de la chirurgie.

En conclusion, l'absence de douleur qui permet le chaussage les déplacements et une marche esthétique remplit déjà son rôle. Le pied doit être vu au regard d'une posture ou d'une démarche.

Almost all aesthetic procedures which should be dedicated to aging skin treatment can be functionally divided into 2 groups: stimulation and replacement. During the first type of procedures like peels, fractional laser, radio frequency lifting, IPL, injections of stabilized HA all rejuvenation potency of the skin correlates with activity of fibroblasts and possibility of collagen synthesis. Second group includes volumizing injections, synthetic implants, threads, stem cells, etc. There is a special anti-aging treatment which provides both activities - amino acids (AA). These unique molecules are the only substrate really necessary for promoting the synthesis of any protein. The adequacy of type and number of AA required for protein synthesis can be predicted on the basis of the quality and quantity of AA present in each protein. But collagen synthesis is different because some of its AA should be provided in the precursor form to activate the synthetic drive by fibroblasts. Therefore, collagen synthesis is efficiently maintained only when those specific AA are continuously available and present in a specific ratio.

A functional cluster of AA that is suitable for collagen synthesis promotion is protected by patents and is widely available in Europe in the form of dietary supplement (Proglyme® - beauty drink -) and for topical use (Vulnamin® - chronic wounds treatment, Scaramin® - small wounds & cuts - Mucosamin® - irradiation damage care - Aminogam® - lesions & inflammation, periodontal disease - Proglyme® - cosmeceuticals) and for intradermal use (Jalupro®).

Three Amino Acids (Glicine, L-Proline, L-Lysine), which are contained in these products are essential to form collagen and to compensate the reduced fibroblasts activity. Important that the local injections of this formulation of AA provide a chemotaxis of fibroblasts. So the choice of the injection site allows the physician to drive fibroblasts to the target area where the promotion of the collagen synthesis is required (for instance, wrinkles, stretch marks, etc).

Delivery of proper AA for fibroblasts feeding stimulates also production of growth factors (TGFβ) and multiplication of fibroblasts, thus, activating all those complex balances of the catabolic-anabolic pathways that restore a normal structure of dermis.

In our clinical practice we use several combined protocols which allow us to get better and longer results. Most valid combinations is with superficial and TCA peels, fractional laser, radiofrequency tightening and rejuvenation treatment.

In case of thin and loose skin the course of AA injections should be done before any kind of peels.

For other indications: superficial peel make just before injections of AA during first 4 procedures or on complete recovery skin after the course of TCA peels (for instance Easy TCA, Skin Tech, Spain).

AA therapy is a possible addition to the course of Restylane Vital (non animal stabilized hyaluronic acid for skin rejuvenation (Q-Med, Sweden)) injections. Proglyme per os during the injections of NASHA gel and Jalupro in 5-6 months after to support the function of fibroblasts and prolong the result.

Combination with medical devices provides quicker and better result during anti-age treatment.

Intradermal implants (Jalupro) is recommend to inject twice (15/30 days) before laser resurfacing and 6 times after treatment. During fractional laser rejuvenation (we use Sellas, Dinona Inc., South Korea) which consist of 3-5 procedures each month Jalupro should be injected in 2 weeks after every procedure. Proglyme per os 2 vials a day for the week before laser, 1 vial a day for 4 months after laser in both cases. 2 intradermal implants (Jalupro) before Thermage (15/30 days before RF) and 6-8 intradermal implants (every 30 days) after treatment. Proglyme 2 vials a day one week before treatment, 1 vial a day for 6 months after procedure. It's also possible to combine these products with plastic surgery and IPL treatment

Therefore, described cluster of AA is an indispensable nutritional basis for the mono therapy or like a part of complex anti-aging treatment.

CEMAL SENYUVA, MD, PHD

Advanced technique in 3rd generation solid probe ultrasonic liposuction
Session: The Art of Lipoplasty

Saturday April 10th, 4.30 - 6.30
Room Nijinski

Ideal lipoplasty method should be easier for patient and surgeon, should be faster, should produce better and more predictable outcomes and should maximize safety. It should promise all these and costs nothing.

Ultrasonic liposuction promises a better way for the procedure by making the ultrasound to be more specific to the fatty tissue than connective tissues, nerves and vessels. It is also claimed that ultrasound provides thermal stimulation which produces skin retraction.

The 1st and 2nd generation device of UAL (ultrasound assisted lipoplasty) (1990 -2000) were too powerful, that caused tissue ablation than tissue emulsion. Complications occurred which were not seen previously.

The 3rd Generation solid probe ultrasound device dimensionally adapted to the procedure with appropriate diameters, shape and lengths of the probes. Power delivered to the tissue is tuned to the procedure. Energy is just enough to hit the fat and leave the rest. The system has a pulsed delivery mode also. Infusion and suction phases are separated so wetting solution remains in place. Suction cannulae design is also specific so it minimizes avulsion during suctioning.

The infiltration ratio is at 1.5: to 2.0:1. Fluid provides epinephrine which make vessels more resilient, also fluid provides thermal protection, enhance emulsion and helps aspiration.

Skin ports and towels are used in order to protect incision edges and surrounding areas.

Probe choice is also important. The surgeon should read the specs sheet before selecting the probe. The probe choice is more important than amplitude and the proper probe selection is the key to get the optimal result. The 3rd generation solid probe ultrasound device has probes with 2.2 mm, 2.9 mm and 3.7 mm shaft diameters, with different number of grooves. The grooved design provides energy from the sides of probe, increase efficiency and safety.

Energy Partitioning on grooved probes is demonstrated in the table below.

Probe	%Front	%Sid	Tissue
3,7 - 0	100	0	Extremely fibrous
3,7 - 1	65	35	Fibrous
3,7 - 2	55	45	Moderate
3,7 - 3	42	58	Soft

Amplitudes selection should be 70% for soft fatty tissue, 80% for medium fatty tissue and 90% for fibrous fatty tissue.

The VASER Mode is used for delicate areas like face & neck, inner arm and inner thigh. In this mode, energy output is 100% during half of the interval and it decreases to 50% during the second half. This output change happens 10 times per second. In the VASER mode the energy is decreased with high efficiency.

Surgical Endpoints for "time" is minimum of 1 minute per 200 cc infused and maximum of 1 minute per 100 cc infused. For "feeling the resistance" is the loss of resistance. Experience and achieving the aesthetic contour are the third parameters. I advise four tests for checking the surgical endpoint. Those tests are "Pinch test", "Rubbing", "Rolling - dynamic pinch test" and "Comparing test".



Fig.1. Pinch Test.



Fig.2 Rolling "Dynamic pinch test"



Fig.3 Rubbing



Fig.4. Comparing



BEFORE



AFTER

Fig. 5. CASE 1 . Lateral view of the first demonstrative (left) and after (right) pictures after UAL on abdominal areas and back.

Fig. 5. CASE 1 . Lateral view of the first demonstrative patient before (left) and after (right) pictures after UAL on abdominal areas and back.

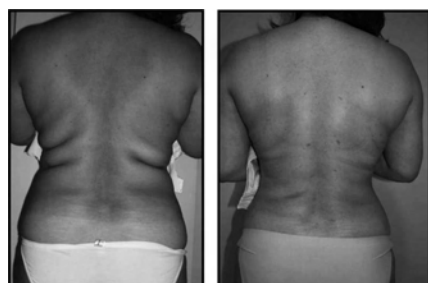


Fig 6. CASE 1 . Back view of the same patient before (left) and after (right) pictures after UAL

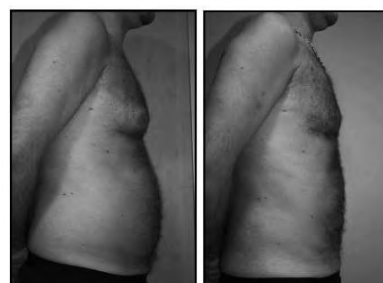


Fig 7. CASE 2. Lateral view of the second demonstrative patient before (left) and after (right) pictures after UAL procedure on abdominal, breast and lumbar areas.



BEFORE



AFTER



BEFORE



AFTER

Fig 8. CASE 3 . Lateral view of the third demonstrative patient before (left) and after (right) pictures after UAL application on abdominal and back areas.

Fig 9. CASE 3 . Back view of the same patient before (left) and after (right) pictures after extensive UAL procedure.

CEMAL SENYUVA, MD, PHD

Liposuction on face and the importance of commissurotragal line for an attractive face
Session: The Art of Lipoplasty

Saturday April 10th, 4.30 - 6.30
Room Nijinski

Purpose: A strong jaw line framing prominent malar region and flat cheeks, distinct demarcation zone between malar and cheek regions (commissurotragal line) combined with a sharp cervicomenal angle is crucial for an attractive facial appearance one can see on the fashion models' faces. Although it is a common facial silhouette, transitional zone between the full malar area and flat cheeks, we named commissurotragal line, was not previously defined in literature. In patients having inharmonious lower facial contour, we aimed to create an attractive contour in the lower face with a well-defined commissurotragal line.

Technique: For this aim, we used the liposuction alone in 23 patients and liposuction/lifting (short scar facelift and/or endoscopic midface lifting) combination in 22 patients. In all 45 patients, liposuction was kept below the ideal level of the commissurotragal line and performed on the lower face and neck extensively. All operations were performed by the senior surgeon (C.S.), during the period from 2000 to 2009. The age range was between 27 and 67. Male and female ratio was 6/39. There was no major complication.

Results: Follow-up ranged from 1 to 8 years. Two patients required minor revision. In year of 2008, patients and one independent surgeon were questioned to evaluate aesthetic outcome of the surgery. Results were reported as excellent or good, mainly.

Conclusion: Commissurotragal line is important for the facial beauty. Liposuction is an effective tool in creation of the aesthetic contour of the lower face by defining commissurotragal line, mandibular border and cervicomenal angle.



MICHAEL SCHEFLAN M.D

Past, present and future in breast augmentation
Session: The Breast Around the World - Beauty and Breast Enhancement

Saturday April 10th, 11.00 - 1.00
Room Nijinski

Have we been doing this operation correctly and if not- What's wrong and how to do it?
Why do many breasts look good at three months and poor at three years?
What can we do to achieve long term predictable results?
Is the Breast a stable organ? Is there an interaction between implant and breast?
Can this relationship between breast and implant be controlled?
Has our way of selecting implants based on experience and artistic judgment Correct? and if not how should we?
What do you do when patient's expectations conflict with implant selection?
What are the preferred access incisions and why?
Which site is definitely better for long term good results and why?
Should we use soft responsive implants or slightly firmer cohesive ones, and why?
Is there any difference in out come between round and anatomical implant and when?
What may change in the next five years?
Is Lipofilling threatening to replace Implant Augmentation?

ROBIN SINHA, C.E.O. QUANTIFICARE

How to make a good imaging in aesthetics
Session: Innovations and What the Future Holds

Friday April 9th, 4.30 - 6.30
Room Nijinski

3D Quantitative Assessment for Lip Fillers: Validation and Results

Background: We have developed a 3D stereovision technology, LifeViz, in order to reconstruct 3D surfaces from stereo pairs (absolute calibration system). The system is designed for fields of view ranging from 4x5cm skin texture applications ideal for face or breast surface reconstruction. Our technology includes automatic matching of successive 3D surfaces in order to quantitatively measure volume variations.

Patients, material, methods: To validate the 3D system, two types of validations were performed - experiments with phantoms of known volumes and in vivo measurements with a pre-calibrated object volume placed under the lip of subjects. For the phantom experiments, a plastic box of closed volume was used with a deformable membrane and injections were performed with a syringe at 0.5cc increments from 0cc to 4cc. For in-vivo, 5 volunteers were used with simulated injections of 0cc (repeatability) 2cc and 3cc. Repeated independent measurements with still subjects were performed. Intra-observer variability was also assessed.

Results: For in-vitro experiments, intra-observer variability was +/- 0.018cc and precision +/- 0.026cc, translating to an average error in the positioning of the surface of 10 microns. For in-vivo experiments, reproducibility on still subjects was +/-0.151cc and intra-observer precision was exactly of the same order (+/-0.151cc), which increases to +/-0.276cc for inter-observer, highlighting

the importance of using a single operator for measurements. Repeat acquisitions with subjects walking around the room and repositioning themselves allowed us to assess human face natural variability: $\pm 0.372\text{cc}$ which turned out to be much higher than any other variability sources. Simulated injections were very reliably measured with a difference of only 5% relative to the real injected quantity for 2cc.

Conclusion: 3D LifeViz is able to detect volume variations in a small number of subjects. The main source of error is not the accuracy of the 3D system but the reproducibility of human facial expression which makes it unlikely to detect volume variations of less than 0.4cc in individuals for lips fillers. Of course, with larger populations, smaller volume differences between populations with different treatments can be demonstrated.

MARCO STABILE, MD

Abdominoplasty: A new surgical technique with better outcomes
Session: Short Contributing Lectures in Medical and Surgical Body Reshaping

Thursday April 8th, 2.00 - 4.00
Room Van Dongen

Standard abdominoplasty technique sometime does not permit a sufficient skin resection and an insufficient epigastrium tension is present. In planning and designing the procedure, a precise diagnosis of the abdominal deformities is essential.

Although abdominoplasty has always been a routine operation a hematic or lymphatic collection is obviously undesirable and can lead to an aesthetic problem. Since 2007 in our Unit of Plastic Surgery we have performed 60 high superior tension lipoabdominoplasty. The technique is based on three fundamental moments 1) Different Liposuction in the abdomen's areas 2) Different plan of dissection 3) High superior tension. The basic principles of respect and preservation of linfatic drainage, without damaging the vascularization, limiting the possibility of seroma or hematoma. Plicature of the rectus muscles aponeurosis through a medial tunnel is performed. Following one systematic approach with place the tension of the abdominal flap in the periumbilical area and the use of the progressive tension sutures avoid the possibility of dead space and seroma, skin necrosis or dehiscence of the suture, that appear tension free. Only three small complications were noted.

The good outcomes encouraged the application of this technique in the abdomen reshaping.

CONSTANTIN STAN, M.D. - Co-author: Raul CHIOBIAS, MD

The role of ADRCS and fat grafting in facial and breast rejuvenation:
Our preliminary experience
Session: Innovations and What the Future Holds

Friday April 9th, 4.30 - 6.30
Room Nijinski

Background: Together with the loss of skin elasticity and strength, volume loss is the other main sign of facial and breast ageing. The decreasing volumes are due to an irreversible absorption of the fatty tissue. Replacing the lost fat with autologous fat transferred from natural adipose deposits areas from the body was one of the first methods of correcting the volume in the face or even breast. The high absorption rate of this grafted fat made the technique sometimes ineffective with short time stable results. This is why the medical environment came up with other substances that can act as a substitute for the absorbed fat like hyaluronic acid, collagen and others each of them with their specific downsides.

There for the best way to treat these problems remains the autologous fat grafting because of the decreased rate of complication considering the fact that it is self tissue with no risk of rejection. By using the Cellution method that consists in transplantation of adipose derived adult stem and regenerative cells (ADRCS), the main disadvantage of fat grafting, the high absorption rate is there for overcome.

Stem cells collected from the patient's own adipose tissue are concentrated and reinjected together with the fat. Because transplanted stem cells differentiate into new adipose cells or vascular endothelial cells this procedure had the advantage of a much higher fat graft survival and therefore a long term maintenance of the result. Because the fat is the patient's own tissue there is no risk of immune graft rejection.

Method/Technique: During the liposuction procedure, a considerable number of stem cells loose their viability in the suctioned fat. In addition to this when injected in the receptor areas their activity is reduced further on. The Cellution system is the first system that provides the possibility of reinjection of a patient's autologous adult stem and regenerative cells concentrated from body fat. This innovative technology that can be compared with a laboratory in a box automates and standardizes the extraction, washing and concentration of the patients own cells from body fat, which than can be redelivered to the same individual, during the same procedure. Half of the extracted fat is centrifugated and combined than with a special enzyme (celulase) that releases stem and regenerative cells from their matrix.

The concentrated stem cells solution is than combined with the preserved half quantity of the harvested fat resulting a stem cells enriched fat graft and injected in the target area providing a long lasting result. The process is fully automatic; a special centrifugation is purifying the concentrate for promotion of effective retention.

On the other hand the better purifying of the fat is another important factor to achieve a higher rate of fat survival. In order to do this as accurate as possible the Pure graft 250 system is a useful way of removing tumescent fluids, free lipids and debris from the harvested fat. Also it gives you the opportunity to control the hydration levels of the graft helping you to have the graft ready in less than 15 minutes. The injection method of the fat in the recipient area is also a special method. Scientific and clinical literature suggests that one way to improve fat survival is injecting it in a micro droplet fashion technique. Fat micro droplets have a greater surface contact which improve diffusion of nutrients and oxygen and minimize necrosis. The special device (cellbrush) used to inject the fat facilitates a precise delivery of fat micro droplets.

Conclusions: Adipose tissue or fat is the richest known source of adult stem cells in the human body and since ADRCS are obtained from a patients own adult tissue and not from embryos they are free from immune rejection and controversies surrounding embryonic stem cells. The cellution system allows separation, extraction and transplantation of stem cells enriched fat achieving a higher rate of graft survival.

Results: Our preliminary results show a nice reshaping of areas with volume deficiency and a high patient satisfaction rate. The innovative method of the celution system redefines the old classical concept of liposculpturing and demonstrates that "the future is now".

MIN SU, MD, HE WEI, MD, PHD, DU LILING, MD

Clinical application of double-eyelid small-incision blepharoplasty
Session: Best of the Periorbital Area and Mid-Face Rejuvenation

Friday April 9th, 2.00 - 4.00
Auditorium Prince Pierre

Purpose: To explore a double-eyelid blepharoplasty, which has a little wound, quick healing, permanent effect and extensive indication?

Methods: Three 3mm small-incision were performed at inner canthus, out canthus and out 2/3 eyelid line. After snipping the orbicular muscle of front of the tarsal plate and excessive orbital septum fat, the three incisions were sewed with the tissue front of tarsal plate.

Results: 92 cases with 184 eyes were performed with the method. They all received satisfactory effect, and the double-eyelid shape was natural.

Conclusion: The three small-incision double-eyelid blepharoplasty is safe and effective procedure, which should be recommended to perform with the extensive indication.

GEORGE SULAMANIDZE, MD*

Barbed threads: Side effects, complications
Session: Short Contributing Lectures in Medical and Surgical Facial Rejuvenation

Saturday April 10th, 4.30 - 6.30
Room Van Dongen

Co-authors: Sulamanidze M. M.D., Vozdvijenski I. M.D*., Clinic of Plastic and Aesthetic Surgery TOTAL Charm, Tbilisi, Georgia.

Background: Aesthetic surgery and dermato-cosmetology have proposed hundreds of methods aimed at removing visible manifestations of the aging face. However, as is typically the case when there are several different techniques to improve the same problem, none of these approaches has stood the test of time and become favoured.

Neither can a new method of the rejuvenating surgical technique by means of the barbed threads lay claim to provide a total solution of aesthetic problems of the ageing face.

Having studied the available literature, we noted that the number of complications associated with this technique is usually underestimated; their causes appear to be explained erroneously, hence followed by drawing incorrect conclusions.

Aim: To analyse complications, side effects, undesirable events and poor outcomes associated with the method of lifting soft tissues of the face and neck by different variants of thread-mediated lift, obtained by the specialists from our Clinic, submitted to us from other clinics, as well as reported by doctors from different countries.

Materials and methods: Based on analyzing a total of 600 medical histories taken from the clinical archives, with 100 clinical record forms chosen randomly for each year from 2000 through 2005, we carried out a statistical study of various types of complications and problem events involved. Besides, analyzed were all similar cases reported to us by our colleagues from other clinics, thus making it possible to reveal the causes of these complications and work out appropriate measures aimed at prevention and treatment thereof.

Conclusions: Long-term practice and comprehensive studies showed that this technique has its intrinsic indications, properties, and principles of its own, and failure to take them into due consideration may result in more or less severe complications, adverse reactions, side effects, and troublesome problems.

RICARDO TADEU VILLA, MD

Photo Dynamic Therapy (PDT) in facial photoaging
Session: New Trends in Brazilian Cosmetic Dermatology and Aesthetic Medicine

Saturday April 10th, 8.30 - 10.30
Auditorium Prince Pierre

Background and Aim of the Study: Photodynamic therapy (PDT) with methyl aminolevulinate (MALA) is currently approved for actinic keratosis (AK), superficial and nodular basal cell carcinoma (BCC) and Bowen's disease treatment. Excellent aesthetic results observed in conventional indications prompted its use in face rejuvenation.

Material and Methods: Fifteen patients (3 men and 12 women) between 40 and 75 years old, Fitzpatrick phototypes I, II and III, were submitted to facial PDT. Biopsies were performed in left and right preauricular regions, respectively, before the procedure and 3 months later, and a photographic register was obtained. The treatment was performed second AK and BCC protocols, i.e., MALA application on the entire face with occlusion during 3 hours. After this period, patient was submitted to LED for 8 minutes, comprising a total dose of 37 J/cm².

All patients had skin damages related to ultraviolet radiation, including actinic elastosis and melanoses and superficial and deep wrinkle.

Results: Photographic comparison exhibited clear improvement on skin texture, actinic melanoses and wrinkles that was observed by three independent dermatologists.

On histological basis, every patient showed increase in number of collagen and elastic fibers and a thicker epidermis after treatment. Even on a quality of life questionnaire, satisfaction with results was evident.

Conclusions: PDT is an option to be remembered when the purpose is to treat both pre-malignant or malignant lesions and photoaging. This approach provides, as a result of the technique, a more destructive action on pre-malignant and malignant lesions and a mild damage on remaining areas. This soft aggression is sufficient to obtain an improvement in wrinkles and spots over the face.

MARIO A. TRELLES, MD, PHD*

Growing role of LED phototherapy in the aesthetic field
 Session: Sheeding New Light on Photomodulation

Friday April 9th, 8.30 - 10.30
Room Van Dongen

*Instituto Médico Vilafortuny / FUNDACIÓN ANTONI DE GIMBERNAT - CAMBRILS (Tarragona) Spain

With the increasing range of clinical procedures offered for cosmetic medicine and surgery, a total concept approach becomes crucial to ensure high patient satisfaction together with good results. Skin rejuvenation requires an all-round consideration encompassing all tissue necessities of each patient that may, for example, require conventional aesthetic facial surgery.

LED therapy can be used in all aspects of tissue repair, enhancing skin condition and accelerating surgical wound recovery. In these cases, the treatment regimen offered by intense luminous LEDs have effects that being detected in vitro and in vivo, can speed up recovery of chronologically and photoaged skin tissue also helping to obtain a rapid repair of surgical wounds in aesthetic operations.

LED therapy use in the post-op programme with several sessions helps facial areas treated with modern techniques such as fractional resurfacing to recover faster preventing long-lasting signs of erythema. In other applications, KED energy is an excellent activator of new liposome-delivered low strength 5-ALA for painless skin rejuvenation, having more specificity for the target porphyrins than broad-band IPL energy.

LED therapy is a valuable addition to the already wide range of existing systems for the treatment of aged skin, not only as an isolated treatment but also in conjunction with other therapies to help increase patient compliance and satisfaction.

NATHALIE VEDRINE-FEYS, MD

Un autre regard sur... le regard
 "French Riviera Experts" Session

Thursday April 8th, 4.30 - 6.30
Room Van Dongen

La chirurgie du regard, esthétique ou fonctionnelle, existe depuis les temps les plus reculés.

Le regard, de la part symbolique, a toujours été un thème récurrent dans la philosophie, l'art la société et la croyance populaire. Ses implications dans le domaine de la psychiatrie sont nombreuses.

De nombreux intervenants sont amenés à travailler sur le regard : chirurgiens plasticiens, ophtalmologistes, psychiatres, artistes, sociologues...

Ce travail a pour objectif, au travers de ces diverses disciplines, de tenter de cerner le regard dans toute sa complexité et sa symbolique, et d'aborder les possibilités chirurgicales (esthétiques, fonctionnelles, ophtalmologiques), psychiatriques et artistiques qui sont offertes à qui veut comprendre et modifier le regard.

JEAN-LUC VIGNERON, MD

Advances in deep peels
 "French Riviera Experts" Session

Thursday April 8th, 4.30 - 6.30
Room Van Dongen

Deep peels are always phenol peels and are still the best killers of wrinkles.

The author has already made 650 deep peels. Since 2005, he has developed a technique of topical anaesthesia, which allows an outpatient procedure.

This is possible when a dedicated formula is used, safe and gentle, yet most effective formula Exopeel.

JEAN-PHILIPPE VISEU*

Graceful walking: The posturology approach
 Session: Legs and Feet Beautyfication

Friday April 9th, 8.30 - 10.30
Room Nijinski

*Posturologist, Paris, France

Posturology is the term qualifying, since almost 50 years, the observation, analysis and theorization the "Upright postural control system" and the "postural deficiency syndrome", initially defined in 1979 by H. Martins Da Cunha.

Equilibrium or stability, static or dynamic, postural deficiency, the terms used to describe this clinical composite have fed our obstinacy to understand clearly Posture, to which Littré gave a simple definition: "The position in which one stands, holding the body, head and limbs"; but he also contrasted the appreciation of posture in these terms: "An appreciation, at its origin, is an artistic term relative to beauty, posture is a term of ordinary language relative to convenience." As P.-M. Gagey and B. Weber (2003) said, "Posturology was first born with the aim of bringing relief to a suffering subject." So, how can we favorably combine these two views?

Walking is a means of locomotion that is characterized by successive bipedal and unipedal support, during which the body's center of pressure is projected forward, outside the polygon of support, in a sort of "succession of avoided falls" (Vandervael, 1966; Piéra and Grossiord, 1987). There is nothing artistic in this definition, but this notion of forward projections and repeated avoided falls is essential in posturology and, without its evaluation, a satisfactory therapeutic and esthetic outcome certainly becomes hypothetical.

The forward projection of the line of gravity is surely one of the phenomena that best explains the pathologies of functional foot, leg and spinal constraints. It activates the extensor muscles of the foot, notably the soleus, proportionally to the distance of the ankle axis to the line of gravity (Hicks, 1961). Then, body weight tends to pronate the foot (Kapandji, 1977) and the leg on internal rotation. The electromyographic activity of the extrinsic muscles of the foot and the extensor muscles of the spine increase during a slightly anteriorly inclined position (Okada, 1970). This forward projection favors the muscle constraints and, in large part, is

responsible for back pain and functional pathologies of the legs.

Modification of the dynamics of walking is certainly a factor aggravating poor venous return. Defective contact with the ground often reflects a leg disorder of static standing erect, like calcaneal valgus with genu valgum or calcaneal varus with genu varum. Several studies (Nashner, 1977; Inamura K, 1995; Crehange PA, 1950; Parvulesco, 1991) showed that the constraints of the triceps surae most likely led to a modification of the circulation of the anterior tibial and peroneal arteries and veins, diverted towards the superficial veins and responsible for poor venous circulation. In addition to standard therapy, a posturological alternative is, for these findings, completely possible to limit the unsightly consequences of this pathology.

The posturology approach requires a validated clinical examination, comprising stabilometry and a reliable dynamic evaluation. The choice of an adapted plantar orthosis and/or combined with manual, tonic and/or neuromuscular therapy, can improve venous-lymphatic return and beyond that, harmonize walking and achieve a graceful, elegant step.

DIRK VISSERS, M.D

Does whole body vibration contribute to reduction in visceral adipose tissue?
Session: Full Management of Weight and Silhouette

Saturday April 10th, 2.00 - 4.00
Room Nijinski

Dirk Vissers^{1,2,3}, An Verrijken^{2,3}, Ilse Mertens³, Caroline Van Gils³, Annemie Van de Sompel³, Steven Truijien¹, Luc Van Gaal^{2,3}

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Introduction: Although the use of whole body vibration (WBV) training is described as an alternative way of resistance training, the clinical use of WBV in an obese population remains unclear.

Objective: To determine the effect of WBV training and aerobic exercise, combined with a hypocaloric diet, on weight, body composition and metabolic risk factors in overweight and obese adults.

Methods: A randomized, controlled study in an outpatient clinic with a 6-month intervention period and a 6-month 'no intervention' follow-up. Participants were 79 overweight or obese adults, 61 of them completed the study.

Interventions: A diet only group (DIET), a diet plus fitness group (FITNESS) and a diet plus whole body vibration group (VIBRATION).

Main Outcome Measures: Anthropometric data, body composition and metabolic features were evaluated at baseline and at 3, 6 and 12 months.

Results: Only FITNESS and VIBRATION managed to maintain a weight loss of 5% or more in the long term. Visceral adipose tissue changed most in VIBRATION: -47.8, ± 41.2 and -47.7, $\pm 45.7\text{cm}^2$ resp. after 6 and 12 months compared to CONTROL (-3.6, ± 20.5 and +26.3, $\pm 30.6\text{cm}^2$ resp.), DIET (-24.3, ± 29.8 and -7.5, $\pm 28.3\text{cm}^2$ resp.) and FITNESS (-17.6, ± 36.6 and -1.6, $\pm 33.3\text{cm}^2$ resp.) ($P < 0.001$).

Conclusion: Adding aerobic exercise or WBV training to a hypocaloric diet, can help to achieve a sustained long-term weight loss of 5-10%. These preliminary data show that WBV training may have the potential to reduce VAT more than aerobic exercise in obese adults, possibly making it a meaningful addition to future weight loss programs.

MICHAEL WEIDMANN, MD

Treatment of difficult regions in the face with the combination of botulinum toxin, fractional -CO₂-Laser and filler- my approach
Session: Short Contributing Lectures in Medical and Surgical Facial Rejuvenation

Thursday April 10th, 4.30 - 6.30
Room Van Dongen

In the face we have 2 different aging processes. The first is a loss of volume and sucking of the tissue caused by a reduced tension of the SMAS. The second process is a changing of the skin surface. We get a change of the structure, pores, color and wrinkles.

We start the treatment with the surface by using a CO₂-Fraktional Laser (ultrapuls encore activeFx/deepFx) especially in the upper lip and the eye region we prefer this technique in comparison with fillers. 2 weeks after this treatment we inject a new subdermal filler (Varioderm subdermal) to recreate the volume. After this we do the fine modulation by using intradermal fillers and botulinum toxin. In our view it is important not to treat with sa Co₂ -Fraktional Laser over an area with intradermal fillers.

In our presentation we like to demonstrate our technique and the pitfalls. In addition we want to discuss our results and present our study with the use of a new hyaluronic acid (Varioderm subdermal) over 15 months.

ROGER N. WIXTROM, MD PHD

The influence of biofilm on capsular contracture
Session: Innovations and What the Future Holds

Friday April 9th, 4.30 - 6.30
Room Nijinski

Capsular contracture remains one of the most frequently encountered complications of breast augmentation. Of the multitude of potentially contributing factors that have been proposed over the years, mounting evidence points to the key role of subclinical infection and bacterial biofilms. Biofilms, which are now recognized to be involved in the vast majority of human infections, involve microorganisms encased within a self-synthesized, hydrated polymeric matrix, typically attached to surfaces, and exhibiting a significantly enhanced resistance to antibiotics and the immune system (e.g., Hall-Stoodley and Stoodley 2009 Cellular Microbiology 11:1034). Such biofilms often go undetected by standard microbiology techniques, and more rigorous methods have been employed to accurately assess their presence in association with implanted medical devices, including breast implants. A better understanding of how these biofilms form and function, based on the latest scientific findings, explains a range of clinical observations (including the increased risk of contracture associated with hematomas) and suggests specific measures to reduce the incidence of capsular contracture. A variety of innovative approaches are currently being explored to prevent and treat biofilms.

LISA A. ZDINAK, M.D.

Advances in radiofrequency facial sculpting: Experiences with the new Thermage CPT technology in an award-winning Manhattan cosmetic surgery practice.

Friday April 9th, 2.00 - 4.00

Session: Lasers, Lights and Related Technologies - Part 2

Room Nijinski

Radiofrequency skin tightening is a non-ablative technique that rejuvenates the skin without visibly damaging the epidermis. The epidermis is protected by a pre-cooling burst of cryogen spray, immediately followed by a pulse of radiofrequency energy that is converted into heat energy by the natural impedance of the dermal collagen. This heat energy causes the dermal collagen in the skin to contract, producing an immediate, subtle lifting effect. Over time, the mere fact that the skin has been heated initiates the heat-shock cascade whereby the fibroblast cells are activated and more collagen is formed as part of the wound healing response. Thus, further lifting and tightening of the treated areas continues over the period of three to six months post-treatment as the body is induced to form more nascent collagen.

Thermage (Haywood, California) has been a leader in radiofrequency skin tightening, using a unique monopolar frequency technology that requires only one treatment session for immediate results. Dr. Zdinak is a three-time Thermage Pinnacle Award winning clinician and physician trainer who is frequently provided exclusive access to the newest advances in the Thermage technology. In this presentation, Dr. Zdinak will share with the audience her experiences in using the newest Thermage "Comfort Pulse Technology" [Thermage CPT] device that was released to select physicians on September 23, 2009. Dr. Zdinak was one of the first physicians in the United States to upgrade to the Thermage CPT technology which represents a gigantic leap forward in treating the face and neck area with monopolar radiofrequency energy. Always on the cutting edge with Thermage, Dr. Zdinak has been using these new facial tips coupled with the upgraded handpiece exclusively on every facial Thermage procedure performed at her facility with visibly noticeable improvements over the older technology.

Dr. Zdinak will explain how the improved technology delivers an even greater skin tightening effect with virtually no discomfort. Thermage has managed to achieve these results by redesigning both the thermage tip and the thermage handpiece. Dr. Zdinak will explain the changes to the heating algorithm of the new Thermage CPT facial tips. The new energy delivery algorithm interweaves pulsed radiofrequency delivery with cooling bursts mimicking Transcutaneous Electrical Nerve Stimulation ["TENS"] therapy, to disrupt the brain's neural response and to improve comfort during treatment. This new heating algorithm heats four times more tissue to therapeutic temperatures than the prior technology and the structural changes in the tip concentrates the heat more directly into the tissue being treated with less spillage onto the edges of the tip, eliminating that "pinch" at the end of the energy pulse. Dr. Zdinak will also explain the changes to the Thermage handpiece designed specifically for use with the new CPT facial tips. A new vibrating handpiece offers a clinically proven improvement in patient comfort. In controlled, split-faced clinical studies, comparing treatment of over 40 patients with vibration to treatment without vibration, all patients preferred being treated with vibration. Dr. Zdinak will share with the audience her treatment protocols using the new technology, before and after photographs, and suggestions for how to incorporate Thermage into a medical practice.

ABSTRACTS

ANTI-AGING MEDICINE

PAOLO ACCORNERO, MD

Feed me: The involvement of neurotransmitters in controlling the appetite center
Session: Neurotransmitters

Thursday April 8th, 3.00 - 4.00
Auditorium Camille Blanc

Neurotransmitters: Human food intake relies on a complex hierarchy of cortical processing which includes obtaining info from the environment, evaluation of desire and choosing appropriate behavior. In the case of controlling food intake there are significant delays in changes caused by relative slow metabolic processes and therefore the regulatory neural system controlling food intake must include sophisticated mechanism to predict in advance when a meal should be started and terminated. This is why the control of appetite that relies in the hypothalamus as a wide spread communication not only inside the brain itself but in the outskirts as well with a large number of substances that arrive from the intestine and from ingested food in order to stimulate or suppress the appetite. In this lecture I will show the most part of these neurotransmitters and I will focalize my attention especially on some of the substances that increase the appetite and some of those which balance and decrease the appetite. The non balance of these substances might create a compulsive eating disorder.

PAOLO ACCORNERO, MD

Food: How sight and taste are connected with hypothalamus and with controlling the appetite center and lead to pleasure, relaxing and social life
Session: Oxidation - Food - Nutrients: New Trends and Updates

Saturday April 10th, 11.00 - 1.00
Auditorium Camille Blanc

Though the year's one of the problems that has most affected humanity has been the search for food. Connected to this was the fact that the motivation for food became in time related to emotions. Food intake is a precisely controlled act that can potentially be fatal if the wrong decision is taken to swallow toxin or micro organism or non food object. All the classic five senses are involved in the regulation of food intake especially sight and taste. The taste information is relayed by the three cranial nerves to the cortex and to the hypothalamus and the nucleus accumbens. The nucleus that is divided in two parts, one of liking and one of wanting, is a pleasure generator and run in part on opiod neurotransmitters. These opiod receptors are strictly connected with dopamine neurons. Dopamine is triggered by pleasant foods and by many other pleasant rewards. The dis- regulation of this very sophisticated but fragile compound of neurotransmitters could easily be over run and wanting could become more important than liking.

WILMAR ACCURSIO, MD

Role of vitamins and minerals on the hormone system, and their impact on aging and well being
Session: Brazilian Preventive and Anti-Aging Medicine

Friday April 9th, 2.00 - 4.00
Auditorium Camille Blanc

Aging is an evolutionary process directly linked to production of free radicals and inflammation and there is an evident cause / effect connection. We also know that all of us, at a determined age, will have partial or total failure of one or more hormones. So is vitally important that we maintain our pool of vitamins, minerals and hormones appropriate throughout our existence. Vitamins and minerals are essential to our antioxidant system, either because they are exogenous antioxidants (vitamins C and E, for example) or because they are essential to the efficiency of our antioxidant system (selenium, copper, zinc and manganese). There is a close relationship between our hormones and our minerals and enzymes, there is a synergistic action between them, necessary to optimize metabolic responses (metabolic syndrome, diabetes, dyslipidemia), enzymatic reactions (protein synthesis, control of pathogens, DNA repair) beyond the synthesis, secretion and hormone transport, leading to a state of health and well-being when balanced. It is well known the importance of chromium, nicotinamide and coenzyme Q10 for the production and secretion of insulin. Vitamin E supplementation for four months produces a significant improvement in glucose utilization and hepatic response to insulin in normal and diabetic subjects. Oxidative stress situations where the total antioxidant capacity begins to lose for the accelerated production of free radicals lead to worse insulin resistance, again showing the need to keep the reserves of antioxidants all life long in patients with excess of abdominal fat.

The vitamin D deficiency is very prevalent today, especially in the northern hemisphere, adequate amounts of calcium, magnesium and vitamin D are essential for the production of PTH which in turn regulates the metabolism of the formers. There is a worldwide epidemic of hypothyroidism, in part due to contamination by endocrine disruptors, but it is essential the presence of selenium for the synthesis of appropriate hormones and thyroid conversion of T4 to T3 as well as for production of testosterone and estrogen. The Somatopause can happen even under conditions of optimal nutrition, but without adequate levels of zinc production and release of GH could be impaired. We live in a stressful world where can have both hypercortisolism as well hypoadrenalism the so called adrenal fatigue, adequate levels of coenzyme Q10 are essential for the physiological functioning of the hypothalamic-pituitary-adrenal axis. The aromatization of testosterone to estrogen in an appropriate rate is essential for physiological production of estrogen in male and female and zinc excess or deficiency interferes with the activity of the enzyme aromatase.

Hypogonadism and hypopituitarism increases oxidative stress and is proven to decrease total antioxidant capacity. Euthyroidism is necessary to maintain healthy levels of homocysteine, and thyroid hormones act together with folic acid, vitamins B6 and B12 to achieve this balance. Thyroid dysfunction interferes with the plasma levels of Co-Q10.

So the interrelation of our hormones, vitamins and minerals is important, extensive and not fully understood, but as the studies move forward, and we have more information we can help further the functional balance of our patients.

How I manage my anti-aging consultation (the Brazilian way): Patients evaluation, lab tests, main treatments proposed, patients' expectations and management
Session: Brazilian Preventive and Anti-Aging Medicine

Friday April 9th, 2.00 - 4.00
Auditorium Camille Blanc

The purpose of my presentation is to show the Brazilian peculiarities in the evaluation of patients seeking advice for aging well. As in all countries we give great importance to the hormonal balance, so it is essential to evaluate thyroid function, adrenal, testicular, ovarian and pituitary especially with regard to GH. In Brazil there is a close relationship between anti-aging and orthomolecular therapy that is nothing more than biochemistry applied to medicine. Therefore, systematically, we do evaluate the levels of vitamins A, E, C, D, E, B2 and B12, as well as beta carotene, lycopene, coenzyme Q10 and antioxidant enzymes (SOD, catalase and glutathione peroxidase) in order to know if there is need for supplementation and do it in an individualized way. We also evaluate the levels of zinc, copper, selenium and manganese for their importance in general and particularly because they are essential cofactors for antioxidant enzymes. You can not separate the orthomolecular from nutrition, so this is the third point of support in our strategy; we do a nutritional assessment and advise the patient according to their most pressing needs, overweight, dyslipidemia, metabolic syndrome, dysbiosis, etc.

We routinely evaluate metabolic syndrome as a whole (glucose, insulin, lipids, uric acid) and diseases associated with it like heart disease and atherosclerosis Lp(a), homocysteine, CRP, fibrinogen). We can not let go of physical activity, sleep, preventive tests, but the list would become endless and it is our practice to go and evaluate the patient gradually, initially focusing on the most obvious problems.

It is clear that there is a general treatment, but virtually all our patients receive nutritional guidance and individualized supplementation of vitamins, minerals and amino acids, when necessary, and almost always it is. There is a wide acceptance of hormone replacement as a whole in Brazil, of course in an individualized manner and discussed with patients. We can say that 80% of anti-aging in Brazil is done through nutrition, orthomolecular, hormonal balance and orientation for physical activity.

Most patients have a good idea of what to expect of the proposed anti-aging strategy, although some have exaggerated expectations and need to be brought to reality. This is because of this whole scheme, all this prevention and treatment is still expensive and hits only to the most favored ones, culturally and economically, consequently the better informed are the ones who seek our help. In our country it is impossible to separate Anti-aging from Aesthetic Medicine, because our people demand the expectation of aging well, having a healthy longevity, but also maintaining a good appearance and shape.

CARLOS ARAUJO RIOS, MD

Orthomolecular approach to endothelial protection
Session: Brazilian Preventive and Anti-Aging Medicine

Friday April 9th, 2.00 - 4.00
Auditorium Camille Blanc

From the viewpoint of a cardiologist, life depends mainly on the appropriate supply of blood to the tissues. To achieve this we need the functional integrity of the endothelium, an integrated system of nerve conduction and a myocardial normo-functioning. Many diseases or just the passage of time gradually damage these structures. Substances such as cholesterol and free radicals play a negative role during this process.

Traditional medicine is still reluctant to recognize the deleterious role that free radicals have on these delicate structures and the need to make preventive treatments.

However, there are new studies and irrefutable evidence that force us to change ideas and positions. Traditional concepts about the structure of the RyR (ryanodine receptor) and substances such as glutathione, free sulfhydryl and especially calmodulins and foam-cell should be reviewed.

In this lecture we discuss some concepts about the interference of free radicals during the transport of calcium in the endoplasmic reticulum, in myocardial ischemia and especially in the endothelial function.

GJUMRAKCH ALIEV, MD PHD

Prevention and Treatment of cognitive decline in elderly demented/depressed patients using ApoE4 Tg+ mice as a model of human AD by feeding Acetyl-L-Carnitine, R-a-Lipoic Acid and QUIAPI-1
Session: On the front lines of preventive and Anti-Aging Medicine

Thursday April 8th, 4.30 - 6.30
Auditorium Camille Blanc

Gjumrakch Aliev^{1,2,3*}, Hector H. Palacios¹, Eldar Gasimov⁴, Andres Aguirre¹, Ludis Morales², Dmitry Gokhman⁵, Jerzy Leszek⁶, Valentin Bragin³ and Arturo Solís Herrera⁷

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Background: The E4 isoform of apolipoprotein E (ApoE) is involved in cardiovascular and cerebrovascular disorders and is the most prevalent risk factor for late onset or sporadic Alzheimer's disease (AD). ApoE4 transgenic (Tg+) mice are appropriate models for studying the pathogenesis and preclinical treatment of ApoE-related cognitive deficits associated with late onset and sporadic AD.

Methods: This study applies the vascular dementia paradigm to ApoE4 Tg+ mice in order to analyze the effects of the selective mitochondrial antioxidants acetyl-Carnitine and R-a-Lipoic acid on the cerebral blood flow (CBF), neuropathology, brain and vessel ultrastructural abnormalities and behavior. We have also compared these results with our ongoing clinical study of clinically depressed and/or demented seniors with cardiovascular disease symptoms. The patients receive Alpha-a-Lipoic Acid,

Acetyl-L-Carnitine, Omega-3 and Coenzyme Q-10, Melanin analogues QUIAPI-1 (developed by Dr. Solis), along with diet changes, and our recently developed brain activation program.

Results: ApoE4 associated factors reduced CBF gradually and created brain hypoperfusion when compared to wild-type (WT). The differences in CBF were greatest as animals aged from 6-weeks to 12-months. Transmission electron microscopy (TEM) with colloidal gold immunocytochemistry and in situ hybridization using human and mouse DNA probes showed structural damage and mitochondrial DNA overproliferation and/or deletion in the young and aged microvessel endothelium of ApoE4 animals, extending to the cytoplasm of perivascular cells, perivascular nerve terminals, hippocampal neurons, and glial cells. Spatial and temporal memory tests showed a trend in improving cognitive function in ApoE4 Tg+ mice fed the selective mitochondrial antioxidants acetyl-L-Carnitine and R- α -Lipoic acid. Our clinical results showed that patients who received mitochondrial antioxidants and QUIAPI-1 presented the maximum significant cognitive improvement at the end of 24 months of the treatment.

Conclusions: Further examination of the ultrastructural degeneration caused by aging, especially under cardiovascular disease complications, will likely contribute to our understanding of neurodegenerative etiology and will indicate a new avenue for the development of novel prophylactic and treatment strategies by ensuing selective mitochondrial antioxidants like acetyl-L-Carnitine, R- α -Lipoic acid and QUIAPI 1 to the demented patients.

JANETHY BALAKRISHNAN BOKSTROM, MD

The missing link for effective stem cell therapies: Practical clinical approach

Session: Regenerative Medicine and Stem Cells: Where we Stand With Stem Cells in 2010

Friday April 9th, 4.30 - 6.30

Auditorium Camille Blanc

There were years of painstaking clinical trials in peripheral blood stem cell mobilization and transplantation. We were figuring how to perfect the art of linking together the missing 'ingredients' while grappling to gain clinical experience on what is the best protocol in stem cell transplant. Hence, as a breakthrough, I was fortunate to learn from Dr. Pesic, whom has 50 successful years of practicing cellular therapy. He demonstrated that for better utilization of transplanted stem cells, it is more effective to prime the body with thymus peptides, hormones, enzymes and met-enkephalins prior to the transplant. These are known to act in concert in modulating and stimulating the immune system.

These thymus extracts will also help in maturation of T cells since our thymus involutes as we age.

Hence, I will try to explain the correlation of priming the body with T cells which has the properties of specific homing properties for stem cells.

The immune system of aged humans undergoes alterations that may account for an increased susceptibility to autoimmune diseases, malignancies, HIV and certain infections, it has been published that these diseases are managed either by immunomodulation, immunosuppression or immunostimulation of T cells.

With advancing age, human T cells reveal reductions in the proliferative response to activation, in diversity of the T-cell receptor antigen repertoire.

Lymphokines are cytokines and also referred to as immunomodulating agents (interleukin, interferon) which are produced by T cells. They are a category of signaling molecules that are used extensively in cellular communication to direct the immune response.

Recent data point to a significant role for thymosins, lymphokines, and other soluble mediators in the senescence of the immune response that occurs with aging. As in BHRT, thymic hormones too have a role to play in hormonal modulation.

Through our experience, it is more comfortable for the patients to skip the apheresis process. There also has been data that administering high dosage of G-CSF prior to stem cells collection could cause osteopenia. There is also the critical question on how the body cope with the sudden invasion of stem cells will.

The interpretation of the preferred protocol based on clinical observation will be in my slides presentation. In this framework, cells are placed in a cell culture which contains the appropriate cytokines such as GM-CSF, IL-3, SCF and flt-3L and cultivated for 7-10 days for multiplication. This smart technique of "induction differentiation" or "programming with specific cytokines" makes more sense than just the apheresis method as the signaling of stem cells is tailored according to the diagnosis of the patient.

To quote a colleague of ours: "The body is fantastic in healing itself. We just need to help it along the way sometimes."

HELENA V. BARANOVA, MD, PHD*

Main indications for advanced genomic testing and which markers to use

Session: Genetics - The latest advances on Genomic Testing and how to use them in your practice

Friday April 9th, 11.00 - 1.00

Auditorium Camille Blanc

*European Expert "Genomics for Health" for the European Commission, EU.

President of the European Institute of Personalised Prevention, Nice, France.

Anti-Aging Genomics - how to apply?

Tremendous progress in genomic medicine opens new opportunities for effective highly personalised prevention strategies, but also provokes a lot of changes in our society from medical, social and psychological points of view. It especially concerns anti-aging medicine, which represents an important potential for genomics usage in relation to early presymptomatic prevention through effective genetic personalized programs. However, despite the significant increase of the number of genetic testing companies, only less than 9 % of all available genetic services in the world provide personalised genomic expertise for prevention purposes.

This presentation is based on 15 years of research, clinical and teaching experience of genetics/genomic personalised medicine and highlights: -

- Genetic/genomic vision of aging processes, as the decline of gene expression, according to the major breakthrough genomic studies

- Main strategies and principles of genomic usage for prevention and anti-aging medicine, including correct application of the genetically based recommendations. This point reflects significant medical, ethical and psychological problems in the modern society, including the non-understanding of Evidence Based Medicine (EBM) criteria, which are especially highlighted.
- Main public health genomics outcomes in relation to early presymptomatic prevention - statistical and social studies data.
- Main principles for reliable anti-aging genomic personalised programmes development and setting, including the necessity of combined simultaneous analysis of genetic, clinical and lifestyle patient data
- Efficiency and outcomes of genomic recommendations. Special attention is paid to the difference between the speculation on genetic data and real mechanisms of genetically based prevention

Finally, the practical examples in respect to all main genomic medicine and EBM criteria are demonstrated, including the new unique dynamic genomic expertise - after and before application of genetically based recommendations with demonstration of the practical outcome in early prevention, personalised treatment and anti-aging effects.

Quantum genomics - New powerful tool for personalized prevention

Quantum genomics is a new highly sophisticated field, which studies direct influence of different substances on DNA and RNA on the quantum (atom) level.

Quantum genomics also represents the part of quantum medicine, which has a big potential for early prevention and diagnostics. This approach has been regularly applied in Space medicine and research in Russia and the USA, and it currently becomes available in regular medical practice.

This presentation highlights the main principles of quantum genomics, its importance for effective personalised choice in micronutrition, nutrigenomics, cosmetogenomics and personalised anti-aging strategies.

Special scientific and clinical data are presented, demonstrating direct link of gene expression, entropy and bioenergetic fields in humans. Furthermore, direct correlation between dynamic genomic changes, gene expression, general health state and bioenergetic fields is clearly presented.

New aging concept is demonstrated through the light of these recent achievements.

Finally, high efficiency of this approach in medical practice is presented through the real clinical cases.

JEAN-LOUIS BEAUDEUX, MD PHD

Current pathophysiological mechanisms in arterial aging

Session: Cardiovascular Prevention - Estimating and Reducing the Cardiovascular Risk in 2010

Friday April 9th, 11.00 - 1.00

Room Van Dongen

Pôle médicoteknique, service de Biochimie Hôpital gériatrique universitaire Charles Foix - APHP, 7 avenue de la République, Ivry sur Seine, F 94200, France

Université Paris Descartes, EA2498 "Stress cellulaire : physiopathologie, stratégies nutritionnelles et innovations thérapeutiques", Faculté des Sciences Pharmaceutiques et Biologiques, 4 avenue de l'Observatoire, Paris, F 75270, France

Aging is associated with changes in both structural and functional vascular tree. Beyond the atherosclerotic process, arteriosclerosis is characterized by lead to chronic. The two processes are pathophysiological and responsible for several clinical (cardiac, cerebral, peripheral) events. Atherosclerosis is defined by the World Health Organization (WHO) as a combination of variable alterations of the arterial intima of large and medium size consisting in a focal accumulation of lipids, complex carbohydrates, blood and blood products, fibrous tissue and calcium deposits. This intima remodeling is accompanied by changes in the media. Atherosclerosis consists of focal arterial lesions, with decrease in arterial lumen.

Atherosclerosis is defined as the wall thickening and loss of elasticity of arteries of all sizes. It is the result not of changes in certain focal points of the vascular tree, but widespread over all the length of the arterial system. The outcome of atherosclerosis is calcification of the vessel that led to its stiffening.

Some pathophysiological mechanisms involved in arterial aging: the chronic inflammatory process of the arterial wall has been extensively studied and is an important actor of vascular changes. Similarly, oxidative stress, which results from the overproduction of reactive species of oxygen or from the decrease in antioxidant capacity, contributes to the imbalance of redox homeostasis, which is essential for many physiological cellular functions. These processes emphasize three main mechanisms of deleterious changes of the arterial tree: (1) endothelial dysfunction with impaired bioavailability of nitric oxide, and increased sensitivity to endogenous vasoconstrictors (endothelin-1, angiotensin II ...), (2) parietal bone matrix remodeling, involving increased matrix proteolysis due to altered protein function and overactivity of matrix metalloproteinases, (3) calcification, whose mechanisms partly are similar to those of bone calcification, that induces arterial stiffness and the characteristic chronic hypertension in the elderly. The understanding of all these cellular and molecular mechanisms will allow the discovery of new biomarkers of arterial aging, and the evaluation new pharmacological strategies to limit vascular aging.

Français

Données physiopathologiques actuelles sur le vieillissement artériel

Le vieillissement de l'organisme est associé à des modifications à la fois structurelles et fonctionnelles de l'arbre vasculaire. En dehors des altérations qui conduisent à la formation et à l'évolution de lésions athéromateuses, l'artériosclérose due au vieillissement se caractérise par une rigidification et un épaississement de la paroi artérielle et peut avoir un retentissement au niveau cardiaque. Ces deux processus sont à la fois physiologiques car ils interviennent inexorablement au cours de l'avancement de la vie, et pathologiques dans la mesure où ils peuvent être responsables d'évènements cliniques (cardiaques, cérébraux, périphériques) porteurs de morbidité et de mortalité.

L'athérosclérose est définie par l'Organisation Mondiale de la Santé (OMS) comme une association variable de remaniements de l'intima des artères de gros et de moyen calibre consistant en une accumulation focale de lipides, de glucides complexes, de sang et de produits sanguins, de tissu fibreux et de dépôts calcaires. Ce remodelage de l'intima s'accompagne de modifications de la média. L'athérosclérose est formée de lésions artérielles localisées, qui s'accompagnent d'une diminution du calibre artériel et qui siègent principalement au niveau des artères élastiques.

L'artériosclérose est définie comme "l'épaississement et la perte d'élasticité de la paroi des artères de toutes tailles". Elle est le résultat de modifications non pas focales en certains points de l'arbre vasculaire, mais généralisées sur l'ensemble de sa longueur du système artériel. Elles se traduisent par un épaississement et une perte d'élasticité liée à des modifications structurales de l'intima et de la média. L'aboutissement de l'artériosclérose est la calcification du vaisseau qui conduit à sa rigidification.

Des mécanismes physiopathologiques très généraux interviennent dans le vieillissement artériel : l'état inflammatoire chronique de la paroi artérielle au cours du processus athéroscléreux a été largement étudié et constitue un acteur important des altérations vasculaires qui se développent en fonction de l'âge. De même, les processus oxydatifs (" stress oxydant "), liés à une surproduction d'espèces réactives de l'oxygène ou à une diminution des capacités antioxydantes, extracellulaires ou intracellulaires, contribuent au déséquilibre de l'homéostasie redox, elle-même essentielle à certaines fonctions physiologiques cellulaires. Ces processus accentuent trois mécanismes principaux d'évolution délétère de l'arbre artériel : (1) le dysfonctionnement endothélial, avec une altération de la biodisponibilité du monoxyde d'azote et donc une sensibilité accrue aux vasoconstricteurs endogènes (endothéline-1, angiotensine II...) ; (2) le remodelage matriciel pariétal, associant une protéolyse matricielle accrue liée à une altération des protéines fonctionnelles et à une hyperactivité des métalloprotéases matricielles ; (3) la calcification, dont les mécanismes, partiellement similaires à ceux de la calcification osseuse, induit la rigidité artérielle et l'hypertension artérielle avec dissociation systolodiastolique caractéristique du sujet âgé.

La meilleure compréhension de ces mécanismes cellulaires et moléculaires préfigure l'arrivée prochaine de nouveaux marqueurs biologiques du vieillissement artériel, mais aussi de nouvelles stratégies pharmacologiques dans ce domaine.

PEDRO FILHO RIBEIRO DE BRITO, MD

Management of thyroid hormone in severe asthenia or fatigue
Session: Contributing Lectures in Anti-Aging Medicine

Friday April 10th, 2.00 - 4.00
Room Van Dongen

There are millions of people suffering from an untreated problem that interferes not only with their ability to function but also with their capacity to enjoy their life.

Fatigue is a result of intense physical exhaustion, emotional stress or lack of rest. The body asks to relax, to get more sleep and rest.

Fatigue that is not relieved by rest has another origin. Sometimes it can be psychological, associated with a wide variety of diseases, like diabetes or anemia and more frequently linked to several types of hormonal deficiencies. Among them we want to explain something about Thyroid and Adrenal fatigue. We will try to show a simple way to make a differential diagnostic based only on signs and symptoms, and offer you how to distinguish and treat in your practice.

DOMINIQUE CARLY, MD

Breast Cancer: Evidence for an anti-estrogen effect of Iodine
Session: Updates in Anti-Aging Medicine

Thursday April 8th, 2.00 - 4.00
Room Auric

Geographic differences in the rates of breast, endometrial, and ovarian cancer appear to be inversely correlated with dietary iodine intake. Endocrinological considerations suggest that a low dietary iodine intake may produce a state of increased effective gonadotrophin stimulation, which in turn may produce a hyperoestrogenic state characterised by relatively high production of oestrone and oestradiol and a relatively low oestriol to oestrone plus oestradiol ratio. This altered endocrine state may increase the risk of breast, endometrial, and ovarian cancer. Increasing dietary iodine intake may reduce the risk of these cancers.

When lacking, the parenchyma in rodents and humans show atypia, dysplasia, and even neoplasia. Iodine-deficient breast tissues are also more susceptible to carcinogen action and promote lesions earlier and in greater profusion. Metabolically, iodine-deficient breasts show changes in RNA/DNA ratios, estrogen receptor proteins, and cytosol iodine levels.

Blocking dietary iodine and imposing a chemical blockade of iodine in female rats, from the midreproductive to perimenopausal years, progressively caused human-like fibrocystic disease in the rats. The older 52-week-old rats exhibited atypical lobules, papillomas, sclerosing adenosis, calcifications, and lobular dysplasia.

Patients with breast pain associated with fibrocystic disease experienced iodine-dependent symptom relief after taking iodine.

There are three principal iodine actions. The first one as an antioxidant by exerting a competition with free radicals for membrane lipids, protein, and DNA to help stabilize the cells. The second one as inducers of antiproliferative and apoptotic mechanisms through the formation of iodolactones. And the third one as a part of thyroid hormones.

As the body of evidence builds, the importance of iodine on the maintenance of healthy breast tissue and its role in carcinogenesis becomes clearer. Unveiling iodine's mechanism of action is of crucial importance.

The high rate of breast disease in women with thyroid abnormalities (both dietary and clinical) suggests a correlation between thyroid and breast physiology. In addition, women with breast cancer have larger thyroid volumes than controls. Multiple studies suggest that abnormalities in iodine metabolism are the likely link. Additionally, the impact of iodine therapy for the maintenance of healthy breast tissue has been reported in both animal and clinical studies.

Iodide (I-) uptake is observed in approximately 80% of breast cancers as well as fibrocystic breast disease and lactating breasts; however, quantitatively, no significant iodide uptake is reported in normal, non-lactating breast tissue.

The protective effects of iodine/iodide on breast disease may be in part through the inhibition or modulation of estrogen pathways. Iodine/iodide may inhibit the estrogen response through up-regulating proteins involved in estrogen metabolism (specifically through increasing the CYP1A1/1B1 ratio), and decreasing BRCA1 inhibition thus permitting its inhibition of estrogen responsive transcription.

Health care professionals in modern Western societies will meet an increasing number of women surviving breast cancer. How the menopause of these women should be treated is still an open question. Use of hormone replacement therapy (HRT) may, at least in theory, increase the risk for recurrence of cancer, but its categorical refusal is a double-edged sword because it also denies these women all the undisputable health benefits HRT provides.

Most health care practitioners remain unaware that most published medical literature shows breast cancer patients taking HRT actually experienced equal or better survival than patients not taking hormones.

Hormone replacement therapy is typically avoided for women with a history of breast cancer because of concerns that estrogen will stimulate recurrence.

Nowadays, there are many evidences on large cohort studies and for a long period showing us that continuous combined HRT is associated with a reduced risk of death from primary tumour and all-cause mortality; patients also mention improvement in quality of live. There is currently no evidence of an increased risk of breast cancer recurrence, death attributable to cancer, overall mortality or shortened life expectancy among breast cancer survivors who use HRT. Therefore, there is no need to avoid HRT in women with menopausal symptoms who are interested in receiving such treatment, as long as ovarian ablation does not play a major role in their adjuvant therapy.

However, one must be cautious. In such circumstances, HRT must be prescribed with the informed consent of the patients and delivered in appropriate hospital and university centres. It is wished that large randomised prospective studies may be undertaken.

DUNCAN CARMICHAEL, MD

Hormone resistance in the thyroid
Session: Hormone Therapies - Part 2Friday April 9th, 8.30 - 10.30
Auditorium Camille Blanc

Background: There is growing evidence that we should consider hormone resistance to be a real and common problem when treating hormone deficiencies. People with thyroid deficiency symptoms but with normal blood levels may well have hormone resistance. This presentation looks at growing evidence in this regards from the press and presents a pilot study done at our clinic

Method: 10 patients with thyroid deficiency symptoms but normal blood levels were assessed and found to have low core temperatures.

After treatment with either liver detoxification or with sustained release T3, they were reassessed for core temperature improvement.

Discussion: Core temperature control is a function of T3. Low core temperature suggests that the T3, despite normal blood levels, is not functioning properly. An improvement of core temperature suggests an improvement in T3 function.

Conclusion: Hormone resistance is a significant problem in treating hormone deficiencies and many people walking around with apparently normal hormone levels may be functionally deficient.

GIUSEPPE CARRUBA, MD PHD*

The MeDiet project: A traditional Mediterranean diet reduces endogenous estrogens
in healthy postmenopausal women
Session: From Soil to Science to Medical Practice (Italian Experience)Saturday April 10th, 8.30 - 10.30
Auditorium Camille Blanc*Giuseppe Carruba¹, Orazia M. Granata¹, Lucia Polito¹, Ildegarda Campisi¹, Biagio Agostara² and Adele Traina¹,¹Experimental Oncology, and ²Clinical Oncology Units, "M. Ascoli" Department of Oncology, ARNAS-Civico, Palermo, Italy

Background & Aim: Breast cancer incidence and mortality rates are markedly lower in the south than in the north of Europe. This has been ascribed to differences in lifestyle and, notably, dietary habits across European countries. However, little information exists on the influence of different dietary regimens on estrogens and, hence, on breast cancer risk. Here we report results of our Mediet Project, a randomized, dietary intervention study aimed to assess the effect of a Mediterranean diet on the profiles of endogenous estrogens in healthy postmenopausal women.

Subjects & Methods: Out of the 230 women that initially volunteered to participate in the study, 115 were found to be eligible and were enrolled. Women were then randomized into an intervention (n=58) and a control (n=57) group. Women in the intervention group adhered to a traditional, restricted Mediterranean diet for six months, while women in the control group continued to follow their regular diet. Before (baseline) and after the dietary intervention, all women compiled a validated food frequency questionnaire (develop for the EPIC study), and profiles of urinary estrogens were assessed using RP-HPLC and photodiode array detection.

Results: After six months, women in the intervention group substantially changed their dietary regimen, and this eventually led to shift from a prevalent intake of animal fat and proteins to a prevalent intake of vegetable fat and proteins. As far as urinary estrogens are concerned, no significant difference was observed between the intervention and control groups at baseline. After six months, control women did not show any major change but women in the intervention group exhibited a significant decrease (over 40%) of total estrogen levels (P<0.02). It is worth noting here that the most part of this modification was based on a marked decrease of specific estrogen metabolites, including hydroxy- and keto- derivatives of estradiol or estrone.

Conclusions: To our knowledge this is the first report to show that a traditional Mediterranean diet significantly reduces endogenous estrogen. This may eventually lead to identify selected dietary components that more effectively decrease estrogens levels and, hence, provide a basis to develop dietary preventive measures for breast cancer.

*Department of Pathobiology and Medical and Forensic Biotechnologies, University of Palermo

It has been demonstrated that an unhealthy life style is associate to unsuccessful ageing with high incidence of chronic inflammatory age-related diseases. Non-enzymatic modification of proteins by reducing sugars, a process that is also known as the Maillard reaction, leads to the formation of advanced glycation end products (advanced glycation end-products-AGEs) in vivo. There is a growing body of evidence that formation and accumulation of AGEs progress during normal ageing. It is now well established that formation and accumulation of AGEs is extremely accelerated under different type of inflammatory based diseases such as diabetic vascular complications, neurodegenerative diseases, hypercholesterolemia, chronic renal failure, immune/inflammatory diseases and cancers.

Further, there is accumulating evidence that AGEs and their receptor RAGE interaction elicit oxidative stress generation and subsequently alter gene expression in various types of cells. Studies have shown that glycation in vitro is complicated by the ability of glucose to oxidise protein substrates, furthermore altered carbohydrate metabolism, insulin secretion, cooked food contribute to glycation process affecting several body districts. Glycation contributes to enhance oxidative stress that can determine increase accumulation of ROS, therefore it is important to use d-Roms test in order to know the level of hydroperoxide, stress biomarker and Bap test to find out how much is efficient our plasmatic barrier. To evaluate the glycation status of the body it is of paramount importance check the carbohydrate glycemic index of what we eat and reduce the body fat content and in particular the visceral fat. According to this suggestion, antiglycation therapy includes a better life-style through physical exercise and a diet rich in antioxidant (i.e. a Mediterranean diet).

In addition, several studies have shown that carnosine inhibits protein glycation and AGE formation; hence carnosine is one of the most active antiglycation products.

ANOOP CHATURVEDI, MD*

Neurotransmitters and mood
Session: Neurotransmitters

Thursday April 8th, 3.00 - 4.00
Auditorium Camille Blanc

* President Antiaging Medicine and Research, India
Promoter & Research Director, Antiaging Medicine AMAYA Clinics Worldwide

Aim: The purpose of this lecture is to summarize the evidence currently available and to review published studies dealing with the relationship between neurotransmitters and mood in men and women.

Introduction: NEUROTRANSMITTERS are the brain chemicals that communicate information throughout our brain and body (the body mind connection). They relay signals between nerve cells, called "neurons." The brain uses neurotransmitters to tell your heart to beat, your lungs to breathe, and your stomach to digest. They also affect mood, sleep, concentration, weight, and can cause adverse symptoms when they are out of balance.

Background: Neurotransmitter levels can be depleted many ways. As a matter of fact, it is estimated that 86% of Americans have suboptimal neurotransmitter levels. Stress, poor diet, neurotoxins, genetic predisposition, drug (prescription and recreational), alcohol and caffeine usage can cause these levels to be out of optimal range.

There are two kinds of neurotransmitters - INHIBITORY and EXCITATORY. Excitatory neurotransmitters stimulate the brain. Those that calm the brain and help create balance are called inhibitory. Inhibitory neurotransmitters balance mood and are easily depleted when the excitatory neurotransmitters are overactive.

Inhibitory Neurotransmitters: SEROTONIN is an inhibitory neurotransmitter. Adequate amounts of serotonin are necessary for a stable mood and to balance any excessive excitatory (stimulating) neurotransmitter firing in the brain. Stimulant medications or caffeine can cause a depletion of serotonin over time. Serotonin also regulates carbohydrate cravings, sleep cycle, pain control and appropriate digestion. Low serotonin levels are also associated with decreased immune system function.

GABA is an inhibitory neurotransmitter that is often referred to as "nature's VALIUM-like substance". When GABA is out of range (high or low excretion values), it is likely that an excitatory neurotransmitter is firing too often in the brain. GABA will be sent out to attempt to balance this stimulating over-firing.

DOPAMINE is a special neurotransmitter because it is considered to be both excitatory and inhibitory. Dopamine helps with depression as well as focus.

Excitatory Neurotransmitters: DOPAMINE is our main focus neurotransmitter. When dopamine is either elevated or low - we can have focus issues. Dopamine is also responsible for our drive or desire to get things done - or motivation. Stimulants such as medications for ADD/ADHD and caffeine cause dopamine to be pushed into the synapse so that focus is improved. Unfortunately, this can cause a depletion of dopamine over time.

NOREPINEPHRINE is an excitatory neurotransmitter that is responsible for stimulatory processes in the body. Norepinephrine helps to make epinephrine as well. This neurotransmitter can cause ANXIETY at elevated excretion levels as well as some "MOOD DAMPENING" effects. Low levels of norepinephrine are associated with LOW ENERGY, DECREASED FOCUS ability and sleep cycle problems.

EPINEPHRINE is an excitatory neurotransmitter that is reflective of stress. This neurotransmitter will often be elevated when ADHD like symptoms are present. Long term STRESS or INSOMNIA can cause epinephrine levels to be depleted (low). Epinephrine also regulates HEART RATE and BLOOD PRESSURE.

Conclusion: The importance of neurotransmitters in body mind connection and properly balanced homeostasis should not be underestimated. Simply increasing the concentration at the neurotransmitters at the synaptic level is not the solution but providing enough raw material in form of essential amino acids required to produce this neurotransmitters is the key of brain health rejuvenation.

In this lecture, we will discuss a brief overview of the relations of the neurotransmitters and mood, and the role of the antiaging

specialist in management of mood disorders with neurotransmitter balance.

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CLAUDE CHAUCHARD, MD

A memorandum on andropause management
Session: Hormone Therapies - Part 1

Thursday April 8th, 2.00 - 3.00
Auditorium Camille Blanc

Does the male menopause exist? Does the male menopause called andropause is accepted by men and doctors? I do not think so

But andropause really exists and it is totally included in men aging process and is included in men sexual aging. The main reason that bring men to our conclusion.

I am going to explain what is the male menopause, how to diagnosis, how to treat, how to cure and how to prevent and cure. I will give a full memorándum regarding the male andropause and the men sexual aging shortly.

This is all my experience of my last 30 years of my practice. Enjoy the way to stay young and sexually powerful with my medical approach and tomorrow cure your male patients.

CLAUDE CHAUCHARD, MD

Toxic fat: A new approach concerning aging and weight loss
Session: Role of Toxins in Aging

Saturday April 10th, 8.30 - 10.30
Room Van Dongen

Can we really live until 120 years? In fact the real truth is that today we can live as long as 160 years and maybe more if we know how to prolong our vitality, live younger in harmony with our life fighting the enemy No. 1 - A Bad Nutrition.

This enemy is paired with another attacker, the hyper insulinism and its secretions of which damage the cellular membranes in such way a fire gun does it, those jolts PGES are so sharp that they also involve prostaglandin secretions of type II that release the mechanism of "cellular membranes serial killer", the cytokines and derivatives which disintegrate those membranes structure like a wall is falling down progressively under the "devastating wooden leg" shots.

Let us recall that the skin is our vastest organ and the intestine contains 80% of our lymphocytes, our digestive system is also the priority door of entry of the intruders of our food. Everybody knows that the food contains additives, free radical, dyes and all kinds of allergen hidden in our body which start immunological conflicts at the intestinal level by involving the suffering of our cells, which then start new inflammation, producing reactions endogenous free radicals to create reactions such as, headaches, rhinites, intestinal bowel syndrom irritation, distensions, pain, constipation, turbid gastric etc...

By managing the inflammatory reaction, thanks to a better food and an excellent nutritional micro supplementation, we can makes already miracles. Remember that a simple blood test like proportioning two proteins, C proteins reactive and fibrinogen, we can anticipate right now if we are exposed to the inflammatory reaction in a chronic way and thus to accelerated ageing, and from the assessment of the oxidative stress, you will know the situation known as redox, i.e. balance between oxidizing attacker and your antioxydant defense.

The cell fortunately has means of defense which are called antioxydant barrier, it is said that the vitamin E, for example, is the first barrier, other vitamins such as vitamin C, the vitamins of the group B and vitamin A have antioxydant properties. Join as antioxydant also minerals primarily like selenium, zinc.

Finally some people classify the antioxydant enzymes, for example the S.O.D, the myeloperoxydase inter alia.

Let us not lose sight of the fact that the intestine is a second brain, it produces 20 neuro-transmitters, 95 types of serotonin which regulates mood, appetite and sleep. The surface of villosities is equal to that of a tennis court, its flora contains 10.000 billion bacteria, mucus regulates its permeability, the lymphoid produce is 80% balanced by intestinal produce, this intestine which absorbs 30 tons of food in its life and 150,000 liters of water. This leads to conclusion that we should be better maintaining the importance of drinking adequately and the role of the nutrition for a healthy life full. And let's take care of the liver and his capacity of detoxify our body.

It is of all that I am going to tell you today, how much a good nutrition can help to slow down the ageing process and live longer live better.

Service de Médecine Interne, CHU Pitié-Salpêtrière - PARIS

Cardiovascular diseases (CVD) will be responsible for most deaths in the world in 2010. In most European countries cardiovascular diseases contribute about 40% to all cause mortality. Their incidence increases in all countries, although their treatment is regularly improved.

However, within Europe, large differences exist in mortality from coronary heart disease and stroke. These diseases show a clear West-East gradient with high rates in Eastern Europe. In spite the decreasing trend in age-adjusted cardiovascular disease mortality in Western European countries, an increase in the number of cardiovascular patients is expected because of the ageing of the population. Consequently the health care cost for these diseases will increase.

Nutritional modifications and smoking are the main causes of this increase, but France is a particular case with a relatively low mortality by CVD (the "French paradox"). The development of atherosclerosis takes a large part in the pathophysiology of CVD, particularly for acute coronary syndrome (ACS). Within this category of diseases the two most important ones are coronary heart disease and stroke. 43.7 % of deaths in the world were related to acute myocardial infarction, 32.9 % were related to stroke and 23.4 % to arterial hypertension (AHT) or to other CVD such as pulmonary embolism (PE) and causes of heart failure (HF). Risk factors of cardiovascular accidents are: age, male sex, smoking, hypertension, increase in LDL-cholesterol and type 2 diabetes; other risk factors predispose to CVD: familial antecedents, lack of physical training, android obesity, menopause... The metabolic syndrome with hypertension, obesity, diabetes and dyslipidemia, is related to a high CVD risk and its incidence increases in the whole world. Some new cardio-vascular risk factors have been published, like C-reactive protein, homocysteine, abnormal blood coagulation, fibrinogen, interleukin-6, psychosocial stress...

ANTONIO MARCO CHOVER, MD

Tratamientos de medicina ortomolecular para mejorar sus pacientes en 2010

Session: Global Aging Management for a Successful Practice (Spanish Session)

Thursday April 8th, 4.30 - 6.30

Room Auric

La Medicina Ortomolecular no es una "Medicina", Medicina es una, no hay varias, pero la Medicina Ortomolecular es una forma diferente de concebir y por lo tanto de ejercer la medicina. La Medicina Ortomolecular intenta ver al individuo globalmente. Linus Pauling, fue premio Nobel en química y de la paz, en los años 1954 y 1962 respectivamente, fue el creador del concepto de Medicina Ortomolecular, tomaba hasta su muerte a los 93 años 18 gramos de vitamina C, repartidos a lo largo del día, y vitamina E, 800 ui día, 1000 a 2000 mgrs de niacina, y selenio. Linus Pauling, entrevista realizada en Gorda, California, Abril 1994. Linus Pauling, fue uno de los primeros en describir la estructura del ADN, definió en 1974 la medicina ortomolecular como "Preservar la salud y tratar enfermedades administrando la cantidad óptima de moléculas que son necesarias para el organismo y que se encuentran normalmente en el mismo".

La suplementación nutricional podría tratar algunos defectos genéticos. Secuencias alterada del genoma pueden ser corregidas con suplementos nutricionales. Variaciones en los genes responsables en la producción de enzimas relacionados con el metabolismo, afectan a la eficacia de dichas enzimas. Una enzima llamada methyltetrahydrofolate reductasa, para su funcionamiento correcto necesita ácido fólico (una vitamina del grupo B), esta enzima es necesaria para la síntesis del ADN. (Jasper Rine et al, Universidad de California, Berkeley. Proceedings of the Nacional Academy of Sciences; 3 de junio 2008. Los protocolos de tratamientos en la medicina Anti Aging se basan en la búsqueda de alteraciones bioquímicas y la suplementación de nutrientes (antioxidantes, vitaminas, nutrientes precursores hormonales, aminoácidos, coenzimas, omegas, aminoácidos, oligoelementos, probióticos)

The National Academy of Sciences, publica 3 informes que informan sobre los efectos de envejecimiento que pueden ser parcialmente revertidos con la combinación de acetil L carnitina y con ácido lipoico (Hagen et al 2002).

Con la Medicina Ortomolecular aplicada en la terapia Anti Aging, se consigue:

- 1 - Regulación de la microflora intestinal, y prevención y tratamiento de aumento de permeabilidad intestinal
- 2 - Limpieza arterial: EDTA , cúrcuma, serralasa,
- 3 - Antiestrés : adaptogenos: garum armo, ginseng, GABA, L Theanina
- 4 - Detoxificación medio ambiental: Indol 3 carbinol, NAC, Calcio D glucarato,
- 5 - Regulación del sistema inmune: Zinc, selenio, vitamina E, vitamina A, C.
- 6 - Regulación hormonal: Zinc, cobre, selenio, Yodo, omegas, acetil carnitina, pregnenolona, B2, B6, carnitina, arginina,
- 7 - Activación vascular cerebral: Aswagandha, fosfatidil colina, alfa glicerofosfatidil colina, acetil carnitina,
- 8 - Potenciadores o resensibilizadores de los receptores cerebrales o centrales y periféricos : GABA, L tirosina, L fenil alanina, 5HTP, Melatonina, Samet, acetil carnitina
- 9 - Terapia energizante: Q 10, NADH, ginseng, Eleuterocous S.
- 10 - Inhibidores de la Glicación: Carnosina, A lipoico, B1, B6, DMAE,
- 11 - Reactivadores de las mitocondrias: Q10, ACetil L Carnitina, NAC, A lipoico, D ribosa, NADH
- 12 - Disminución de acortamiento de los telómeros: Vitamina D, carnosita, magnesio,

Prácticamente el 100 de los objetivos.

Orthomoleclar treatments to effectively improve your patients in 2010?

English

Orthomolecular Medicine is not a Medicine. There are not several Medicines, it is one, but Orthomolecular Medicine is a different way of understanding and practising the medicine.

Orthomolecular Medicine tries to see the individual as a global.

Linus Pauling was rewarded the Chemistry and Peace Nobel Prizes, in the years 1954 and 1962. He was the creator of Orthomolecular Medicine concept. Until he died with 93 years old, he ingested 18 grams of vitamin C along the way, Vitamin E, 800ui/day, 1000-2000 mgrs of niacin and selenium. Linus Pauling interviewed in Gorda, California, April 1994.

Linus Pauling was one of the firsts in describing the DNA structure. In 1974, he defined the Orthomolecular defined as "To preserve the health and to treat diseases administering the optimum amount of molecules which are necessities for the organism and that founded in it".

Dietary supplementation could treat some genetical defaults. Disturbances sequences of genome can be balanced with dietary supplements. Variation in responsible genes of the enzyme production related to the metabolism affect to the efficacy of such enzymes.

An enzyme called methyltetrahydrofolate reductasa needs folic acid (a Vitamin B group) for its good working. This enzyme is necessary for DNA synthesis.

(Jasper Rine et al, California University, Berkeley. Proceedings of the National Academy of Sciences. June 3, 2008). The protocols of the treatments in Anti Aging medicine are based in the search of biochemical disturbances and the supplementation of nutrients (antioxidants, vitamins, nutrients, hormonal precursors, amino acids, coenzymes, omegas, trace elements, probiotics).

The National Academy of Sciences publish tree studies informing about the effects of aging that can be partially inversed with the combination of L Carnitine and lipoic acid (Hagen at al 2002).

With the Orthomolecular Medicine applied to anti-aging therapy, we obtain:

1. Balance of intestinal microfibre and to prevent and treating the increase of intestinal permeability.
2. Artery cleaning : EDTA, curcuma, serralasa
3. Anti Stress: Aptogens: garum armo, ginseng, GABA, L Theanine.
4. Environmental detoxifying: Indol 3 carbinol, NAC, Calcium D glucarato.
5. Immune system Balance: Zinc, selenium, Vitamin E, Vitamins A and C.
6. Hormonal Balance: Zinc, cuprum, selenium, Iodum, omega, acetyl carnitine, pregnenolone, B2, B6, carnitine, arginine.
7. Vascular brain activation: Aswagandha, fosfatidil choline, alfa glicerofosfatidil choline, cetil carnitine.
8. Power and recovery of sensibility of brain receptors, central and pereoiferical: GABA, L tyrosine, L fenil alanine, 5HTP, Melatonine, Samet, acetyl carnitine.
9. Energy therapy: Q10, NADH, ginseng, eleuterococcus S.
10. Glication Inhibitors: Carnosine, lipoic acid, B1, B6, DMAE.
11. Mitochondrial activators: Q10, acetyl L carnitine, NAC, Lipoic acid, D ribose, NADH.
12. Diminish of telomeres cutting: Vitamin D, carnosite, magnesium.

Practically 100% of objectives.

MICHAEL CULP, MA, ND

Using genomic information to discover your unique optimal anti-ageing diet
Session: Nutrigenetics - Beyond your Genes

Saturday April 10th, 4.30 - 6.30
Room Auric

Specific genetic polymorphisms have been concentrated in populations over many generations because they conferred advantages for survival in an often hostile environment. Nutrigenomics is the idea that if we know the environment for which they are advantageous, then we can proactively modify our environment, including diet and lifestyle, to promote optimal gene expression, health and longevity. Choosing the wrong environment, diet, and lifestyle will accelerate the processes of ageing and degenerative diseases. Dr Culp will discuss the benefits of using genomic information for personalizing nutritional interventions in the long-term prevention and treatment of heart disease, senility, obesity, and cancer.

CLAUDE DALLE, MD

Skin improvement with DHEA cream and nutrition
Session: Full Enhancement of the Hand: An Increasing Request

Thursday April 8th, 2.00 - 4.00
Room Nijinski

The bridges between Aesthetic and Anti-Aging Medicine are numerous.

Skin is a wonderful target for hormones, vitamins and nutrients, having both receptors and being able of secreting lot molecules, among them growth factors.

Before a surgery, a laser, for example, we can prepare any skin, with creams.

By this way, we can give a thickness improvement, modify hydration, sebaceous secretion, with more collagen and elastin fibres, act on keratinocytes, fibroblasts, and give modifications not only for cells but also to the extra cellular milieu, so important to carry information between cells.

We have also the possibility of using a melatonin activity, with many benefits.

After the surgical act or laser, or all year long, we can help the repair process and cicatrisation, and skin enhancement, also by hormones, with dhea cream, or melatonin application, or give some progesterone. The choice of emulsions, creams, or lotion, depends on the type of treatment or result we expect. The timing will also have an effect on the treatment.

Combining all these data appears to be effective to protect the skin against years, and repair, enhance natural skin beauty of the hands.

CLAUDE DALLE, MD

Complications with hormone replacement therapy (HRT)
Session: Hormone Therapies - Part 1

Thursday April 8th, 2.00 - 3.00
Auditorium Camille Blanc

Longevity increasing 3 months each year, retired workers appearing in developed countries, Hormone Replacement Therapy (HRT) will be more & more a field of treatment for a well being concept.

But it's difficult to accept the iatrogenic effects of drugs, or adverse events, given for prevention, in healthy subjects!

We have now a lot of data lightening our treatments.

Globally we can tell that, the most important thing is perhaps not the hormone itself, but the body in which it will act ; because, if some conditions are not required, the goal will be modified after a few months or years, resulting in changing cell conditions, leading to more senescent organs than previously, creating the situation for disease for example. HRT will work differently according to the milieu; oxidative stress, pH, other hormones, neurotransmitters, genetic factors. Evaluating the risks is essential. Environment becomes here a strong determinant, concerning food, pollution, sleep time, exercise...

Lifestyle is a key of aging and a way of action of HRT.

Each steroid hormone is able to modify for a cell, the skeleton, the cycle, having rapid genomic & long non genomic actions, being cell division promoters.

All these parameters are components of our reflexion before giving a treatment, willing to be safer & safer, for a longer well being.

CLAUDE DALLE, MD

The 4 brain musketeers: Acetylcholin (ACh), gamma aminobutyric acid (GABA),
Dopamin, Serotonin
Session: Neurotransmitters

Thursday April 8th, 3.00 - 4.00
Auditorium Camille Blanc

They are four, in our brain, that we can modulate, to give our patients, easily, to improve their health and behaviours. They can also prevent diseases.

The first is acetylcholine, so important in the CNS, particularly in the hippocampus, and reliable to Alzheimer's disease. Preservation of useful level is possible, helping nutrients, hormones for example.

Serotonin too is a central neurotransmitter, so implicated, not only for mood, but also for appetite, sexuality, and wellness. Dopamine, for energy, against addiction, linked to catecholamines, coming from tyrosine, and being essential to prevent Parkinson's disease.

GABA, last but not least, the only inhibitory neurotransmitter, too often forgotten.

All these four musketeers are linked together, dependent of food, genetics, and lifestyle.

We can help our patients, but, even if the dose is right, the chronoprescription is essential to get the correct balance and improvement.

CLAUDE DALLE, MD

Cutting edge data of the year in anti-aging, a practical perspective
Session: On the Front Lines of Preventive and Anti-Aging Medicine

Thursday April 8th, 4.30 - 6.30
Auditorium Camille Blanc

Publications in the field of anti-aging Medicine are more and more important. Some are very useful in our practice, and give us guidelines for day to day prescription.

This year, red meat and processed meat revealed new information on mortality risks.

Vit K has a first role in prostate cancer.

Aromatase inhibition can influence testosterone level?

Inflammation creates depression?

The quality of life depends on deiodinase (T4>T3)?

Hormone replacement therapy protects from diabetes?

Fats, selenium and prostate cancer; change your ideas.

Progesterone in men against arteriosclerosis ,

New vaginal creams for HRT,

Sexual desire in menopause depends not only of hormones but also timing.

And so on!

Some data we thought right are not, our certitudes decrease sometime, and increase somewhere else.

CATHERINE DE GOURSAC, MD

Past, present and future of ultrasound
Session: Short Contributing Lectures in Medical and Surgical Body Reshaping

Thursday April 8th, 2.00 - 4.00
Room Van Dongen

Ultrasounds are used in many aesthetic fields such as hair removal (with home and medical device). Recently Shock waves are often used for white and red hairs to supplement laser treatment;

Cellulite treatment by different kinds of ultrasounds (external and internal) is more and more mentioned in publications and in

recent congress.

External ultrasound:

1 metabolic lipolysis.

2 High intensity focused ultrasound (HIFU): we were quite disappointed by some Aesthetic HIFU although they are very effective in oncology. We still have to find the good parameters.

3 Cavitation: it is the most efficient kind of ultrasound for the fat cells destruction, but now we have to work with different levels of frequency and energy for the process optimization.

Internal ultrasound-assisted liposuction: this process has to be safer because there are too many risks of necrosis.

All in all, Ultrasounds has a great future in aesthetic treatment.

CHRISTOPHE DE JAEGER, MD*

Evaluation of arterial ageing

Session: Cardiovascular Prevention - Estimating and Reducing the Cardiovascular Risk in 2010

Friday April 9th, 11.00 - 1.00
Room Van Dongen

* Institut Européen du Vieillessement - Paris, France

The structure and function of arteries change throughout a lifetime. Age is the dominant risk factor for hypertension, coronary heart disease, congestive heart failure, and stroke. Ageing and disease states associated with an increase in cardiovascular events alter the physical characteristics of blood vessel walls and impair the pulsatile function of arteries. Arterial stiffness is strongly associated with cardiovascular disease and an increased risk of morbidity and mortality.

Ageing affect arterial properties. Arterial ageing - arteriosclerosis - is characterized by both thickening and stiffening of the walls of large and medium arteries. Many studies of aging focus on factors that affect the intima, rather than the load-bearing media. Studies on intima-media thickness show progressive thickening with age

The cellular/molecular pro-inflammatory alterations that underlie arterial aging are novel putative candidates to be targeted by interventions aimed at attenuating arterial aging as a major risk factor for cardiovascular diseases.

An accumulating body of evidence indicates that impaired pulsatile function of arteries provides important prognostic and therapeutic information beyond that provided by traditional blood pressure measurements.

To evaluate the mechanical properties of arteries, a variety of methods have been proposed for determination of aging change, and to supplement routine measurement of cuff systolic and pulse pressure. All techniques have theoretical, technical and practical limitations that impact on their widespread application in the clinical setting and use as measurement tools to improve cardiovascular risk stratification. The simplest is the finger photoplethysmograph, whose pulsatile volume change is similar to the carotid pressure waveform and whose change with age can be described as augmentation or in terms of derivatives. The most sophisticated involve measurement of aortic or carotid diameter with a phase locked echo tracking device, central pulse pressure by different means, and aortic flow by ultrasound; from these central measures, aging change can be described in terms of elastic modulus or aortic impedance. All methods depend on measurement of pulsatile phenomena and, directly or indirectly, arterial stiffness. The most popular considered in guidelines, recommended by a European consensus group for clinical and epidemiological studies, are determination of carotid-femoral (C-F) PWV and pulse waveform analysis. These methods are associated with cardiovascular events, independently of conventional risk factors. We'll describe our experience about evaluation of arterial ageing.

References:

- 1) Lakatta EG, Levy D. Arterial and cardiac aging: major shareholders in cardiovascular disease enterprises: part I: aging arteries: a "set up" for vascular disease. *Circulation* 2003; 107: 139-146.
- 2) O'Rourke MF, Hashimoto J: Mechanical Factors in Arterial Aging. A Clinical Perspective. *J Am Coll Cardiol*, 2007; 50:1-13,
- 3) Vasan R. Biomarkers of cardiovascular disease: molecular basis and practical considerations. *Circulation* 2006; 113: 2335-2362.

NATHALIE M. DELZENNE, MD PHD

The role of the prebiotic effect in modulating gastro-intestinal peptides production

Session: Intestinal Nutrition, Inflammation, Obesity and Metabolic Syndrome

Friday April 9th, 2.00 - 4.00
Room Van Dongen

Metabolism and Nutrition Research Group, Louvain Drug Research Institute, Université catholique de Louvain, Brussels, Belgium.

The role of the prebiotic effect in modulating gastro-intestinal peptides production, with consequences on satiety intestinal permeability and metabolic endotoxemia linked to obesity and type 2 diabetes

Background and aim: Dietary prebiotics are non digestible carbohydrates, which are highly and selectively fermented by certain bacterial species in the gut microbiota, thus having beneficial effect for host health. The aim of the presentation is to summarize the experimental data obtained in animals, and the intervention/observational studies performed in humans supporting the role of prebiotic effect in lessening metabolic disorders associated to obesity.

Methodology and Results: In rats and mice developing diet-induced or genetic obesity, the addition of inulin-type fructans (ITF) with prebiotic properties in the diet or in the drinking water improves glycemic response and hepatic steatosis, and decreases fat mass development, those events being related to the increased secretion of gut peptides. The fermentation of ITF leads to an increase in the differentiation of stem cells into endocrine L cells in the proximal colon of rats, and therefore promotes the production of glucagon like peptide 1 (GLP-1) in this organ. The relevance of this peptide in the improvement of metabolic disorders is shown through experiments performed in mice lacking functional GLP-1 receptors: those mice are resistant to the beneficial effect of ITF on obesity and glucose metabolism. Moreover, recent studies have indicated that the addition of ITF in the diet, lowers endotoxemia and the serum concentration of proinflammatory cytokines (IL1?, IL6, MCP1...) in high fat-fed mice. The improvement of diabetes and insulin secretion by the prebiotic is significantly correlated with the lower endotoxemia (LPS

level) and a higher Bifidobacterium spp gut content. Recent data suggest that another gut peptide - GLP-2- is involved in the lower gut permeability towards LPS observed in ITF-fed animals, a mechanism that would be involved in the improvement of metabolic endotoxemia. The relevance of prebiotic effects on obesity and related diseases in humans is supported by several studies, showing that dietary supplementation with ITF increases satiety and post-prandial glycemia - namely by promoting incretin gut peptides (PYY, GLP-1 and GIP) - and decreases hepatic triglyceride secretion in adult healthy volunteers. ITF have also been shown to decrease body mass index, and to improve non alcoholic steatohepatitis in overweight patients. Some data support the increase in gut incretins upon prebiotics feeding as a relevant mechanism to control fat mass development in obese individuals.

Conclusion and perspectives: Experimental data demonstrate that events occurring in the colon (fermentation; modulation of gut microbiota) through prebiotics ingestion exert a key influence on the development of metabolic diseases associated to obesity. Encouraging data have been obtained in humans, namely in overweight and obese people. Further intervention studies are needed to correlate the improvement of obesity with the changes in gut microbiota and endotoxemia occurring with prebiotic approach. The interest of this approach would be particularly interesting in the elderly, at a period where fat mass development seems particularly critical.

Some references:

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FABIEN DE MEESTER, MD

The Columbus concept. A new standard in lipid nutrition

Friday April 9th, 4.30 - 6.30

Session: Evidence Based Medicine in Cardiology Nutraceuticals: Real Drugs or Dietary Supplements? **Room Van Dongen**

Background & Aim of the Study: Egg protein is recognized by FAO/WHO experts as the reference dietary source for essential amino acids in human nutrition. Their excellent digestibility and their high degree of similarity with the amino acid composition of body tissue protein make them outstanding among all other proteins from animal and plant origins.

Protein and lipid contribute to most of the calories in egg and appear in a 1 to 2 ratio, similar to that recommended by modern dietary guidelines for human nutrition. Therefore, it is speculated that egg lipids too can serve as reference dietary source for essential fatty acids in human nutrition. Wild-type eggs were tentatively assessed as empirical approach to a reference pattern for dietary fatty acids in human nutrition.

Materials & Methods: Standard and wild-type eggs were analyzed for their respective fatty acid composition and distribution (structural fatty acid methyl ester analysis).

Results: Taking the 99's NIH Expert Committee's released adequate intakes as basis for the tentative establishment of a reference essential fatty acid pattern in human nutrition, it is shown that wild-type eggs are outperforming all other eggs in their ability to fulfil human (infants and adults) requirements for essential fatty acids. In addition, structural analyses predict that wild-type eggs are potentially anti-atherogenic (normo-cholesterolemic and hypo-triglyceridemic) and are unique source of omega-3 fatty acids to body tissue.

Conclusion: Preliminary clinical feeding trials confirm these theoretical expectations and the fact that the wild-type egg represents an ideal vector of essential lipids to human and a unique platform for the establishment of a reference pattern for essential fatty acids in human nutrition.

KHALED EL-HOSHY, MD

Toxins and skin aging

Saturday April 10th, 8.30 - 10.30

Session: Role of Toxins in Aging

Room Van Dongen

Skin aging is not entirely a cosmetic concern. It can manifest as pre-cancers & cancers of the skin. Genetic and molecular basis of skin aging, including carcinogenesis, are the subject of intense research. Matrix metalloproteinases, telomeres, senescence of fibroblasts, and other skin cells, are increasingly recognized as major players in the skin aging process. Aside from intrinsic aging, certain environmental factors are proven culprits responsible for signs of skin aging: both aesthetic & medical. Ultraviolet light, ionizing radiation, smoking, exposure to certain chemicals, & even foods are known, and/or, hypothesized to affect skin aging. The role of various toxicants in skin aging will be covered in this talk, with mention of some "friendly" toxins, namely Botulinum toxin.

MICHAEL ELSTEIN, MD

Thyroid hormones and cortisol-the two major regulators of daily energy and the ageing process are also associated with the ageing phenotype. How can these contradictions be explained?

Friday April 9th, 8.30 - 10.30

Session: Hormone Therapies - Part 2

Auditorium Camille Blanc

Thyroid hormones by way of triiodothyronine's (T3) activation of the nuclear receptor and the non-genomic activity of thyroxine

(T4) are the principal regulators of oxidative phosphorylation while also stimulating the activity of the electron transport chain, hence being major facilitators of daily energy production. Both thyroid hormones and cortisol stimulate mitochondrial synthesis. Thyroid hormones stimulate stem cell production as well as promoting hippocampal neurogenesis, the gene for myelin basic protein, as well as brain derived neurotrophic factor, which reduces depression. The seladin-1 gene that protects against Alzheimer's disease is up-regulated by thyroid hormones. Cortisol stimulates gastric acid and pepsin production, mineralocorticoid receptors and activates adrenaline and noradrenaline. It is these catecholamines which trigger the deiodinase enzyme responsible for the conversion of T4 to T3. It would seem that these two hormones are uniquely positioned to influence the ageing process in a positive way.

Yet in a whole range of species low T4 levels are associated with longevity. A four year male ageing study documented in the 'Journal of Clinical Endocrinology and Metabolism, 2005, 90; 6403-6409,' has similarly revealed that low FT4 is associated with longevity while high FT4 increased mortality over a four year period. This might have something to do with thyroid hormones increasing oxidative metabolism, which might ultimately have a catabolic effect. By stimulating metabolism thyroid hormones increase free radical stress, which in turn can increase DNA damage. If repair mechanisms are inadequate, and this is one of the limitations of ageing, genes such as P53 and P16 will be triggered, apoptosis will be initiated and stem cell activity will diminish. As much as thyroid hormones can stimulate stem cell production their overactivity at an inopportune time can also reduce stem cell production. Despite their capacity to activate the nervous system and protect the integrity of neuronal processes high FT4 is also associated with reduced cognitive function and hippocampal atrophy. As much as thyroid hormones can improve thymic function and enhance immune activity raised levels of T4 and T3 are associated with both breast and prostate cancer. Thyroid hormones can promote apoptosis but can also drive cellular survival and proliferation. The B-cell translocation gene-2, which is anti-proliferative, is switched off by T3. Low levels of thyroid hormones are associated with raised cholesterol levels, congestive cardiac failure, depression and neurocognitive decline. Therefore as much as thyroid hormones can benefit the ageing process they also have the capacity to be counterproductive. How can the presence of thyroid hormones be optimised with ageing without setting in a motion a series of events, which might have a significant downside? How can the risk of cancer, which increases with raised levels of both T4 and T3, be reduced? With ageing TRH, TSH and the conversion of T4 to T3 are reduced while the production of reverse T3, which counters the activity of T3, increases. Why is this happening and is this effect beneficial or harmful?

Cortisol stimulates gluconeogenesis and is the hormone primarily responsible for getting us up in the morning. Without cortisol we would not be able to stand up, our daily energy would diminish and yet this hormone also has the capacity to damage the hippocampus, cause osteoporosis, antagonise the activity of vitamin D and growth hormone, promote insomnia and worsen insulin resistance. Paradoxically insufficient cortisol and raised inflammatory cytokines can increase insulin resistance. How can cortisol levels be modulated so that this is beneficial as we age rather than counterproductive?

Thyroid hormones are regulated at tissue level. The receptors for thyroid hormone in the periphery differ from those of the brain. The pituitary responds to thyroid receptor beta-2. TSH levels are therefore not sensitive indicators of thyroid hormone activity in the periphery. How can thyroid hormone activity at a cellular level thus be assessed appropriately?

Serum levels of cortisol are poor indicators of the presence and function of this hormone as they mostly assess cortisol binding globulin. How can cortisol best be assessed?

This presentation will address all the conundrums, questions and paradoxes presented in this abstract and will also explore how cortisol and thyroid hormones can best be assessed. Case studies will be also included to support the issues that have been identified.

MICHAEL ELSTEIN, MD

Vitamin D: Is boosting this vital hormone going to take us on a highway to heaven or hell? **Saturday April 10th, 11.00 - 1.00**
Session: Oxidation - Food - Nutrients: New Trends and Updates **Auditorium Camille Blanc**

Our notion of the necessity to supplement with vitamin D or at least to boost vitamin D status is going through some change and controversy at the moment. While international expert Professor Micheal Holick from the University Medical Centre, Boston, Massachusetts, asserts that vitamin D deficiency is linked to autoimmune disease, cardiovascular diseases and a host of cancers with supplementing reducing the risk of colorectal, breast and prostate cancer, there is an alternate hypothesis. Indeed Professors Johal and Levin from the University of British Columbia, Vancouver, Canada, make the point in a recent review that 'the current perspective of widespread vitamin D deficiency may be overemphasized or over-interpreted.' Professor Reinhold Vieth from the department of Pathology and Laboratory Medicine, Mount Sinai Hospital, Toronto, Canada, reminds us that higher serum 25-hydroxyvitamin D levels may be associated with a greater risk of prostate cancer. He also makes the point that levels of 1,25-dihydroxyvitamin D, widely regarded as the active form of vitamin D, which interacts with the vitamin D receptor, are tightly regulated by 25 (OH)-D-1-hydroxylase (CYP27B1), responsible for making 1,25dihydroxyvitamin D, and the catabolic enzyme 1,25(OH)₂ D-24-hydroxylase (CYP24), which breaks it down. When 25-hydroxyvitamin D declines, the ratio of 1-hydroxylase/24-hydroxylase must increase to maintain 1,25-dihydroxyvitamin D at its set point. Conversely when 25-hydroxyvitamin D is enhanced then the ratio of 1-hydroxylase/24-hydroxylase must diminish, suggesting that supplementing with large doses of vitamin D, as has been the practice of some practitioners in this area, would be unwise and possibly even downright dangerous.

The alternate hypothesis as proposed by Paul J. Albert, Amy D. Proal and Trevor G. Marshall who hail from Well Cornell Medical College in New York, Georgetown University in Washington and Murdoch University in Perth, Australia suggests that low levels of 25-hydroxyvitamin D might be the result rather than the cause of autoimmune disease. Their research has recently identified a bacterial product, which has a high affinity for the vitamin D receptor and this is the sulfonolipid Capnine. They propose that this bacteria can displace 1,25-dihydroxyvitamin D from the vitamin D receptor which prevents it from executing its many functions including the 913 genes it is thought to influence. They claim that this microbial dysregulation of the vitamin D receptor also leads to the dysfunction of key regulating enzymes such as CYP24A1 which inactivates 1,25-dihydroxyvitamin D. When this happens 1,25-dihydroxyvitamin rises without restraint by its normal feedback system. As it rises it down-regulates the amount of vitamin D converted into 25-hydroxyvitamin D, which results in the low levels of this hormone, typical of autoimmune disease. Not only would treatment with high dose vitamin D3 lower the amount of 1,25-dihydroxyvitamin D, which cannot interact with the vitamin D receptor anyway, it would also increase the presence of 25-hydroxyvitamin D. What 25-hydroxyvitamin D does is

antagonise the vitamin D receptor leading to less targeting of bacteria, less die-off, short term lessening of inflammation but accumulation of pathogens with long-term worsening of the disease process. They propose that treatment with antibiotics and a vitamin D receptor agonist might be the more appropriate way to deal with the neutralisation of vitamin D, thereby allowing 1,25-dihydroxyvitamin D to activate the vitamin D receptor in the necessary fashion. I have also found in my practice that systemic candidiasis might perturb the vitamin D receptor in a similar way leading to low levels of 25-hydroxyvitamin D but high levels of 1,25-dihydroxyvitamin D, which come closer together once candidiasis is treated effectively.

Aside from the above dilemma there are a whole host of other factors, which regulate the production of 1,25-dihydroxyvitamin D in the kidney, including parathyroid hormone, oestrogen, calcitonin, prolactin, calcium, phosphate and fibroblast growth factor 23 as well as in the periphery. What is equally intriguing is the relationship between the klotho gene and 1,25-dihydroxyvitamin D. Overexpression of klotho lowers 1,25-dihydroxyvitamin D and extends lifespan in mice. It is clear that vitamin D has a complicated relationship with ageing.

This presentation will explore both the conventional paradigm that supplementation with vitamin D might prevent cancers and autoimmune diseases as well as the alternate hypothesis that low levels of vitamin D are the result rather than the cause of autoimmune disease. All the factors that influence vitamin D levels as well as the evaluation of both 25-hydroxyvitamin D and 1,25-dihydroxyvitamin D will be examined to explain how vitamin D can best be optimised to prevent and manage cancers, autoimmune diseases, cardiovascular wellbeing and neurological function. Case studies exploring the connection between candidiasis and vitamin D status will also be included.

JAN-DIRK FAUTECK, MD*

Timing the therapies - The emerging field of Chronobiology
Special GSAAM Session - German Society of Anti-Aging Medicine

Saturday April 10th, 2.00 - 4.00
Auditorium Camille Blanc

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Chronobiology is a relative young field of science that examines periodic phenomena in living organisms and their adaptation to circadian and annual cycles. These cycles are known also as biological rhythms. "Chrono" pertains to time and "biology" pertains to the study, or science, of life. The related terms chronomics and chronome have been used in some cases to describe either the molecular mechanisms involved in chronobiological phenomena or the more quantitative aspects of chronobiology, particularly where comparison of cycles between organisms is required. Chronobiological studies include but are not limited to comparative anatomy, physiology, genetics, molecular biology and behaviour of organisms within biological rhythms mechanics. Recently, special attention has been given on pharmaco-kinetics and bio-availability of pharmaceuticals where new practical aspects have been elucidated. Analysing e.g. the different rhythms of several hormone secretion patterns, it had been demonstrated that nearly all of them pose a characteristic circadian secretion pattern. In addition with aging this pattern is often attenuated. Therefore nowadays we have to differentiate patients suffering from hormone deficits and those suffering from rhythm disorders. To optimize the specific treatment options it will become more and more important not only to select the correct dose of the missing hormone but also the best day-time of hormone analyses and/or substitution. Especially within the Melatonin system we can define a so-called chronotherapy and a classic replacement therapy. Patients suffering from delayed-sleep-onset syndrome and/or jet-lag and/or free running rhythms - all characterised by Melatonin secretion patterns out of correct night-time - might benefit from Melatonin administration just before their individual endogenous Melatonin secretion start. In this case "fast-release" preparations can be used, able to shift the endogenous rhythm probably within few days to normal night-time. In contrary elderly patients suffering by complex sleep disorders mostly do not have any Melatonin secretion any more. Therefore a classical hormone replacement therapy regime might be indicated. Given the fact, that Melatonin has a very short half live, fast-release preparations do not restore correctly the Melatonin rhythm, characterized by higher levels for the whole six hours of night. Therefore high sophisticated galenic formulations have to be used, able to guarantee best effects concerning restoring Melatonin rhythms and sleep quality. Other examples are the androgen hormones. They have highest levels during morning time, with lowest at night time. Upper nominated patients with rhythm diseases are presenting also serum concentrations rhythms of these hormones out of normality.

Therefore blood samples collected at morning time might give in this case false negative values. If chronobiologically active substances are used to rebalance this disorder, even the androgen secretion will be normalized. On the other side, if a real deficit is present, hormone replacement has to be chosen and periodic controls are needed able to optimize the individual dosage.

JAN FEDACKO, MD

N-3 PUFA: From dietary supplements to medicines -
Nutraceuticals: Real drugs or dietary supplements?
Session: Evidence Based Medicine in Cardiology

Friday April 9th, 4.30 - 6.30
Room Van Dongen

Co-authors: PELLA D., RYBAR R., FEDACKOVA P., VARGOVA V., TREJBAL K.
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Although there has been a great progress in the prevention of cardiovascular diseases, the mortality of patients with acute myocardial infarction (AMI) still remains high. One of the most important underlying causes explaining this phenomenon is the sudden cardiac death.

Nearly half of all cardiovascular deaths in the USA each year is attributed to this unpredictable and unexpected complication of AMI. Hence, there is an urgent medical need for a targeted therapy to reduce the incidence of sudden cardiac death.

Since 1980 there have been several epidemiological and other studies concerning the benefits of n-3 polyunsaturated fatty acids (n-3 PUFAs) in cardiovascular health and prevention. Results from one of the largest studies, GISSI Prevenzione Trial show that adding the n-3 PUFAs to standard therapy of patients who survived AMI reduces sudden cardiac death (44% risk reduction,

p=0.0006).

In addition, significant decline in all-cause cardiovascular mortality (21% risk reduction, p=0.0064) further emphasizes the role of n-3 PUFA in cardiovascular prevention. To date, beneficial effects of n-3 PUFA are attributed to their antiarrhythmic, lipid lowering, antithrombotic and anti-inflammatory properties. To conclude, EPA and DHA improve the prognosis of cardiovascular patients in the secondary prevention of sudden cardiac death without any documented side effects.

MICHEL FREY, MD

How to help over trained sportsmen to prevent aging with hormone therapies?
Session: Contributing Lectures in Anti-Aging Medicine

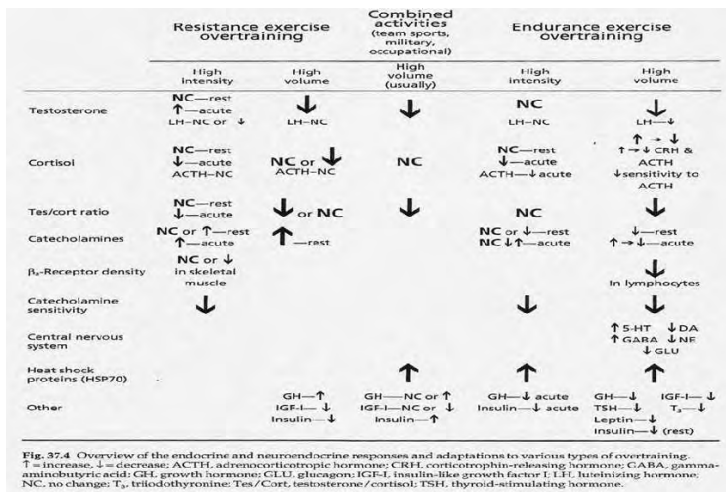
Saturday April 10th, 2.00 - 4.00
Room Van Dongen

The overtraining syndrome: Its endocrinology, the paradigm of the physiological progression of the sympathetic-parasympathetic syndrome, difference with the model of the burn out?

The accumulation of training and non-training stress decreases the performance capacity; that leads to the overtraining. This situation can last several weeks or months.

Every type of exercise in endurance and in resistance, every variant in volume or in intensity for both types of exercise has an effect on the hormonal system. This leads to an exhaustion of the body gradually so all the phases of physical and mental recovery are not respected.

This is summarized in the following plan:



Different classifications, clues, assessments are proposed, but the mean difference between the two systems (endurance and resistance) is the recovery, short for the resistance overtraining (sympathetic syndrome) and very long for the endurance overtraining (parasympathetic syndrome).

Regrettably the overtraining is already described for the children more and more often and continues during all the career of the sportsman. This brings to a destruction of the body which cannot be prevented because the society wishes performances always more important in defiance of the physiology.

We have the same phenomenon with the burn out with an exhaustion of the hormonal system bringing in more a depressive state. By compensating for the hormonal deficits, these same depressed people find a hormonal

physiological level and the depressive state disappears.

On the other hand, for the sports world, this treatment is not possible because it's considered as of the doping; the society prefers to close eyes in front of a hypocritical situation which leads to the destruction of high-level sportsman.

CHRISTOPHE GANSS, MD*

Cosmetic and clinical uses of skin derived autologous stem cell transplantation
Session: Regenerative Medicine and Stem Cells: Where we Stand With Stem Cells in 2010?

Friday April 9th, 4.30 - 6.30
Auditorium Camille Blanc

* CEO - TICEBA GmbH, Tissue & Cell Banking

Autologous pluripotent mesenchymal stem cells from the skin opportunities for science and clinic for a new class of therapies, prevention and medical aesthetics

Pluripotent skin derived mesenchymal stem cells are a great opportunity for research as well as for clinical applications.

Here we give an overview of current research as well as first clinical applications and future perspectives of these cells in the treatment of diseases.

We also present our experience with autologous cell grafting in the following cases:

- Case report of an intra arterial stem cell application for Diabetes Mellitus Type I. A brief report of the arterial supply into the pancreas is given.
- Case report of an intra thecal and intra venous stem cell application for Multiple Sclerosis.

Parameters of efficiency are measured by clinical examination.

Technical aspects, interventional MRI-Tractography and questions are being discussed.

Furthermore, we present and evaluate the treatment of choice for two further cases.

Finally, we give an overview of the research being performed with these cells as well as what it is to be expected in the field of medical Aesthetic, and report the first clinical data with autologous cell grafting in 172 patients over a period of five years.

The criteria measured are

- Patient satisfaction
- Subjective improvement assessed by injectors themselves (subjective because not measurable)
- Number of demands for cryopreservation for repeated applications
- Number of demands of second area treatments (neck, décolleté, striae?)

The human gastrointestinal tract is an intensively colonised area. The microbiota contains certain bacteria that can be perceived as health promoting, as well as pathogenic. The bacterial microbiota within the human large intestine is thought to compromise around 95% of the total cells in the body, representing 10¹² cells/g dry weight faeces. The vast majority reside in the large intestine, where the slow transit time, availability of nutrients and pH is favourable for microbial growth. Through the activities of the resident microflora, the colon plays a major role in host nutrition and welfare.

Currently, there is much interest in the use of foods that may exert a functional effect on the human gut microbiota.

This has led to functional food developments that fortify beneficial bacteria at the expense of the pathogens. Probiotics have a long history of use in humans as live microbial feed additions. In contrast, a prebiotic is a non digestible food ingredient that beneficially affects the host by targeting indigenous components thought to be positive. Main prebiotic targets at the moment are bifidobacteria and lactobacilli (although this may change as our knowledge of the flora diversity and functionality expands).

Any dietary component that reaches the colon intact is a potential prebiotic, however much of the interest in the development of prebiotics is aimed at non-digestible oligosaccharides such as inulin type fructooligosaccharides (FOS) and transgalactooligosaccharides (TOS). In Europe, FOS and TOS have been shown to be prebiotics, through numerous volunteer trials, as evidence by their ability to positively change the gut flora composition after a short feeding period. Other prebiotics are emerging. Some prebiotics occur naturally in several foods such as leek, asparagus, chicory, Jerusalem artichoke, garlic, artichoke, onion, wheat, banana and oats. However, these foods contain only trace levels, so developments have taken the approach of removing the active ingredients from such sources and adding them to more frequently consumed products in order to attain levels whereby a prebiotic effect may occur, e.g. cereals, confectionery, biscuits, infant feeds, yoghurts, table spreads, bread, sauces, drinks, etc.

If progress in the use of dietary intervention directed towards particular gut bacteria is to be exploited, a sound research base is required. This would serve the platform for robust claims against gut microbiota modulation. The areas of gastrointestinal health (e.g. gastroenteritis, IBS, IBD) as well as systemic influences (e.g. autism, metabolic syndrome, eczema) are all relevant. These will be discussed.

RÉMI GRESSARD, MD

Alternative therapy for prevention of psychotrope iatrogenic effect in elderly subject
Session: Contributing Lectures in Anti-Aging Medicine

Saturday April 10th, 2.00 - 4.00
Room Van Dongen

In this review, we have researched the double blind randomized studies and if possible the meta analysis about non iatrogenic treatments for depression and insomnia in elderly subject. We will see a number of nutritional and hormonal well tolerated and effective treatments are used either monotherapy or either additional therapy, allowing a reduction of adverse effects. The more studied of those treatments are S adenosyl methionine, folic acid, estradiol, testosterone and DHEA.

FRANCISCO GUARNER, MD

Experimental and clinical studies on prebiotics and probiotics in IBD: Role of bacterial genes on intestinal inflammation.
Session: Intestinal Nutrition, Inflammation, Obesity and Metabolic Syndrome

Friday April 9th, 2.00 - 4.00
Room Van Dongen

Digestive System Research Unit, University Hospital Vall d'Hebron, Barcelona, Spain.

Inflammatory bowel diseases (IBD) are chronic GI tract disorders that include two main clinical conditions, namely ulcerative colitis (UC) and Crohn's disease (CD). Epidemiological studies demonstrate a steady increase of the incidence of such diseases in westernized countries. Of mayor concern is the fact that incidence of childhood IBD has doubled every decade for the past two decades. Several lines of evidence suggest that in individuals with genetic susceptibility, T cell-mediated immunity against luminal bacteria is the key event in driving the inflammatory process that generates intestinal lesions and/or impairs resolution of the lesions. Under normal circumstances, gut microbes seem to play a major role for induction of regulatory T cells in gut lymphoid follicles. Immune tolerance mediated by regulatory T cells is the essential homeostatic mechanism by which the host can tolerate the massive burden of innocuous antigens within the gut or on other body surfaces without responding through inflammation. Hypothetically, a defective interaction of the gut microbiota with the mucosal immune compartments may result in the abnormalities leading to chronic intestinal inflammation.

Several studies have shown that the composition of the fecal microbiota differs between subjects with IBD and healthy controls. The reported differences are variable and not always consistent among the various studies. However, molecular studies based in 16SrRNA gene have shown reduced diversity of bacteria species and temporal instability in both fecal and mucosa-associated communities. More recently, MetaHIT studies in both UC and CD patients have provided information about changes in the metagenomic profile of the microbiota beyond diversity in composition.

The therapeutic manipulation of gut microecology has attracted high expectation as an ideal strategy for the control and prevention of IBD with a low rate of side effects. Prebiotics such as inulin and oligofructose improve composition and biochemical activities of the microbial communities within the gut. Numerous studies have shown that both inulin and oligo-fructose selectively stimulate the growth of bifidobacteria and lactobacilli both in the gut lumen and in mucosa-associated microbial communities. These changes have an important impact on immune homeostasis. Studies "in vitro" suggested that certain Lactobacillus and Bifidobacterium species exert potent anti-inflammatory effects on human immuno-competent cells. In animal models of IBD, oral administration of oligofructose-based prebiotics effectively improves mucosal healing of inflammatory intestinal lesions. Preliminary clinical trials in human Crohn's disease, ulcerative colitis, and pouchitis confirm the ability of inulin and oligofructose to mitigate mucosal inflammation in these chronic conditions.

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Background: Traditional herbs have been rich sources of modern medicines. Actually the traditional foods can also serve the same purpose, but they have greater value as nutraceuticals ie without intensive processing. By keeping more factors together more health benefits can be obtained than with the individual components. The present overview discusses the values of foods of the North and Central European tradition as sources of nutraceuticals with special emphasis on cardiovascular problems and its based on interviews and interventions based several authors in addition of our own group.

Fiber: The grains, berries fruits and vegetables are covered with fiber and polyphenols to resist the invasion of the bacteria, fungi and viruses. All these are also important for our cardiovascular health. Good examples are traditional rye kernels, commonly used after un-raffinated milling as bread and porridge. Rye fiber binds water and as voluminous it serves as a stimulant of gut function. This lessens the absorption of cholesterol and slows down the glucose and lipid absorption i.e. lowers their gluco- and lipotoxicity. As the postprandial blood glucose rise remains modest, also insulin peak is modest, too. All these factors promote cardiovascular health.

The gut bacteria metabolise rye fiber also to short chain fatty acids (SCFA), which supply energy to mucosal cells. SCFA contribute to the control of cholesterol synthesis in the liver, again good for cardiovascular health. Some of the fiber components are metabolised to enterodiol and enterolactone and other polyphenols which contribute also to the cardiovascular health. They also lessen the effects on endogenous estrogens by competing in their binding to the sex hormone transport proteins in blood and also in the receptors in tissues and thus lessen the growth of the malignant cells not only in the gut mucosa but also e.g. in breasts.

Whole grain oats and barley contain in addition also soluble fiber which has similar effects on gluco- and lipotoxicity.

The milling of grains means an extensive loss of above mentioned components with the vitamins and minerals. Unfortunately this valuable milling by-product is seldom consumed by people. Now the fast digested carbohydrates are when eaten absorbed as glucose and blood glucose elevation means also high insulin peak. When the insulin peak is lowering again and stomach has pace, people feel hungry and tend to eat again, now usually candies etc i.e. sugar take drinks and end up to the path leading to overweight and metabolic syndrome with no way back and cardiovascular problems start to appear.

The traditionally potatoes were cooked with their skin and so the vitamin C was saved. At present most potatoes are prepared without their skin. This means that the potato fiber is also much lost and its starch is easily absorbed like that of e.g. wheat products.

In wheat the milling also the relative amount of gluten, gliadin and other similar proteins increases, which may cause inflammation of gut mucosa in sensitive people. This morbidity has been increasing i.e. the absorption of vitamins and minerals suffer in the gut. One must remember that heart muscle contains a lot and large mitochondria which need these cofactors for its everyday continuing function.

Polyphenols and vitamins: As antioxidants these interact against inflammation and lessen the infections. In cardiovascular diseases theaw problems are unfortunately significant contributors. The vitamins and other antioxidants of the traditionally consumed in berries and other fruits and their juices are known as good sources antioxidants. Soft drinks should be made with less sugar as previously to get the benefits without metabolic syndrome.

Probiotics: When bread was traditionally baked the dough was often fermented with lactobacilli. Fermentation is and was even more so a standard in the preparation of milk products. Fermented sauerkrauts and other vegetables are similar products. Lactobacilli as probiotics contribute to the control of mucosal infections. Various lactobacilli are now sold as research indicates their benefit.

Essential fatty acids and phospholipids : Previously fish were one of the most common foods. Fish were eaten more or less completely, but now good part of fish seems to be lost i.e. "milled" like above mentioned grains. This means a loss of essential fatty acids, other lipids, a part of vitamins and essential elements, too. Significance of n-3 fatty acids is understood, but other lipids are less so. n-3 Fatty acids moderate the influences of n-6 fatty acids and their metabolic products and control also the inflammatory reactions. Again they used to be valuable components of our nutrition, which now it contains too much n-6 fatty acids and n-3/n-6 ratio is promoting the synthesis of pro-inflammatory products, also harmful for the cardiovascular health. Various n-3 products are widely now consumed, but why we do not eat them in fish.

Linseeds were earlier common traditional food. They contained more n-3 than n-6 fatty acids and are also good source of fiber, both insoluble and soluble, also of polyphenols, vitamins and minerals.

Traditional Complete food: In Finnish traditional inland diet all these above mentioned components are found in the same food, "kalakukko" where small fish are baked with a bit of pork inside rye dough cover. All the fish components are thus digested when eating. This food is also inside sterile duet to heat and it resists storage even at room temperature a few days.

Conclusions: When we look the shelves in shops most products are much processed and that has caused a loss of valuable components with the unnatural increase of sugar, salt and perhaps also fat. The valuable components listed above are also found under different names as supplements, pharmaceuticals, functional foods, even medical foods. As the metabolism of our body needs all of them the elaboration of nutraceuticals i.e. multicomponent preparations is a challenge to industries. Nutraceuticals serve especially the seniors whose numbers are increasing in most societies as their tissues, especially their cardiovascular system as well their brains contain a lot of mitochondria which need better sources of many nutrients and those concentrations are so low in most items found in shops. We should make also the traditional tasty foods available in restaurants.

See also: Hänninen O, Chandan K Sen: Nutritional supplements and functional foods in the book "Nutraceuticals and Fuctional Food Regulations in the United States and around the World" (Editor D. Bachi), Academic Press, 2008 pp 11-36

* President, International Medical Science Society (IMSS) - Scientific Coordinator in Japan, World Society of Anti-aging Medicine (WOSAAM)

Placental extract is the rich resources of various bio-active substances such as growth factors, amino acids, nucleic acid, minerals like Na, Ca, Mg, Cu, P, Fe, K and Si and Vitamins like B1, B2, B6, biotin, B12, folic acid, pantothenic acid, etc. They have much more unknown factors. Human placental extract (HPE) is widely used in clinical and fundamental research, particularly to study the hormonal and exchange functions of placenta. Moreover HPE is known to have many kinds of functions such as anti-inflammation, anti-sunburn, anti-pigmentation, anti-mutaagenesis and anti-anaphylaxis, and another report demonstrated that HPE exhibited potent in vitro and in vivo anti-oxidative activities, as scavengers of oxygen-free radicals, fatty acid peroxy radicals and ethanol-induced hepatic oxidative stress. Laennec is a medication produced by the purification of human placental extract, and has been used in Japan clinically for the treatment of chronic hepatic injuries since 1959. Furthermore, it has been approved clinically to reduce pain in rheumatoid arthritis and neuralgia. In addition, placental extract is used as one of the ingredient of cosmetic and dietary supplements for rejuvenation of the aged skin. In this study, we evaluated the effect of placental extract for the treatment of anti-aging field.

We performed blood tests and laboratory tests on subjects after HPE treatment. Our results suggest that HPE is an alternative hormonal anti-inflammatory medicine; since it has no side-effect. This HPE seems to have patent anti-aging efficacy by anti-inflammation, whitening, anti-oxidation and skin wrinkle reduction. We also research of the effect of HPE which can prevent the harmful effects of UV that lead to skin aging. We believe that HPE should be viewed as a potential therapeutic agent for preventing and/or treating premature skin aging. Topical estrogen application is highly effective and safe if used by a dermatologist with expertise in endocrinology. We can also investigate the benefits of these topical hormone applications for skin aging treatment to equal of HPE.

The various receptors exert differential effects in skin and can be rationally chosen as drug targets for the treatment of cutaneous pathologies. Further studies are needed to identify the molecular mechanism, although further prospective clinical trial is also needed to research.

Placental Extract for skin aging

Placental Extract prevent and reverse the signs of aging, and reduce wrinkles, crows feet and dark spots, increase collagen, elastin and skin firmness.

Placental Extract effectively repairs, regenerates, smoothness, nurtures, and restore the skin's moisture content.

Placental Extract also helps draw in active ingredients deeper into the skin.

JOHANNES C. HUBER, MD PHD

Hormones and Beauty - Strategies in aesthetic endocrinology
Special GSAAM Session - German Society of Anti-Aging Medicine

Saturday April 10th, 2.00 - 4.00
Auditorium Camille Blanc

Sexual steroids are not only responsible for human reproduction, they are also key player for the quality of skin, the hair growth and for the body composition. Oestrogen stimulates collagen biosynthesis and hyaluronic acids, this is wellknown for the general genital tract, but it works of course also on the face and on other reasons of the human body. Progesterone suppresses collagen degradation by reducing matrix metalloproteinase activity. Therefore both hormones, estrogen and progesterone improve the quality of our skin. Also the development of hair follicles are sexual steroid dependent and hair loss can be improved by topical estrogen-progesterone application. Also anti-androgens, applied topically can reduce the androgenetic effluvium.

Androgens stimulate hormone - dependent, lipoprotein, lipase activity, work as fat burner. In cases of androgen insufficiency, cellulite, fat accumulation and changing of the body composition can occur. This can be treated by local androgen application.

IVAN IBANEZ, MD

Physical therapies to enhance aesthetic results
Session: Global Aging Management for a Successful Practice (Spanish Session)

Thursday April 8th, 4.30 - 6.30
Room Auric

Background: Human beings, like majority of animal species are designed anatomically and physiologically for three basic functions of life, nutrition, reproduction and movement. Physical exercise is undoubtedly one of the cornerstones of any anti-aging, preventive medicine and treatment of several pathologies. His practice with hypocaloric nutrition have been the only scientifically proven treatments that increase life expectancy [1,2,3]. The main problem is to know, how to use specific physical exercise to each disorder. We must know; type of exercise, time, frequency and intensity.

The holistic treatments are very important. The practice of physical exercise after when surgery is done in aesthetic medicine is essential to enhance their results, such as liposuction, liposculpture or/and mesotherapy.

Resulting in improved healing increased vitality of the skin due to increased new blood vessels and, of course, oxygenation. Obviously it will be one of the best options for shaping the body and changing the composition.

VO₂max (maximal oxygen consumption) is the maximum amount of oxygen that the body can absorb, transport and consumption per unit of time and is expressed in ml/kg/min. It is an indirect parameter of cardiac status, pulmonary, respiratory exchange, oxygen transport, joint and muscle. According to the actual percentage of VO₂max training can lead to high secretion of growth hormone, optimize fat loss and maintain muscle mass.

Sarcopenia was believed due to aging, but many studies have been shown to be fully linked to the lack of physical exercise and not only the passage of time [4]. If we change the subcutaneous fat tissue with cosmetic surgery, it is important shape the body, increasing the volume and muscular tone with exercise.

Materials & Methods : Most previous scientific papers have focused on the study of energy expenditure during exercise training

but not what happened afterwards, the "post-exercise energy expended. The new line of research shows the most optimal type of exercise for fat loss.

Cellulitis and localized lipodystrophy fat is a "cold" area, because it is poorly vascularized and therefore does not reach the blood flow and oxygen. Therefore, lipolysis through exercise of such areas is slower and sometimes is more effective local treatment through: mesotherapy, liposuction, ultracavitación, massage than exercise.

It has developed a system called "vacu-cimen" that allows with physical exercise use the subcutaneous fat, cellulite or lipodystrophy in areas like abdomen, hips, buttocks and thighs. In this way, you get a great loss of fat tissue in more resistant areas. The aim is to carry the blood to the subcutaneous fat tissue, increasing its temperature and fat oxidation. Is achieved through a system of "empty" or suction at the same time while the patient is doing exercise with elliptical bicycle.

Results and Conclusions: The combination of an aesthetic treatment of body remodelling associated with an optimized physical exercise prescription, according to the oxygen consumption of each patient and the use of technology "vacu-cimen" is an option that ensures successful results which improve still more, with a personalized nutrition at the same time.

References

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XIAOYAN JIANG, MD, PHD*

Stem cells and cancer stem cells in 2010

Session: Regenerative Medicine and Stem Cells: Where we stand with Stem Cells in 2010?

Friday April 9th, 4.30 - 6.30

Auditorium Camille Blanc

* Terry Fox Laboratory, British Columbia Cancer Agency and Department of Medical Genetics, University of British Columbia, Vancouver, BC, Canada

Over the last decade, there has been remarkable progress toward identification of new stem cell markers and understanding properties and biology of normal and cancer stem cells, leading to the translation of highly promising science into proven therapies for regenerating and repairing disease tissues. Indeed, stem cell biology has emerged from the study of the transition of cells and developmental biology to occupy an even more prominent role in modern biology and medicine. It encompasses applications for treating disease of tissue malformation, degeneration, trauma, genetic deficiency and skin derived stem cell transplantation and efforts to translate scientific insights into new therapies are gaining momentum.

Stem cells are defined operationally by their ability to self-renew, to develop into multiple lineages and to differentiate towards the functional cells of a tissue in order to maintain organ homeostasis throughout life. Stem cells with these properties have now been identified in several adult tissues, but the hematopoietic system has been historically the most extensively studied tissue in which the existence of a true hematopoietic stem cell (HSC) and its clinical utility, by means of autologous or allogeneic transplantation, has been clearly demonstrated and widely applied for the treatment of leukemias, lymphomas, solid tumors, and nonmalignant disorders. Although bone marrow is still a leading source of adult stem cells, which are increasingly used for clinical research and therapeutic interventions, other types of stem cells, including mesenchymal stem cells, have recently been applied to successfully treat acute myocardial infarction and spinal cord injury. In addition, corneal epithelial stem cell therapy for treatment of unilateral limbal stem cell deficiency has recently been proven successful.

Interestingly, the application of the techniques used to identify and quantify the normal HSC has also allowed the identification of the first cancer stem cells (CSC), leukemic stem cells in acute myeloid leukemia, along with the subsequent identification of cancer stem cells in breast, colon, bladder, central nervous system and other tissues. Furthermore, recent findings suggest that clinical cancer progression driven by CSCs may contribute to the failure of existing therapies to consistently eradicate malignant tumors. Therefore, CSC-directed therapeutic approaches might represent relevant strategies to improve clinical cancer therapy. Recently, the discovery of induced pluripotent stem (iPS) cells marks a new and very exciting era for the clinical application of patient-specific pluripotent stem cell therapy. iPS cells are generated by epigenetic reprogramming of somatic cells through the exogenous expression of transcription factors.

These cells, just like embryonic stem cells, are likely to have a major impact on regenerative medicine, since they can self-renew and retain the potential to be differentiated into ALL cell types of the human body. Given the scientific effort and significant achievements of iPS cell technology in the past a few years, it is anticipated that these cells will be extensively applied for disease modeling, drug discovery, and eventually cell replacement therapy.

XIAOYAN JIANG, MD, PHD*

Controversies and guidelines for stem cell therapy: Basic science and clinical perspectives

Session: Regenerative Medicine and Stem Cells: Where we Stand With Stem Cells in 2010

Friday April 9th, 4.30 - 6.30

Room Van Dongen

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Transplantation of cells derived through manipulation of pluripotent stem cells offers great therapeutic promise in conditions such as spinal cord injury, neurological and cardiac diseases, diabetes and in possible cosmetic procedures. However, this practice presents unique risks and uncertainty, because such manipulated stem cells might integrate into unintended tissues, differentiate or de-differentiate into unintended cell types, or fail to function appropriately. These cells may vary from batch to batch, due to different originating sources, genetic or epigenetic alteration, or effects of passage number. For example, cells derived through induced pluripotent cells pose a risk of tumorigenesis because of insertional mutagenesis and the possibility of incomplete reprogramming or modification of DNA methylation patterns. Because transplanted cells integrate into tissues, they will be difficult to remove, so that many effects will not be reversible. In contrast, there is ample evidence that autologous adult stem cells and cord hematopoietic blood stem cells can be safely transplanted in humans.

Due to the rapid development and progress of stem cell and translational science, clinical trials have increased from 45,000

federally and privately supported trials in 140 countries in 2007 to over 85,000 records in 172 countries in 2009 according to the world's largest registry (ClinicalTrials.gov). Interestingly, only about 700 trials were stem cell related clinical trials in 2007, but such trials have increased to more than 2,000 in 2009. Therefore, it is timely to consider guidelines for clinical trials involving transplantation of cells derived through manipulation of pluripotent stem cells. According to ethical principles, international research guidelines, and federal regulations for human subject research, fundamental ethical requirements include an acceptable balance of benefits and risks, informed and voluntary consent, and equitable selection of subjects. In addition, the International Society for Stem Cell Research in the US has recently convened a panel to recommend guidelines for stem cell clinical trials. The panel provides recommendations and also addresses oversight of stem cell trials in the international context. It is recommended that such stem cell transplantation should be allowed in clinical practice only after clinical trials demonstrate efficacy and safety. These clinical trials should follow ethical principles that guide all clinical research. Additional requirements to strengthen trial design, coordinate scientific and ethical review, verify that participants understand key features of the trial, and ensure publication of findings are also warranted because of the highly innovative nature of the intervention, limited experience in humans, and the high hopes of patients who have no alternative effective treatments. However, these recommendations will need to be modified in light of actual experience with stem cell clinical trials.

In conclusion, these recommendations will help guarantee that the efficacy and safety of innovative stem cell interventions will be rigorously established, while also protecting study participants.

MOHAMAD KHAN, MD

Toxins in food
Session: Role of Toxins in Aging

Saturday April 10th, 8.30 - 10.30
Room Van Dongen

A toxin is a molecule which is foreign to your body. It comes in the form of a specific food, or is the result of preserving or cooking food, or alcohol, cigarettes, atmospheric pollution, drugs, bacteria or viruses.

The liver sorts and selects all the molecules which have crossed through the intestinal wall. These are toxic substances. Depending on the type of toxin, it eliminates them more or less quickly. It may dilute them in water and evacuate them in the urine or solubilize them in fatty molecules and evacuate them in stools. Holding on to urine or stools, this favours resorption and liver detoxification by surrounding them with a molecule of fat. It then sends this fatty container off to their storage area.

Moreover, cooking methods are not devoid of risks. It is now known that frying and grilling meat on barbeques is likely to increase the content of elements which contain heterocyclic amines (HCA) and acrylamides.

Chemicals are used in the production of the food and other chemicals are used to preserve it, enhance its colour and flavour, as well as to facilitate eating it! The agri-food industry has produced pre-prepared dishes, requiring merely to be reheated. All these dishes are full of colouring, preservatives and additions. In large quantities and over long years, they are harmful to our health.

In the presentation, I shall explore toxins classification, way of detecting them and, according to Dr. Chauchard's methods, the treatment and the way of eliminating them with the unwanted fat from our body

BERND KLEINE-GÜNK, MD PHD

Resveratrol - a polyphenol with multiple anti-aging effects
Session: Oxidation - Food - Nutrients: New Trends and Updates

Saturday April 10th, 11.00 - 1.00
Auditorium Camille Blanc

Some twenty years ago the so called "French paradox" aroused the interest of the scientific community. In Southern France the incidence of cardiovascular disease was almost 40 % lower than in countries like the USA, even though the inhabitants of France did not smoke less or consumed less cholesterol than their american counterparts.

The reason for this phenomenon was soon identified: the high consumption of red wine seemed to protect Frenchmen from cardiac infarction.

In the meantime red wine was examined further for its specific ingredients. Especially one substance was isolated, that seems to be responsible for the positive effects of red wine: the polyphenol resveratrol.

Resveratrol is part of the red grape's own immune system and has meanwhile been labelled "Nature's swiss army knife".

Resveratrol is

- a strong antioxidant
- an effective anti-inflammatory agent
- a phyto-SERM
- a CR-Mimetic

The last point is of special interest for the anti-aging medicine. Resveratrol mimics the effects of calorie restriction (CR) which has long been proved to be one of the most effective anti-aging strategies. By the activation of sirtuins resveratrol induces a "gene silencing program" on the individual cells, allowing them to undergo DNA repair mechanisms which extend lifespan. Resveratrol is - at present - the only substance that prolongs lifespan of various organisms under scientific conditions.

BERND KLEINE-GÜNK, MD PHD

Steroid hormones and beauty: Aesthetic endocrinology
Transversal Session - Anti-aging for Optimal Aesthetics

Saturday April 10th, 11.00 - 1.00
Room Van Dongen

Skin aging takes place in a double way. While exogenous skin aging is mainly caused by UV-light (photoaging), endogenous skin aging is predominantly due to a loss of steroid hormones. Common cosmetic products usually contain moisturizers, free radical scavengers and other substances that have an effect on exogenous aging.

Nevertheless, as a result of legal restrictions, they are not allowed to contain hormones, because these are classified as medical substances. As a result, an important factor of skin aging is not covered by usual cosmetic products. Doctors, however, do have

the possibility to prescribe cosmetic formulas that contain hormones and are able to fill this important gap in cosmetic treatment. What is a good hormone-cosmetic product made of? The skin of menopausal and postmenopausal women is mainly lacking estrogen. However, the choice of the proper estrogen is important. As far as the skin is concerned this estrogen should be estradiol, which has a very good dermatotrop effect. The use of β -estradiol in hormone cosmetics should be avoided as this is incorporated through the skin and thus can cause systemic effects like mastodynia and endometrial proliferation. This should not occur in treatment with hormone cosmetics. Estradiol leads to an increased thickness of the skin via stimulation of hyaluronidase, the skin's most important moisturizing factor. At the same time it induces collagen and elastin synthesis. Finally, estrogens are vasodilators, so the blood perfusion of the skin improves, giving it a fresher look.

Progesterone is mainly an inhibitor of matrix metallo-proteinases, which are responsible for the degradation of collagen. So progesterone should also be a part of a good cosmetic formula.

Cellulite is a big cosmetic problem for many women, even in young age. In this case it is not a decrease of estrogens but - on the contrary - a topic lack of androgens that causes the "orange skin". Androgens have a decisive influence on the microarchitecture of the subcutaneous connective tissue. An androgen-induced remodelling of this tissue has therapeutic effects on cellulite.

However - as with the estrogens - the proper selection of the androgen is important. Testosterone should be avoided as it is also incorporated through the skin and transformed into estrogens via aromatase in the fatty tissue. The androgen of choice is therefore androstano-*l* which is not transformed by aromatase.

A last but very important factor in hormone cosmetics is the galenic. The mere incorporation of hormones in some sort of "basic cr me" does not lead to products that are accepted by women as a daily cosmetic treatment. Hormone cosmetics, too, have to feel good, smell good and should have a strong impact on exogenous aging to avoid a double treatment. Therefore the success of hormone cosmetics depends strongly on a good galenic, which can be achieved only through specialised pharmacies.

A complete list of all hormone cosmetic formulas can be ordered through www.a-b-f.de

PETER C. KONTUREK*, MD PHD - Co-authors: T. Brzozowski**, S. J. Konturek**

Protective effect of melatonin and its precursor L-tryptophan on upper gastrointestinal tract
Session: Hormone Therapies - Part 2

Friday April 9th, 8.30 - 10.30
Auditorium Camille Blanc

* Department of Internal Medicine, Thuringia-Clinic Saalfeld, Teaching Hospital University Jena, Germany; ** Department of Physiology, Jagiellonian University Cracow, Poland

Melatonin (MT) is an indole originating from L-tryptophan (L-Trp) and discovered initially by Lerner et al in pineal gland that was firstly considered as the sole source of circulating hormone, but more recently MT was found to be a ubiquitous molecule produced in various tissues, particularly in gastrointestinal tract (GIT) and liver. MT synchronizes circadian activities and is a potent scavenger of reactive oxygen species (ROS) and highly effective protector of various tissues against damaging effect of ROS. MT participates in many vital processes and its secretion falls gradually over the life-span. Unlike MT production in pineal gland that remains under photoperiodic control, the release of MT in GIT is related to food intake. Moreover, we found that liver has an impressive influence on metabolism of exogenous MT and that it is formed from orally supplemented L-Trp. Our animal and human studies showed that exogenous MT and its precursor L-Trp show strong protective and healing actions on gastric and esophageal mucosa. Interestingly, gastroprotective effect of MT and L-Trp against damage by aspirin (ASA) is due to strong anti-inflammatory and anti-oxidant effect as well as due to release of gastrin. This mechanism is independent on PGE2 generation. The healing effect of MT and L-Trp involves COX-derived PGE2, sensory nerves and nitric oxide (NO). Interestingly, Trp-free diet attenuates ulcer healing due to upregulation of NFkB and increased generation of proinflammatory TNF- α mRNA in the ulcer area. Finally, MT protects esophageal mucosa against acute esophagitis in experimental models and has therapeutic effect in humans with GERD. This phenomenon involves the PG/COX, NO/NOS systems and sensory nerves.

We conclude that :

- 1) MT and its precursor represent strong protective factors for the gastric and esophageal mucosa;
- 2) the fall of circulating MT due to aging may be responsible for the increase susceptibility of gastric and esophageal mucosa to damaging factors and 3) the supplementation with exogenous MT or its precursor L-Trp has beneficial effects on integrity of gastric and esophageal mucosa.

EWAN LANGAN, MD

Melanotan latest updates, pros and cons
Session: Hormone Therapies

Thursday April 8th, 2.00 - 3.00
Auditorium Camille Blanc

With increasing public awareness of, and concern regarding, the skin aging and carcinogenic effects of ultraviolet radiation, there has been an expansion in alternative tanning strategies. One such strategy is the use of Melanotan, advertised and sold as an injectable tan on the Internet. The United Kingdom Medicines and Healthcare products Regulatory Agency issued a warning that Melanotan is unlicensed and may not be safe. Concerns include the transmission of blood borne viruses from the potential sharing of needles. Moreover, changes in the clinical appearance of pre-existing melanocytic naevi have been reported with its use. Whilst experimental evidence may have shown potential photoprotective effects of melanotropic peptides, a clear distinction must be drawn between the effects and safety of melanotropic peptides used in clinical studies compared to internet sourced products labeled as Melanotan.

The dynamic genomic expertise - a new unique program for personalized anti-ageing:
Practical application in a functional medicine case study
Session: Genetics - The latest advances on Genomic Testing and How to use them in your Practice

Friday April 9th, 11.00 - 1.00
Auditorium Camille Blanc

* The Blossom Clinic, London UK

Gene regulation represents a new powerful strategy for increasing life-expectancy by adapting the way that our genes work to our environment. Numerous well validated scientific studies have demonstrated the impact on gene variation on our sensitivity to aging and multifactorial age related diseases.

Furthermore there is growing evidence for targeted nutrigenomic interventions that can optimize the expression of our key metabolic, regulatory and inflammatory genes thus enhancing our health and anti-aging capacities. The knowledge of our genetic background and how to regulate gene expression permits us to optimize personalized prevention measures. The interpretation of genetic profiles is however very complex due to high number of key genes that are involved in the aging process and through the existence of numerous gene-gene and gene-environment interactions.

A new expert system (Genetix®) has been developed that permits the interpretation of genetic tests results by combining data on genetic variation together with a general health questionnaire on risk factors, lifestyle, nutrition and familial and personal history. A comprehensive summary gives a scoring of the defense capacities of the patient against age-related diseases and personalized recommendations for nutrigenomics and lifestyle changes and depending on the requested profile on weight management, hormonal replacement therapy, bone health, brain and cardiovascular protection. Another unique feature is that interpretation is dynamic and can be reassessed and rescored after a time period of three months after starting of a gene induction program through personalized changes in lifestyle, nutrition and by adding micronutrition supplementation. The presentation focuses on a case of a patient who underwent an anti-ageing program based on the dynamic genomic expertise. The initial complaints and symptoms were... The interpretation of the genomic expertise showed that the lifestyle was not in "harmony" with the genetics of the patient. Despite that the patient was compliant to general recommendations for a healthy lifestyle, there was an increased susceptibility for environmental exposures, and oxidative stress...The patient underwent a personalized gene induction program consisting of... After a period of three months the genomic expertise was reassessed and showed that the impact of lifestyle factors was significantly reduced thus enhancing the general anti-aging capacities in this particular case.

The potential benefit of harmonizing lifestyle and nutrition with the individual genetic background of an individual can extend life expectancy on average by 14 years mainly by preventing or delaying the outbreak of age related diseases.

DANIEL MIROUZE, MD

Liver and toxins: Mechanisms, rehabilitations
Session: Role of Toxins in Aging

Saturday April 10th, 8.30 - 10.30
Room Van Dongen

The aim of this presentation is to discuss 3 specific points: endotoxins, environmental toxins and toxic fat.

1-Endotoxins: Intraoperative samples of portal and peripheral blood were evaluated to detect the presence of endotoxins in 34 consecutive elective abdominal surgery patients (Jacob et al. Gastroenterology 2007). 33 patients had a positive test for endotoxins in portal blood. Only 4 patients had endotoxins in their peripheral blood and 3 of them had liver disease.

The authors concluded that (1) endotoxin is a normal constituent of portal venous blood, (2) the Kupffer cells of a normal liver protect the systemic circulation from endotoxin, (3) endotoxin is present in peripheral blood when liver function is impaired.

2- Environmental toxins:

- In a National Health And Nutrition Examination Survey including 4 582 patients, the presence in either blood or urine samples of organochlorine pesticides and heavy metals (lead, mercury) was associated with a dose-dependent increased risk for abnormal liver enzymes (Cave et al. DDW June 2009, Chicago).

These results indicate that there may be a previously unexpected role for environmental pollution in the rising incidence of liver disease.

- Many drugs such as acetaminophen and other prescribed drugs certainly should also be considered as toxins to the liver.

3- Toxic fat :

- Non-Alcoholic Steato-Hepatitis (NASH) is the hepatic expression of the metabolic syndrome which is seen in 2-6% of the general population. It includes obesity, hypertension, hyperlipidemia, insulin resistance and diabetes. It manifests itself by elevated liver enzymes, frequently without symptoms, but carries the risk of cirrhosis and end-stage liver disease.

The diagnosis requires histopathologic examination. The following stages are seen: normal liver, steatosis, hepatitis, fibrosis and cirrhosis. The treatment consists of life style modifications: weight loss and exercise.

Many drugs have been tried: insulin-sensitizing drugs (metformin, rosiglitazone, pioglitazone, orlistat)), antioxidant (vitamin E) and hepatoprotector (ursodeoxycholic acid).

Some patients may be eligible to bariatric surgery.

These treatments can produce a significant amelioration of biochemical parameters and steatosis but do not improve fibrosis. Further investigation of therapeutic options is needed to direct the choice of therapy in the future.

- Alcohol is also a widespread cause of the same process as NASH.

Conclusion: 1- The liver is an effective filter of endotoxin.

2- Exposure to environmental toxins partially explains the increasing incidence of liver disease.

3- NASH and steatosis are the most common liver diseases in " developed " countries.

Prevention must remain the key point.

The Heart Centre, Rigshospitalet, Copenhagen University Hospital, Denmark.

Despite considerable recent advances both in pharmacological - and resynchronization therapy for heart failure, mortality remains high with approximately 50% of the patients dying within 2-5 years of diagnosis. An increasing number of patients suffer from this condition with debilitating symptoms and frequent hospitalizations. Clearly, further therapeutic interventions are desirable to improve symptoms and possibly to delay the progression of heart failure.

There are obviously several causes of myocardial dysfunction, but derangements of the energy production with energy starvation of the myocytes may play a significant role. Previously, a reduced myocardial tissue content of the essential redox-component and natural antioxidant Coenzyme Q10 (CoQ10) has been detected in patients with heart failure. The observed level of CoQ10 deficiency was correlated to the severity of symptoms and the degree of left ventricular dysfunction. Having a key-role in the respiratory chain a "steal-phenomenon" regarding ATP synthesis may be present when CoQ10 is consumed in excess as an antioxidant due to the increased oxidative stress in the failing heart.

CoQ10 fulfills various criteria of an obvious adjunct in patients with symptomatic heart failure despite standard therapy: It is well tolerated, virtually devoid of side-effects and it improves symptoms and quality of life. Till this date several double-blind trials with CoQ10 supplementation in more than 1000 patients have been positive and statistically significant with focus on clinical parameters, e.g. improvement in NYHA class and exercise capacity and reduced hospitalization frequency. Also treatment with CoQ10 led to a significant improvement of relevant haemodynamical parameters such as stroke volume, cardiac index, ejection fraction and end-diastolic volume index. A positive effect was found in 10 out of 13 studies conducted during the last two decades. The encouraging results with CoQ10 in heart failure constitute the background for the Q-SYMBIO study - an ongoing multinational, double-blind, placebo-controlled trial.

Several experimental studies have demonstrated a cardioprotective effect of CoQ10 in ischemia-reperfusion, including the "human model" i.e. patients undergoing heart surgery with extracorporeal circulation. Thus, a prophylactic role of CoQ10 has been found in controlled trials - the largest comprising 121 patients - with improvement of clinical, haemodynamical and biochemical parameters. Also CoQ10 has a promising role in chronic ischemic heart disease based on preliminary positive results in double-blind studies of patients with stable angina pectoris. In these studies the patients experienced less episodes with chest pain and improved exercise tolerance when they were on CoQ10 therapy. Ischemic heart disease remains an important research area - not least due to the significant depletion of CoQ10 in the patients as a consequence of the statin therapy. Supplemental CoQ10 may reverse statin-induced myopathy.

Based on a review of data from controlled trials CoQ10 has the potential of lowering systolic and diastolic blood pressure in hypertensive patients. Therefore, CoQ10 may be a first-line therapy in patients with borderline or mild hypertension parallel to life-style changes. Also CoQ10 may serve as adjunctive therapy in patients with side-effects from conventional antihypertensives.

GEORGES MOUTON, MD

Liver detox: Myth or reality ?
 Session: Role of Toxins in Aging

Saturday April 10th, 8.30 - 10.30
 Room Van Dongen

Evidence provided by uncovering the liver detoxification pathways

When you listen about miraculous cures based on "liver detox", capable of putting an end to most complaints from fatigue to depression and from poor digestion to skin conditions, you undoubtedly consider they represent a myth.

However, when the advertisements claim for improving the liver detoxification pathways with specific nutrients, which itself leads to an improved clearance of toxins, you wonder if such claims are based on scientific evidence. The only solution consists in digging into biochemical reality, often the best route for providing effective natural solutions to numerous health issues without employing drugs (certainly not welcome if we want to reduce toxins).

Every medical doctor should bare in mind the liver detox pathways as their two and sometimes three steps (called phases I, II & III) enable the elimination of toxins through the blood flow and finally the kidneys, or alternatively through the bile flow and finally the intestines. In short, we could not get rid of most waste through urine or feces if the liver was not converting the fat-soluble compounds (by far the majority of toxins) into water-soluble ones.

If we take the example of eliminating drugs, we must acknowledge that they are, in their very large majority, fat-soluble xenobiotics void of polarity and therefore impossible to mix with polarized fluids such as urine or bile. The same principle applies to multiple endobiotics such as cholesterol and steroid hormones that need as well to be recycled, i.e. detoxified, and eliminated through urine and feces. The problem can be set in a few words: how can we render water-soluble (or polar) a fat-soluble (or non-polar) compound that has to be eliminated from the body?

Once again, nature has found an elegant solution: the most straightforward pathway consists in attaching a water-soluble companion to the fat-soluble toxin, in such a way that the newly synthesized molecule reaches sufficient water-solubility to mix with urine or bile. Building-up such "conjugates" has been logically named conjugation and it represents the phase II of liver detox pathways. The water-soluble companions have been selected among sulfur-containing compounds such as glutathione and activated sulfate, as well as among the derivatives of glucose (glucuronic acid), amino acids (most often taurine and glycine), methyl (methylation), and acetyl (acetylation).

Why the critical phase of conjugation does only comes in second place? Well, simply because attaching the water-soluble molecule to the fat-soluble toxins may show very difficult due to their stability and lack of reactive atoms (typically oxygen, nitrogen, and sulfur). If you take the example of a highly toxic xenobiotic called benzopyrene, produced by cigarette smoke or car exhaust, you only find atoms of carbon and hydrogen! Where shall we attach the water-soluble compound if some preliminary change is not brought by phase I (or functionalisation phase)?

The phase I consists in processing the fat-soluble toxins, by classically adding oxygen (oxidation) or an OH group (hydroxylation), so that this new oxygen atom can react with the water-soluble conjugate. Unfortunately, the newly formed molecules called intermediary metabolites can be extremely toxic, even more than the initial toxin. In our benzopyrene example, the intermediary metabolite is named an epoxide and is hugely carcinogenic.

The golden rule therefore lies in ensuring that phase II pathways always function at least as quickly as and ideally quicker than phase I pathways. This can be ensured by knowing which phase II enzymatic cofactors should be optimized to help keeping them more effective than phase I enzymes. Alternatively or complementarily, a genetic study of the corresponding enzymes and their polymorphisms may help designing better diets and treatments.

PAUL S. MUSARELLA, MD

Candidose: Unexpected illness, how to diagnose and treat?
Session: Updates in Anti-Aging Medicine

Thursday April 8th, 2.00 - 4.00
Room Auric

Candida is the common name for an overgrowth of a yeast organism known as CANDIDA ALBICANS. Candida appears with many varying and seemingly unrelated symptoms, it can affect almost every part of the body. Because of the wide range of symptoms and, until recently, the lack of positive diagnostic tests available to the public, Candida has become a popular term for any collection of symptoms of no identified cause. However, Candida is a serious disorder. It is not simply a fungal infection which should be treated with anti-fungal medicines but should be recognized as a chronic condition caused by a disturbance in the internal environment of an individual. To treat Candida effectively, it is important to understand the reason behind the over growth of yeast in order to rebalance and treat the cause of the disorder.

This lecture is practical and will introduce you to a thorough diagnostic and treatment program as well as tips on how the patients have to adapt their life-style comfortably to treating Candida.

Candida has an effect on the hormonal system and has to be correctly treated in the Anti-Aging medicine.

It is important to not underestimate Candida! Come by this lecture and you will understand why!

GILLES MUSY, MD

HRT and anti-aging treatment to optimise recovery in orthopaedic surgery
(Stature and morphology)
Session: Contributing Lectures in Anti-Aging Medicine

Saturday April 10th, 2.00 - 4.00
Room Van Dongen

Aim of the study : Study of 100 patients male and female from 1998 to 2008 operated by limb lengthening for short stature or disproportion with a special diet called "GH DIET" to optimise and accelerate bone growing of the femoral osteotomy.

Materials and Methods : About 20 patients, after biological and hormonal examination, with a special diet combining proteins + antioxidants (A D E K + C vitamins) + pro hormones and precursors of GH (Arginin, Glutamin, GABA)

Age of the 20 patients from 17 y.o. to 58 y.o.

Special diet started 3 to 6 months before associated with sport and mental

Results: All cases with GH diet have good or rapid or spectacular results as seen on the DVD and also a very demonstrative comparison (slide 14 and 15).

Conclusions: AIM OF THE GH DIET: self producing HGH in all ages and all sex

To increase bone growing in STATURE and MORPHOLOGIC surgery but also in all other cold surgery +++ to prepare the patient.

Increasing HGH is increasing also IMMUNITY (like a CLOUD on X-ray) but also precursor of all other hormones of well being and Quality of Life

We can say that GH DIET is really REVOLUTION GH!

CHRISTA NADJAFI-TRIEBSCH, MD

Progesterone: Protection for the central nervous system
Session: Updates in Anti-Aging Medicine

Thursday April 8th, 2.00 - 4.00
Room Auric

Progesterone is mainly produced by the Glia-cells in the brain and the Schwann-cells of the peripheral nerves and not only in the Leydig-cells of the testicles and in the Suprarenal body crust. Progesterone regulates perception and mood, interacts with the GABA-receptor-Complex, and is sedative and anesthetic. In patients with depression Progesterone reduces significantly the Hamilton-Scale. Improved sleep was documented by Sleep-EEG with polysomnographic images.

Snoring patients snore less or not longer at all. Progesterone protects against necrotic damage and behavioral abnormalities caused by traumatic brain injury. Progesterone given to rats with stroke led to better recovery. Under progesterone premature babies had a normal psychomotoric development, reduction of the incidence of lung problems and a better bone mineralisation compared to non-treated babies. Progesterone-substitution to progesterone-deficient pregnant women led to higher intelligence in the offspring. In children with ADD progesterone improves performance at school. Also adults with ADD seem to profit from progesterone supplementation.

Progesterone increases the pulmonary gas-exchange and reduces the alveolar CO₂-Pressure. Asthma-patients report under progesterone less Asthma-Attacks and can reduce their Asthma-medication. Progesterone is a mild diuretic, a natural anti-convulsive, supports the thyroid function, helps to normalize the blood-sugar level, normalizes zinc - and copper-levels. Anti-inflammatory and anti-oxidative properties have been demonstrated.

Conclusions : In consideration of an age-related decrease adequate substitution of progesterone for prophylaxis and correction of several deficiencies in women and men alike is not only justified, but desirable. Appropriate studies are urgently required.

Human health problems on the rise : Over the past decade, scientists and medical experts have become increasingly concerned about the adverse effects of chemicals in the environment. Cancer incidence has steadily increased over the decades for many forms of the disease, including breast, prostate, and testicular. Several recent studies have determined that the reported incidence of major nervous system disorders. The number of children being diagnosed and treated for attention deficit disorder (ADD) and attention deficit hyperactivity disorder (ADHD) has increased dramatically in the past decade. Autism is increasing, and is now almost 10 times higher than in the mid-1980's. Environmental factors have also been increasingly linked with Parkinson's disease. Several studies have suggested links between developmental exposure to environmental contaminants and cryptorchidism or hypospadias. Studies show that sperm counts in certain parts of the world are decreasing. Moreover, ten percent of American couples are infertile, up to half of all pregnancies end in miscarriage and three to five percent of babies are born with birth defects. Scientists cannot fully explain these increases, but exposure to environmental pollutants, especially during early life, is a leading suspect.

Looking for causality: People are exposed to complex mixtures of chemicals throughout their lives. This makes identifying a cause-and-effect relationship between specific exposures and disease virtually impossible in most cases. Still scientists continue working to better understand how toxicants act in the body and the consequences of exposure to such substances. Several issues are keys to a full understanding of the effects of chemical toxins. With news of harmful chemicals in food and consumer goods appearing regularly in the media, the general public has come to realize that exposure is to multiple chemicals simultaneously, usually at low levels. Although awareness of the need to deal with combined exposures is growing among experts, judgments as to whether low-level exposures to multiple chemicals are a threat to human health present formidable challenges to risk assessment. Consequently, there is also a significant problem in communicating risk to the public.

Example for risk assessment problems

Genotoxics: Diet and dietary factors are believed to be responsible for a major number of cancers worldwide. However it has been difficult to ascribe a clear role in cancer causation to exposure to specific individual chemicals or mixtures of chemicals. So far, only alcohol intake (cancer of the oral cavity, pharynx, oesophagus and breast) and food contaminated with aflatoxins have clearly been documented as risk factors in humans. Cancer development is a multi-step process whereby normal cells are sequentially altered by acquisition of genetic alterations and genomic instability rendering a tumour insensitive to cellular control mechanisms. Important mutational targets for these alterations are proto-oncogenes and tumour suppressor-genes. Variations in carcinogen sensitivity and tissue localisation in humans and animals correlate with DNA repair capacity further supporting a role of DNA alterations in cancer development. From a mechanistic viewpoint, DNA-reactive genotoxic carcinogens are considered to be relevant to humans. Such carcinogens are known to be present in the human diet (ethyl carbamate, aflatoxin B1, acrylamide, polycyclic aromatic hydrocarbons, nitrosamines, heterocyclic amines such as PhIP, food colour Red 2G.). From a conservative and health protection viewpoint, it is assumed that such compounds operate by a non-threshold mechanism. The dietary exposures to six genotoxic food carcinogens (acrylamide, aflatoxin B1, benzo(a)pyrene, dimethylnitrosamine, ethyl carbamate, PhIP) have been used to illustrate the tentative of risk assessment process. The margin of exposure (MOE) approach is seen as a useful method to be used in the risk characterisation step of assessing exposures to genotoxic carcinogens.

EDCs: Increasing effects on reproductive function and brain development in humans were related to increased exposure to endocrine-disrupting chemicals (EDCs). EDCs are substances in the environment (in the air, soil, or water supply), food sources, and manufactured products that may interfere with the normal functioning of our body's endocrine system.

The endocrine system is made up of glands that produce and release chemical messengers called hormones. When functioning normally, the endocrine system works with other body systems to help maintain and control metabolism, reproduction, growth and development, and the way your body handles stress and responds to the environment. Results of animal and human scientific studies support a link between EDCs and harm to human health, but the cause-and-effect relationship is not yet fully understood. The effects of EDCs depend on the chemical, the stage of development of the person, and which part of the endocrine system the chemical targets. For example, if an organism is exposed to EDCs that disrupts sex hormones, when they are in the womb, then the kind of effects may include structural deformities of the reproductive tract, effects on sexual behaviour, and low sperm counts. A developing fetus or infant is more vulnerable to the effects of EDCs than an adult because organ systems are still developing. Exposure during this time period can lead to different and more harmful health impacts than might result from adult exposure. If the primary action is on the thyroid hormones, then exposure in the womb may cause effects on intelligence and growth, since these hormones are responsible for metabolism and normal brain development. If the EDCs target the endocrine system at a higher level, eg by interfering with the brain's release of hormones to regulate the production of other hormones, then the EDC will trigger multiple effects. Thus EDCs can exercise their effect on us in several ways: (1) Bind to the body's hormone receptors and mimic the hormone (2) Block the action of the body's hormone (3) Stimulate the enzymes responsible for the synthesis or clearance of a hormone (4) Inhibit the enzymes responsible for the synthesis or clearance of a hormone.

Managing risks to human health and the environment produced by endocrine-active chemicals (EAC) is dependent on sound principles of risk assessment and risk management, which need to be adapted to address the uncertainties in the state of the science of EAC. Quantifying EAC hazard identification, mechanisms of action, and dose-response curves is complicated by a range of chemical structure/toxicology classes, receptors and receptor subtypes, and nonlinear dose-response curves with low-dose effects. The risk evaluation related to BPA exposure is actually under discussion in several national and international safety agencies and provides a good example of managing risks of EDCs.

Obesity: The obesity epidemic is a global issue and shows no signs of abating, while the cause of this epidemic remains unclear. Marketing practices of energy-dense foods and institutionally-driven declines in physical activity are the alleged perpetrators for the epidemic, despite a lack of solid evidence to demonstrate their causal role. While both may contribute to obesity, we call attention to several alternative putative contributors that would benefit from equal consideration and attention. A 2006 review identified ten other possible contributors to the recent increase of obesity, especially endocrine disruptors (including plasticizers bisphenyl ether and bisphenol A, environmental pollutants including PCBs, PBDEs, Dioxins, heavy metals, pesticides... which are stable in the environment). There is particular concern about lipophilic substances resistant to metabolism and stored in the

body fat and able to be exposing the fetuses via the cordon blood. These compounds interfere with lipid metabolism in particular by modulation of adipokines produced by adipose tissue.

Exposures to multiple substances: There is increasing need to address the potential risks of combined exposures to multiple chemical substances in the diet (i.g. pesticide residues). The available evidence suggests that the main concern is from dose addition of those compounds that act by the same mode of action.

Case of similar modes of action. It is well recognized that certain chemicals exert effects through similar modes of action (i.g., PCDD/Fs) because these chemicals interact with well defined molecular targets. Dose addition assumes that one chemical can be replaced totally or partly by an equal fraction of an equi-effective concentration of another, without changing the overall combined effect. If the assumption of dose addition holds true, these fractions of equi-effective concentrations, which are also called toxic units, sum up to a value of 1-therefore the name dose or concentration addition. A widely used application of dose addition is the "toxicity equivalence factor" (TEF). The concept of dose addition implies that every toxicant in any concentration contributes, in proportion to its toxic unit, to the overall toxicity of a mixture expressed as TEQ (toxic equivalent).

Dissimilar modes of action. By activating differing effector chains, every component of a mixture of dissimilarly acting chemicals is thought to contribute to a common effect independent of all other agents in the mixture. By adopting the statistical concept of independent events for this situation, the resulting combined effect is assumed to be calculable from the effects caused by the individual mixture components, if present alone in the same concentration or dose as in the mixture. This means that agents present at doses below effect thresholds (i.e., zero effect levels) will not contribute to the joint effect of the mixture, and if this condition is fulfilled for all components there will be no combination effect. This central tenet of the concept of independent action is commonly taken to mean that exposed subjects are protected from mixture effects as long as the doses of all agents in the combination do not exceed their NOAELs. In practice, these two concepts are not always used in a mutually exclusive way, but rather according to circumstance and specific context.

Implementation of risk assessment tools is associated to development of biological techniques to measure the toxic potency of mixtures present in the food or environmental matrix. Good example is provided by gene-reporter assays based on common receptor action (DR, ER, GR, TR). Some of these assays are routinely available in monitoring protocols including human surveys.

ROBERT NATAF, MD

New risk factors in cardio-vascular disease
Session: Cardiovascular Prevention -
Estimating and Reducing the Cardiovascular Risk in 2010

Friday April 9th, 11.00 - 1.00
Room Van Dongen

Atherosclerosis is a metabolic and immuno-inflammatory disease, multi-systems, multi-tissues, multi-cells, which extends over a large part of the life.

It can be artificially decomposed in 4 stages, histologically well defined: endothelial dysfunction, fatty streak, atherosclerotic plaque and finally the unstable plaque, the rupture of which leads to acute events (Acute Coronary Syndrome, Myocardial Infarct or Death).

According to the evolution, the lipid metabolic constituent decreases for the benefit of an inflammatory, immune and oxidative physiopathology, justifying the requirement of biological indicators representative of these complex interactions.

The first stage is the endothelial dysfunction induced by the decrease of the production of NO. which insures the quiescence of the various cellular species of the arterial wall; but, the evaluation of the NO, ambivalent, and that of the ADMA, the physiological inhibitor of NO synthase, lacking in sensitivity, were disappointing.

More likely, adhesion molecules, as ICAM and VCAM, could be the appropriate marker of this early stage of the disease in young subjects.

At present time, hs CRP, which is a pathogenic factor of endothelial dysfunction by decreasing °NO production, is the most used marker.

Inflammation and oxidative modifications are the dominant vectors of the evolution towards the atherosclerotic plaque.

Several molecules mediating various cellular interactions in the thickness of the arterial wall, Cytokines, ligands or receptors of foam-cells, were proposed.

We can substitute them highly sensitive CRP, involved in all these processes, which is cheap, of easy realization and currently tested in about twenty large scale prospective studies.

Isoprostane F2a stemming from oxidative attack of membrane embedded phospholipid esterified Arachidonic Acid, constitutes an index of the sum and the activity of all atherosclerotic plaques in our arterial system.

It is also an independent risk factor of the evolutivity of cardio-vascular disease.

The last and essential stage of the atherosclerosis which leads to acute event is the plaque rupture, facilitated by an activation-interaction macrophage-T lymphocyte with local production of IL-12, IL-18, IFN-?.

These mediators not only inhibit the synthesis of protective collagen of the atherosclerotic plaque through the fibrous cap, but degrade it by producing metalloproteinases, MM-2 & 9.

Neopterin is the product of this pernicious cooperation and is assessed as prognosis factor in several prospective studies.

Recent works have standardized the profile of membrane fatty acids, both on the biological material - the Red Blood Cell closely correlated to the cardiomyocyte (r=0.87)-, and on new cardioprotective parameters of interest - Index w3 and not AA / EPA ratio - and their efficient thresholds, to take out it of the epidemiological fog where it was quartered since 20 years, and to make it a real and quantifiable risk factor, to prescribe more often.

Français

Nouveaux facteurs de risque dans l'athérosclérose

L'athérosclérose est une maladie métabolique et immuno-inflammatoire, multi-systèmes, multi-tissus, multi-cellules, qui s'étend

sur une grande partie de la vie.

Elle peut être décomposée artificiellement en 4 stades, histologiquement bien décrits: la dysfonction endothéliale, la strie lipidique, la plaque d'athérome stable et enfin la plaque instable dont la rupture ou l'érosion donne naissance à l'accident aigu.

Au fur et à mesure de l'évolution, la composante métabolique lipidique s'amenuise au profit d'une physiopathologie inflammatoire, immune et oxydative, justifiant le recours à des indicateurs biologiques représentatifs de ces interactions complexes.

La première étape est la dysfonction endothéliale issue de la diminution de la production de NO qui assure la quiescence des différentes espèces cellulaires de la paroi artérielle ; or, et l'évaluation du °NO, ambivalent, et celle de l'ADMA, inhibiteur physiologique de la NO synthétase, peu sensible, n'ont pas répondu à l'attente des spécialistes.

Par contre, les molécules d'adhésion, ICAM & VCAM, sous réserve d'un accès plus facile, pourraient être le marqueur approprié de la Dysfonction Endothéliale.

La CRP ultrasensible qui éteint la production de NO par différents mécanismes et est à son tour, elle-même réprimée par °NO, est actuellement le marqueur le plus utilisé.

Inflammation et modifications oxydatives sont les vecteurs dominants de l'évolution vers la plaque d'athérome.

De très nombreuses molécules issues des différentes interactions cellulaires dans l'épaisseur de la paroi artérielle, Cytokines, ligands ou récepteurs des foam-cells, ont été proposées.

On peut leur substituer la CRP us, impliquée dans tous ces processus, qui est bon marché, de réalisation facile et surtout est l'objet d'une vingtaine d'études prospectives à grande échelle.

L'Isoprostane F2a issue de l'attaque par les radicaux oxygénés de l'acide arachidonique estérifié dans la cénopse phospholipidique, constitue un index de la somme et de l'activité des plaques d'athérome dans notre système artériel, et un facteur de risque et d'évolutivité indépendant de la maladie cardio-vasculaire.

L'étape essentielle de l'athérosclérose qui conditionne l'accident aigu est la rupture de la plaque, favorisée par une activation-interaction macrophage-lymphocyte T avec production locale d'IL-12, IL-18, IFN-?.

Ces médiateurs non seulement inhibent la synthèse de collagène protecteur de la plaque (fibrous cap), mais le dégradent en induisant des métalloprotéinases, MM-2 & 9.

La Néoptérine est le produit de cette coopération pernicieuse et à fait l'objet de nombreuses études prospectives.

Enfin et surtout, le profil centésimale des acides gras des phospholipides membranaires, parce qu'il agit sur tous les opérateurs cellulaires de l'athérome par des mécanismes multiples et parce qu'il impacte toutes les phases de la maladie.

Des travaux récents ont standardisé le profil des acides gras membranaires, tant sur le matériau biologique - le Globule Rouge étroitement corrélé au cardiomyocyte ($r=0.87$) -, que sur celui des paramètres d'intérêt - Index w3 et non ratio AA/EPA - et leurs seuils protecteurs, pour le sortir du brouillard épidémiologique ou il était cantonné depuis 20 ans, et en faire un vrai facteur de risque quantifiable, à prescrire plus souvent.

BENIAMINO PALMIERI, MD PHD

"Jurassic" surgery

Session: Contributing Lectures in Anti-Aging Medicine

Saturday April 10th, 2.00 - 4.00
Room Van Dongen

Jurassic surgery is a challenging term to define any kind of surgical procedure on pericentenarian old people (range between 95 and 105 years), aiming at create adequate safety guidelines, in terms of proper anesthesiologic and surgical selection, basic vital parameters evaluation, risk scale classification, life expectancy and Follow-up, either in emergency admission or in routine surgery planning.

We restricted the jurassic borderlines to the last decades of life in order to better outline the challenge of modern surgery in preserving good life quality and extreme survival chances.

A definite section of this new surgical branch is cosmetic, minimally invasive surgery for replacing the aesthetic appearance and adequately motivates the self-image and mood of aged people.

Thus, the aim of our first study is to define a routinary multidimensional evaluation of the "jurassic" patient referred to his disability, cognitive impairment, self-image, physiologic performances, anesthesiologic risk and post-operative risk and life expectancy.

NOEL THOMAS PATTON, - MANDY KENDRICK

Anti-Aging Pill Targets Telomeres at the Ends of Chromosomes

Session: Contributing Lectures in AA medicine

Saturday April 10th, 2.00 - 4.00
Room Van Dongen

Could the secrets to anti-aging be at the tips of our chromosomes?

Peter Pan stayed forever young in Neverland. In real life, some scientists are looking at telomeres, or regions of repetitive DNA at the ends of our chromosomes, to try to arrive at something like a real version of this story.

Telomeres consist of up to 3,300 repeats of the DNA sequence TTAGGG. They protect chromosome ends from being mistaken for broken pieces of DNA that would otherwise be fixed by cellular repair machinery. But every time our cells divide, the telomeres shrink. When they get short enough, our cells no longer divide and our body stops making those cells. Over time, this leads to aging and death.

New York-based T.A. Sciences claims to be the only company in the world manufacturing a supplement in a pill form that has been lab tested and shown to stop telomeres from shortening, in hopes of halting the aging process. The product, TA-65, comes from extracts of the Chinese herb astragalus, which has been used for medicinal purposes for more than 1,000 years, says Noel

Patton, chief executive officer of the company.

TA-65 is produced at very low levels in the astragalus plant, but the company purifies and concentrates the substance, which is thought to "turn on" the enzyme telomerase (hTERT) that acts to maintain or lengthen telomeres. hTERT is usually "off" in adult cells, except in immune, egg and sperm cells, and in malignant cancer-forming cells.

The TA-65 pill requires no approval from the U.S. Food and Drug Administration because it is marketed as a supplement and not a drug. Therefore, T.A. Sciences cannot make claims about the drug's efficacy at curing disease. But Patton and Calvin Harley, the chief scientific officer at Geron-the company that discovered TA-65-go on to note that researchers have found a correlation between telomere length and susceptibility to certain aging-related diseases.

T.A. Sciences did five years of testing on TA-65, beginning in 2002. Results from an anti-aging trial can be found at the company's Web site. Patton says he has been taking the supplement for two years and that everyone at T.A. Sciences over the age of 40 takes the product.

William Andrews has worked on telomere biology for the past 15 years. He is the chief executive officer of Sierra Sciences, LLC, a rival company that is screening for chemicals to activate telomerase, but also a T.A. Sciences client for the past two-and-a-half years. He thinks that "taking a telomerase inducer is safer than driving my car to work" but acknowledges that there are some unknown risks with taking the product.

For example, telomerase is the same enzyme that allows cancer cells to stop aging or to become immortal, so there is a chance that TA-65 could keep alive cancer cells that would otherwise die, notes Andrews.

However, telomerase activation should keep all telomeres longer in the first place, and that actually reduces the chances of cells becoming cancerous, Andrews notes. He also says that the enzyme should keep immune cells, which can fight off most cancerous cells, alive longer.

Another problem facing telomere science is that no suitable model organism is available for testing. Animals do not age through telomere shortening in the same way that humans do, Harley notes, adding that "not even mice or monkeys have the same telomere aging system. The best system to ultimately test

is going to be the human."

The potential benefits of the supplement seem to outweigh the risk for patients like Andrews. "People such as myself who elect to take TA-65 and look forward to taking even stronger telomerase inducers in the future must act totally on gut feelings," Andrews notes.

For those who are less adventurous, other researchers have identified lifestyle changes that can help optimize telomerase activity, without the \$14,000-per-year price tag of the TA-65 treatment.

DANIEL PELLA, MD, PHD*

Why combine statins, Cenzyme Q10 and Omega-3 PUFA ?

Friday April 9th, 4.30 - 6.30

Session: Evidence Based Medicine in Cardiology -

Room Van Dongen

Nutraceuticals: Real Drugs or Dietary Supplements?

* 3rd Department of Medicine Faculty of Medicine PJ Safarik University and Louis Pasteur Hospital, Kosice, Slovakia

Statins became the primary group of drugs in the treatment of atherosclerosis and its complications at the end of the 20th century. Today, they are irreplaceable in the long-term influence on atherosclerotic processes in blood vessels, and their effectiveness is also supported by countless evidence from clinical studies within the scope of evidence based medicine. Their effectiveness is proven in the primary as well as secondary prevention of atherosclerosis. Currently, evidence exists even about the regression of atherosclerosis when treated with statins. On the other hand, cardio-protective properties of omega-3 PUFA and CoQ10 have been derived primarily from the experimental studies; however, today there is increasing evidence about their effectiveness from the epidemiological and clinical studies.

Major clinical studies with omega-3 PUFA and CoQ10 changed the perceptions of omega-3 PUFA and CoQ10 as being rather dietary supplements to becoming currently established medicaments.

The most important clinical studies include GISSI Prevenzione, DART, Lyon Diet Heart Study, Indo-Mediterranean Diet Heart Study, JELIS, GISSI-HF and Q-SYMBIO. Anti-arrhythmic effect of omega-3 PUFA in the prevention of sudden cardiac death is probably the most important and most favorable effect. Omega-3 fatty acids seem to be more effective than all current anti-arrhythmic medications, which could possibly be a revolutionary contribution within the issue of sudden death prevention (absolute numbers within general population are still enormously high).

Inhibition of HMG-CoA reductase by statins is leading not only to decreased synthesis of cholesterol but CoQ10 as well, because they all together share the same biosynthetic pathway. Supplementation of statin treated patients with CoQ10 may diminish symptoms of myopathy and fatigue which could be associated not only with improvement of quality of life, but compliance to statin therapy as well.

There is a need to further investigate some of the clinical effectiveness of omega-3 PUFA and CoQ10 in large randomized clinical studies.

ASCANIO POLIMENI, MD

The secrets of our italian centenarians

Saturday April 10th, 8.30 - 10.30

Session: From Soil to Science to Medical Practice (Italian Experience)

Room Camille Blanc

What to learn from centenarian secrets to promote a healthier and longer life? Synchronology and Hormonal harmony: from Italian centenarian studies a new endocrine approach to improve the health and the length of our life.

Aging and related diseases are promoted by the interactions among various factors: genetic factors, life style factors, environmental factors and others. Among these, the progressive decrease of the production of sex hormones, GH, melatonin,

thyroid hormones, DHEA and in particular the loss of balance between anabolic (GH, DHEA, testosterone) and catabolic hormones (cortisol) and the loss of harmony among various hormonal systems, exert an important role in the promotion of the aging process. In this lecture, a review of the most important Italian studies about the connection between hormonal levels and balance and longevity is shown.

In three different studies published in the last years, the department of Biogerontology of the University of Pavia checked the excretion rate of aMT6s the major metabolite of melatonin, in young people, old healthy and centenarians. The age-related decrease of melatonin secretion is well evident also in long living subjects not only in old healthy; indeed, the total excretion rate of aMT6s, clearly declined with age.

But certain maintenance of the circadian periodicity of melatonin secretion was found in centenarians but not in aged controls. Since melatonin plays an important role as endogenous synchronizer of several biological rhythms hormonal (cortisol, GH, leptin, ghrelin) and not hormonal (blood pressure, body temperature and cytokines) and as free radical scavenger, the persistence of the circadian organization of melatonin secretion could be of great interest in successful aging and promoting longevity. In another study published in the *Exper. Gerontol.* In the 2008, was checked the level of anabolic hormones (IGF-1, DHEA and testosterone) in a group of older men. The scientists showed that in older man a parallel age-associated decline in bioavailable testosterone, IGF-1, and DHEA-S secretion is associated with higher mortality independent of potential confounders.

They concluded the study saying that, the age-associated decline in anabolic hormone levels is a strong independent predictor of mortality in older men and that having multiple hormonal deficiencies rather than a deficiency in a single anabolic hormone is a robust biomarker of health status in older persons. Similar conclusions were shown in a study done by the University of Parma in which was checked the neuroendocrine deregulation concerning specifically the ratio between (DHEA, testosterone) and catabolic steroid (cortisol) secretion; the scientists tried to find too any connection between frailty and hormonal imbalance. Odd's ratio for risk of frailty has been demonstrated significant only when the three hormones were simultaneously considered (Odd's ratio =10.0 with 95% CI =1.6-6.4); the significance disappeared when each steroid was considered individually.

The authors concluded that Sarcopenia, the core of elderly frailty, can be seen as the direct consequence of the disruption of steroid hormones synchrony. Consequently, the use of replacement treatment in order to delay the beginning of such steroid derangement might be a suitable strategy to improve the quality of life of man, whose life length has been significantly extended. But what's the meaning of these studies' conclusions?

We can say that the harmonic maintenance of biological rhythms (hormonal and not) and Hormonal Synchrony through proper diet, stress control, adequate physical and sexual activity, and the administration of physiologic doses of bioidentical hormones, is an important strategy to improve longevity and successful aging.

DINAH RIBEIRO DE PAULA, MD

Why intestinal flora balance is important for one's well-being
Session: Brazilian Preventive and Anti-Aging Medicine

Friday April 9th, 2.00 - 4.00
Auditorium Camille Blanc

The micro ecology of the human gastrointestinal tract is an incredibly complex ecosystem as there are at least 500 different species of microflora that are part of the "normal intestinal flora". There are nine times as many bacteria in the gastrointestinal tract as there are cells in the human body. The type and number of gut bacteria play an important role in determining health and disease. A state of altered bacterial flora in the gut has become popularly known as "dysbiosis".

The term was first used by noted Russian scientist Elie Metchnikoff to reflect a state of living with intestinal flora that has a harmful effect. He theorized that toxic compounds produced by the bacterial breakdown of food were the cause of degenerative disease.

MARCEL ROBERFROID, MD PHD

Colonic foods, the prebiotic concept and anti-aging medicine
Session: Intestinal Nutrition, Inflammation, Obesity and Metabolic Syndrome

Friday April 9th, 2.00 - 4.00
Room Van Dongen

Professor Emeritus - Faculty of Medicine, School of Pharmacy, Université Catholique de Louvain - Belgium

Over the last decades, knowledge of the physiology of the colon and, in particular, of the roles and functions of the colonic microbiota has progressed considerably. It is now well established that the composition of that flora is complex and largely individual in term of genera, species, and eventually strains. Its multiple roles depend, at the same time, on that complexity, on the balance of its composition and on the interactions/co-operations between genera and species but also on the exchanges/communications between the prokaryotic and the colonic eucaryotic cells to control metabolic activities, gene expression and/or cell differentiation. As a consequence, the colon, this so particular organ of the gastrointestinal tract, must be correctly fed, i.e. must receive specific foods: the colonic foods.

Only one category of colonic food is well documented today i.e. the food ingredients/supplements that, like the inulin-type fructans, exert a prebiotic effect.

Defined as "The selective stimulation of growth and/or activity (ies) of one or a limited number of microbial genus (era)/species in the gut microbiota that confer(s) health benefits to the host", with "Selectivity" being the key condition that needs to be demonstrated, in vivo, in the complex human (animal) gut microbiota by applying the most relevant and validated methodology(ies) to quantify a wide variety of genera/species composing the gut microbiota;

"Activity (ies)" meaning a metabolic profile(s), molecular signaling, prokaryote-eucaryote cell-cell interaction... linked to one specific microbial genus/species or resulting from the coordinated activity of a limited number of microbial genus (era);

"Confer(s)" referring to one or a limited number of selectively stimulated genus(era)/species in the gut microbiota.

In this concept, "gut microbiota" is used to limit application to food/feed components.

Moreover it is implicit that "health benefit(s)" must be linked, directly or indirectly, to the presence/high relative concentration and/or activity(ies) of one or a limited number of selectively stimulated microorganisms in the gut microbiota. Indeed, such a conceptual approach emphasizes the link between "selective stimulation of growth and/or activity (ies) of one or a limited number

of specific bacteria genus/species" and "health benefit(s)".

The expression 'prebiotic effect(s)' will be used to identify or refer to selective changes in gut microbiota composition as well as specific (patho)-physiological effects both in experimental and human intervention studies. But it must be kept in mind that, in order to classify a particular effect as 'prebiotic', will require the demonstration that such an effect is likely to be 'causally' linked to or correlated with selective change(s) in gut microbiota composition.

The term inulin-type fructans covers all β (2 1) linear fructans, that are extracted from chicory roots, including native inulin (DP 2 to 60 - DPav=12), oligofructose or fructooligosaccharides (DP 2 to 8 - DPav= 4), and inulin HP (DP 10 to 60 - DPav= 25) as well as Synergy1, a specific combination of oligofructose and inulin HP. These food ingredients resist digestion and classify as dietary fibre improving bowel habits. But, unlike the usual dietary fibres, their colonic fermentation is selective thus causing significant changes in the composition of the gut microflora with increased and reduced numbers of potentially health-promoting bacteria (especially *Bifidobacterium*-spp) and potentially harmful species (eg some *Costridia*) respectively. All inulin-type fructans do so and thus exert a prebiotic effect that further induces changes in the colonic epithelium and in miscellaneous colonic functions.

The other presentations of the session will review in details the present state of knowledge on intestinal microbiota composition; the role of the prebiotic effect in the modulation of gastro-intestinal peptides production with special emphasis on satiety control and In improvement of intestinal permeability with as a consequence a reduction in metabolic endotoxemia that is indirectly linked to metabolic syndrome ; and finally the potential of prebiotics and probiotics in the management of Inflammatory Bowel Diseases (IBD). As research continues in this area, the available data already support the hypothesis that the prebiotic concept is likely to become a key concept of an anti-aging medicine.

DOMINIQUE RUEFF, MD

Intracrine Cortisol: The actor of the disease
Session: Hormone Therapies - Part 2

Friday April 9th, 8.30 - 10.30
Auditorium Camille Blanc

Unlike Insulin, the secretion of which is given rythm by meals, that incorporates nutrients into tissues, Cortisol is the hormone of the awakening, the morning locomotion activation, but also throughout the day, the adaptation to the danger and to the stress, which it supports by drawing from tissues the necessary substrates.

Thus Cortisol is a catabolic hormone that degrades tissues directly and by deregulating their homeostasis.

A greater production of Cortisol has been associated with numerous degenerative processes, the cognitive decline related to age and the metabolic diseases as metabolic syndrome, diabetes, obesity, high blood pressure and atherosclerosis.

But the results of most of these studies were disappointing or conflicting because the systemic Cortisol which was measured represented there only a low part of tissular Cortisol biologically active, generated in the target cell by a specific reductase, 11 beta HSD1 or 11betahydroxysteroiddehydrogenase.

Widely distributed in all cortico-dependent tissues, brain, liver, fat, muscle, bone etc., the 11b-HSD1 converts the inactive Cortisone, 3 or 4 times more abundant in biological fluids, into active Cortisol, so amplifying by 3 or 4 times hormonal message.

The Importance of the pathogenic contribution of this intracrine production was underlined by genetic manipulations on the animal: the mouse Knock Out for the gene of 11 b-HSD1, does not know the cognitive decline related to age and performs as well as the wild type young mouse, the one of which hepatic enzyme was deleted does not develop experimental diabetes and the one the adipocyte's gene of which was deleted, is resistant in the obesity.

In humans, the enzyme knows interindividual variations of activity, modulated by fatigue, stress, anxiety, insomnia and metabolic disorders.

In this new insight of Cortisol physiology has to answer a new biological exploration associating Cortisol, its oxidized precursor Cortisone and their ratio which is the index of the tissue activity of the 11b-HSD1;

No doubt that the measurement of this new "tritych" in the urine and the saliva opens new horizons in the clinical exploration of metabolic and degenerative diseases.

Français

Cortisol intracrine et anti-âge

A la différence de l'Insuline, à sécrétion post prandiale, qui incorpore les nutriments dans les tissus, le Cortisol est l'hormone de l'éveil, de l'activation locomotrice matinale, mais aussi tout au long de la journée, de l'adaptation au danger et au stress, qu'elle soutient en puisant dans les tissus les substrats nécessaires.

Hormone catabolique donc, le Cortisol dégrade les tissus directement et en dérégulant leur homéostasie.

Une production accrue de Cortisol a été associée à de nombreux processus involutifs, le déclin cognitif lié à l'age et les maladies métaboliques comme le syndrome métabolique, le diabète, l'obésité, l'HTA et l'athérosclérose.

Mais les résultats de la plupart des études ont été décevants ou conflictuels parce que le Cortisol systémique qui y était mesuré ne représentait qu'une faible partie du Cortisol tissulaire biologiquement actif, généré dans la cellule cible par une réductase spécifique, la 11 bêta HSD1 ou 11bétahydroxystéroïdedéshydrogénase.

Largement distribuée dans tous les tissus cortico-sensibles, cerveau, foie, tissu adipeux, muscle, os etc..., la 11b-HSD1 transforme la Cortisone inactive, 3 a 4 fois plus abondante dans les fluides biologiques, en Cortisol actif amplifiant ainsi par 3 ou 4 le message hormonal.

L'Importance pathogénique de cette production intracrine a été soulignée par des manipulations génétiques chez l'animal : la souris KO pour le gène de la 11 b-HSD1, ne connaît pas le déclin cognitif lié à l'age et est aussi performante que la souris jeune de type sauvage, celle dont on a éteint l'enzyme hépatique ne fait pas de diabète, du tissu adipeux est résistante à l'obésité.

Chez l'homme, l'enzyme connaît des variations d'activité interindividuelle, modulée par la fatigue, le stress, l'anxiété, l'insomnie, les désordres métaboliques.

A cette nouvelle dimension fondamentale de la fonction cortisonique doit répondre une exploration biologique nouvelle associant le Cortisol, son précurseur oxydé la Cortisone et le rapport des 2 qui est l'index de l'activité tissulaire de la 11b-HSD1 ;

Nul doute que le dosage de ce nouveau triptyque dans l'urine et la salive ouvre de nouveaux horizons dans l'exploration clinique de des maladies métaboliques et dégénératives liées à l'âge.

GIOVANNI SCAPAGNINI, MD, PhD*

Neurodegenerative diseases and nature's wealth: New therapeutic gifts
against cognitive impairment
Session: From Soil to Science to Medical Practice (Italian Experience)

Saturday April 10th, 8.30 - 10.30
Auditorium Camille Blanc

* Department of Health Sciences, Faculty of Medicine, University of Molise, Campobasso, Italy
Blanchette Rockefeller Neurosciences Institute, West Virginia University, Rockville, MD, USA

In recent years there has been a growing interest, supported by a large number of experimental and epidemiological studies, about the beneficial effects of some commonly used food-derived products in preventing various age-related pathologic conditions.

Spices and herbs often contain active phenolic substances endowed with potent antioxidative and chemopreventive properties. Curcumin, the pigment responsible for curry's characteristic yellow color, is a representative member of plant-derived polyphenols family, which also includes resveratrol, caffeic acid phenethyl ester, ethyl ferulate, epigallocatechin gallate, and other tea phenols. All of these compounds appear to have a number of different molecular targets, impinging on several signalling pathways, and showing pleiotropic activity on cells and tissues. A possible general mechanism of polyphenols healing activity, relate to their ability to overexpress highly protective inducible genes, involved in the cellular stress response. Our research extends previous findings demonstrating that curcumin, and other close polyphenols, strongly induce heme oxygenase 1 and other proteins members of Phase II detoxification enzymes in cultured hippocampal neurons, astrocytes and endothelial cells, and through them protect brain against different in vitro and in vivo models of oxidative challenge. Curcumin potential role as a preventive agent against brain aging and neurodegenerative disorders, has been recently reinforced by epidemiological studies showing that in India, where this spice is widely used in daily diet, there is a reduced prevalence of Alzheimer's and Parkinson's diseases.

Our results identify new pharmacological strategies to increase cellular homeostatic mechanisms by activating multiple antioxidant defensive genes, a process that has also been referred to as programmed cell life.

EVA SCHAEUFELE, MD

Nutrigenomics: A contribution to Public Health
Session: Genetics - The latest advances on Genomic Testing
and How to use them in your practice

Friday April 9th, 11.00 - 1.00
Auditorium Camille Blanc

The inter-individual differences in gene sequences that result in differential responses to environmental factors, such as diet, lifestyle habits, and exposure to environmental toxins, have been one of the key discoveries of the Human Genome Project. The discipline of nutrigenomics studies how naturally occurring constituents of the diet alter the molecular expression of genetic information in individuals. Insight into the interaction between the environment and our genes and their expression is introducing a new era for nutritional counselling and medicine. Integrating this knowledge into personalised motivation programmes promotes sustained compliance with lifestyle recommendations. Substances in the diets of various cultures have been exerting profound influence on gene expression and the resulting proteome for thousands of years. Genetic differences between individuals are due to single nucleotide polymorphisms (SNPs). Motivating clients to adjust their lifestyles to their particular SNPs should prove to be an important contribution to public health. For instance, genetic studies have found that in as much as 20% of Caucasian females, dietary animal fats are more likely to prevent cardiovascular disease (CVD) than vegetable fats with polyunsaturated acids.

Nutrigenetic testing therefore could reduce the increasing rate of myocardial infarction in women over 50 observed in this decade (in Germany, from 89 (2003) to 131 per 1,000 (2007)). The three-year study presented here demonstrates how genetic testing can motivate clients to adopt health-conscious lifestyles and maintain compliance in the long term.

Litterature Exempels:

Nicklas BJ, Ferrell RE, Bunyard LB, Berman DM, Dennis KE, Goldberg AP Effects of apolipoprotein E genotype on dietary-induced changes in high-density lipoprotein cholesterol in obese postmenopausal women. *Metabolism*. 2002 Jul;51(7):853-8.

Subbiah MT. Understanding the nutrigenomic definitions and concepts at the food-genome junction. *OMICS*. 2008 Dec;12(4):229-35.

Bazzano AT, Zeldin AS, Diab IR, Garro NM, Allevato NA, WRC, Project Oversight Team.

The Healthy Lifestyle Change Program: a pilot of a community-based health promotion intervention for adults with developmental disabilities. *American Journal of Preventive Medicine*. 2009 Dec;37(6 Suppl 1):S201-8.

NOBUHIRO SUETAKE, MD^{1,2},

Evaluation of autonomic nervous system by heart rate variability
and differential count of leukocytes in athletes
Session: Updates in Anti-Aging Medicine

Thursday April 8th, 2.00 - 4.00
Room Auric

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Key words: heart rate variability, conditioning, differential count of leukocytes

In athletes, exercise training induces autonomic nervous system adaptations that could be used to monitor training status. To investigate the effects of training, condition in top athletes was evaluated before and after exercise using examination of autonomic nervous system, biochemical examination of blood; differential count of leukocytes and blood lactate levels. Statistical analysis revealed that the parameters of heart rate variability and differential count of leukocytes were significantly changed during recovery from exercise. Parameters of Total power, Low frequency Norm (LF Norm), and LF/HF were significantly decreased after exercise ($p < 0.05$, $p < 0.01$, and $p < 0.05$, respectively using paired Student's t test). Value of High frequency Norm (HF Norm) was significantly elevated after exercise ($p < 0.05$ by paired Student's test). Value of Very low frequency (VLF) showed a downward trend ($p < 0.1$).

After exertion, neutrophilic cells were significantly decreased ($p < 0.01$) and lymphocytes were significantly increased ($p < 0.01$). We concluded that autonomic nervous system adaptations to exercise training could predict athletic achievement in athlete population.

PATANA TENGUMNUAY, MD PHD

Stem Cell Therapy - Practical update
Session: Updates in Anti-Aging Medicine

Thursday April 8th, 2.00 - 4.00
Room Auric

Since the identification and characterization of stem cells, a great deal of interest has been given to their potential roles in regenerative medicine. Stem cells can proliferate, migrate, and differentiate to form new tissues. Embryonic stem cells (ESC), isolated from the inner cell mass within the blastocyst, can develop into more than 200 different cell types. However, transplanted ESC can result in teratoma due to uncontrolled cell differentiation. Also, the possibility of being rejected and requirement of long-term treatment with immunosuppressive drugs have turned scientist attention to another kind of stem cells: adult stem cells.

Human bone marrow is the major source of adult stem cells including both hematopoietic and non-hematopoietic stem cells. Hematopoietic stem cells (HSC) are the first stem cells that have been used successfully for transplantation; however, there are a number of problems related to treatment such as infections, bleeding, engraftment failure, and graft versus host disease (GvHD). GvHD is the condition where transplanted cells begin to attack host tissues and organs. Bone marrow also contains non-hematopoietic stem cells commonly known as mesenchymal stem cells (MSC). MSC can be easily isolated and expanded from a bone marrow aspirate. MSC can produce cytokines that support hematopoiesis and have been used for the enhancement of marrow recovery and prevention of GvHD.

Besides bone marrow, MSC can be isolated and culture expansion from a wide variety of tissues including adipose tissue, umbilical cord, and placenta. Because of their abilities to differentiate into other types of tissues including bone, cartilage, fat, liver, heart, and neuron, MSC have been investigated for their efficacy as a clinical therapeutic tool in patients with stroke, myocardial infarction, and peripheral vascular disease. Recent clinical studies have demonstrated a varying degree of improvement in cardiac function using bone marrow derived stem cells in patients with acute myocardial infarction. In addition to their ability to replacing injured tissue, MSC exert their effects by generating certain cytokines, chemokines, and growth factors. Their functions are regulated by the microenvironment and interactions with neighbor cells. Dysfunctions of MSC have been reported in aging, obesity, hematologic disorders, and cardiovascular diseases. When injected intravenously, MSC preferentially home to bone marrow and spleen. However, following stimuli including tissue injury, inflammation, infection, and cancer, MSC will migrate to sites of injury where they can enhance wound healing and support tissue regeneration. MSC is known to have strong immunosuppressive properties and have been clinically tested for treatments of auto-immune disorders such as Crohn's disease and rheumatoid arthritis. One of the most important characteristics of MSC is that they are non-immunogenic. MSC exhibit low expression of histocompatibility complex (MHC) class I, negative for MHC class II, and do not express T cell co-stimulating molecules. These findings imply the lack of need for HLA matching and therapeutic application in autologous as well as heterologous transplantation.

Phase I clinical studies show that MSC infusion is safe and the production of ectopic tissue has not been observed. Because of these impressive characteristics, various biotechnology companies have focused on developing and commercializing patented formulations of MSC in the emerging field of regenerative medicine.

PATANA TENGUMNUAY, MD PHD

Nutraceutical supplements in diabetes
Session: Oxidation - Food - Nutrients: New Trends and Updates

Saturday April 10th, 11.00 - 11.00
Auditorium Camille Blanc

Diabetes is a leading cause of death in developed countries. Genetic predispositions and obesity are linked to a condition known as insulin resistance, the inability of insulin to promote normal glucose uptake by cells, beta cell dysfunction and beta cell apoptosis that results in type 2 diabetes. Poorly controlled diabetes is associated with the development of complications such as cardiovascular diseases, stroke, renal failure, neuropathy, and vision loss.

The aim of diabetes treatment is to prevent these complications as well as to preserve beta cell functions. Two major underlying processes of diabetic complications are advanced glycation end products and oxidative stress. Advanced glycation end products (AGEs) are formed by non-enzymatic reaction between glucose and protein or between glucose and lipids. They can damage the body by causing protein dysfunction and by binding to a receptor for advanced glycosylation end products (RAGEs) and trigger intracellular signals that lead to the production of reactive oxygen species and inflammatory cytokines, which cause further tissue damage. The anti-glycation effects of two vitamins B have been clinically studied in humans: a highly bioavailable thiamine derivative, benfotiamine, and an intermediate of vitamin B6, pyridoxamine. Benfotiamine has been shown to improve the symptoms of diabetic neuropathy and pyridoxamine has been shown to decrease albuminuria and the rates of creatinine elevation in diabetic nephropathy. In hyperglycemia, the production of excessive superoxide radicals from mitochondria contributes to induction of major pathways of diabetic complications.

The body can get rid of these free radicals by using a series of enzymes including superoxide dismutase, catalase, and glutathione peroxidase. These enzymes require sufficient amounts of zinc, selenium, and glutathione. It may explain why the

uses of only traditional free radical scavengers (such as vitamins C and E) alone have failed to prevent diabetic complications. However, several kinds of anti-oxidants have been studied with promising therapeutic potentials. Alpha lipoic acid (ALA) has been shown to reduce the marker of oxidation and improvement of poly-neuropathy in diabetic patients. Carnosine, a dipeptide molecule composed of two amino acids-beta-alanine and histidine, is a natural antioxidant and also inhibits non-enzymatic glycosylation of proteins. Astaxanthin, a potent free radical scavenger has been shown to preserve beta cell function and prevent diabetic nephropathy in experimental animals. Since cardiovascular diseases are the most common complications found in diabetes, fish oil enriched with EPA may reduce inflammation and prevent coronary artery disease. Many diabetes patients receive statin, cholesterol lowering agents that also reduce the co-enzyme Q-10 levels and supplementation with co-enzyme Q-10 is required. Low vitamin D levels may be a risk factor for diabetes. Vitamin D enhances insulin secretion and insulin resistance was higher among those with lower vitamin D levels. In addition, oral administration of acetyl-L-carnitine increases insulin sensitivity in individuals who have impaired glucose tolerance.

Finally, resveratrol, a sirtuin activator, has been shown to have abilities to increase insulin sensitivity and prevent obesity in experimental animals and may serve as a potential treatment for the disease.

GIORGIO VALENTI, MD PHD*

News flash from the inChianti study: How cognitive decline may be connected to DHEAS levels in the aged

Session: From Soil to Science to Medical Practice (Italian Experience)

Saturday April 10th, 8.30 - 10.30

Auditorium Camille Blanc

* Geriatric Clinic - University of Parma - Italy

Background & aim of the study: Dehydroepiandrosterone (DHEA) and its sulfate ester (DHEAS) is the most abundant steroid circulating hormones in humans. DHEA and DHEAS levels decline with age in both sexes; this fall occurs concurrently with the onset of many of the common functional impairments typically encountered in older persons. It is quite documented that these steroids are produced also inside the brain, under the control of regulatory mechanisms different from those involved in adrenal secretion. Consequently the age related decline of cognitive performances was hypothetically connected with such modified steroid pattern.

A number of studies in animals demonstrated that the administration of these steroids was able to enhance memory in several different models of young and aged animals and using various learning paradigms.

In humans several observational and intervention studies have been realized. In the Massachusetts Male Aging Study DHEAS level was not a significant independent correlate of cognition. In the Endogenous Androgen Levels in Women across the Adult Life Span Study, DHEAS levels were strong significant correlates of performance in certain cognitive measures. Furthermore DHEAS levels were not predictors of differential cognition decline in three large prospective cohort studies: the Rancho Bernardo Study (males and females), the Study of the Osteoporotic Fractures (females) and the Baltimore Longitudinal Study of Aging (males). However a trend toward an inverse association between DHEAS and rate of cognitive decline was found in two prospective cohort studies involving both males and females, namely a French community-base cohort study and a study performed in a small sample of healthy older subjects of the population-base Rotterdam Study. So far only six randomized controlled intervention clinical trials have been carried out to evaluate the possible effect of DHEA treatment on cognitive performances. In these studies the only significant improvement was on the attention performance following stress in one of the trials.

Material & methods: Results. In light of the conflicting results between animal and humans studies and because little of the human data come from a population-representative cohort including both men and women, we investigated whether DHEAS levels and cognitive function measured by the Mini Mental State Examination (MMSE) are related either cross-sectionally and/or longitudinally (three years) in the inChianti Study.

1034 residents aged >65 yr of the inChianti Study with data available on DHEAS and MMSE were randomly selected. MMSE was administered at baseline and three years later. Among these 841 completed a 3-yr follow up. Independent factors associated with MMSE and DHEAS were carefully identified with the aim of a proper adjustment of data with potential confounders.

A significant age-related decline of both DHEAS levels ($p < 0.001$) and MMSE ($p < 0.001$) was found. At enrolment DHEAS was significantly and positively associated with MMSE score, independently of age and other potential confounders ($p < 0.005$). While stronger in males this finding is supported in both sexes. Finally low baseline DHEAS levels were predictive of larger decline of MMSE and such relationship was significant after adjusting for covariates ($p < 0.03$).

Conclusions: Our findings suggest that low DHEAS levels might represent a significant risk factor predisposing to age-related cognitive decline and that it is worthwhile verifying the clinical efficacy of hormone replacement treatment as a therapeutic tool. In face of the mostly negative clinical trials at the present time performed in healthy elderly subjects, it is remarkable that DHEA treatment recently was shown to promote a significant, albeit transient, effect on cognitive performance in a cohort of patients with well-defined Alzheimer's diseases. It is desirable that new clinical intervention trials can be set up in the next future involving larger populations and protracted for a longer period.

JOHN van LIMBURG STIRUM, MD

Acid Base Medicine for better Energy and Endurance

Session: Oxidation - Food - Nutrients: New Trends and Updates

Saturday April 10th, 11.00 - 1.00

Auditorium Camille Blanc

All bodily functions are completely dependant on a sufficient supply of our energy currency called ATP. Depending on the requirements there are three pathways of delivery available.

Energy Delivery Systems

1. Creatine Phosphate - Anaerobic w/o Lactate
2. Lactate - Anaerobic with Lactate
3. Oxidative Phosphorylation - Aerobic w/o Lactate

These systems fulfil special characteristic duties and influence our acid base household in a very particular manor.

Pathway #1

is responsible for enabling us to perform short and intensive bouts of exercise up to about 30 seconds such as weight lifting but also actions as a golf or tennis swing. Energy loaded creatine phosphate is delivered by the liver and transported to the muscles where it will be stored and instantly converted to ATP upon demand. The Acid Base Household will not be directly affected by this process. Enhancement is possible by supplementing creatine 0.03g/Kg/day. This compound is also found in high concentrations in beef, pork, herring and salmon. The effect of supplementation unfortunately declines with age.

Pathway #2

This source of energy will cover our needs for sport disciplines lasting from 30 seconds up to 6 minutes. An example would be a 400-800m sprint. The energy must be delivered quickly and efficiently but will exhaust within time. The accumulating lactate will either be excreted as sweat, recycled in the liver back to glucose or used in the muscle to restore pyruvate which will in turn enter the mitochondria and lead to ATP production by oxidative phosphorylation. Redundant lactate generally leaves the cell, builds up in the blood stream and will displace bicarbonate resulting in a physiological metabolic acidosis. Therefore bicarbonate supplementation can facilitate anaerobic performance, the recommended dosage being 300mg/KG/day. One must be aware of the potential side effects such as diarrhoea and bloating.

Pathway #3

The slowest but most efficient method of energy production is by far the oxidative phosphorylation. This "clean" pathway delivers carbonic acid to the erythrocytes, enhancing oxygen release. At the same time, the bicarbonate of the intraerythrocytic and meanwhile dissociated carbonic acid will enter the plasma and therefore increase its alkalinity (contrary to the lactate build up in pathway #2). Therefore bicarbonate supplementation will have no positive effect in an aerobic discipline. Besides replenishing water and salt, this is the domain of potassium phosphate, which will deliver the phosphate molecules required for the high turnover rate of ATP. Potassium phosphate is administered 1000mg - 4000mg before exercising, beginning 3-6 days before competition. The bioavailability can be improved by Vitamin D3 2'000 IU/day. For optimal function, mitochondria are also dependant on other micronutrients. These include Coenzyme Q10, Magnesium, Iron, Manganese, Vitamins B1, 2, 3, Lipoic Acid, Pantothenic Acid, Calcium and Zinc.

OCTAVIO VIERA, MD

Hormone replacement before, during & after aesthetic/surgical procedure
Session: Global Aging Management for a Successful Practice (Spanish Session)

Thursday April 8th, 4.30 - 6.30
Room Auric

Before performing an aesthetic or surgical procedure we must prepare the tissues of the skin and the whole body for better acceptability, efficiency and durability. To accomplish this, we must re-establish all deficiencies in a wide general spectrum, with the goal to avoid all factors that can be detrimental to the procedure or the results (f.e. predisposing factors to haemorrhage, cardiac resistance to topical adrenalin to avoid bleeding), factors in excess or defects that can reduce immediate aesthetics/surgical results and epigenetic factors that can damage or predispose secondary side effects.

We must avoid complements or drugs that promote bleeding such as Ginkgo Biloba, Vitamin E, Omega-3 in high doses (>6,5 gr/d), Chondroitin sulphate, Dong Quay, Vitamin C (ascorbic acid), Bromelain (fibrinolytic and plaquetary antiaggregant), Curcumin (antiflammatory curcuma longa), E.D.T.A., Ginger (that inhibit plaquetary aggregation for increased prostaciline), Inositol hexanichotinate, Magnesium, N-acetil-cysteine, Pancreatine,...Drugs like Aspirin, clopidogrel, dalteparin, dipyridamol-Persantin, enoxaparin, heparin, toclopidina-Ticlid, warfarine-Coumadin and/or analogous. The intake of these products must be discontinued two or tree weeks before the procedure. Pathologies as hypothyroidism, subclinical hypothyroidism and any other deficiency must be corrected before.

Over the skin act both internal local, general, external and epigenetic factors like environmental medium, nutrition, breathing, life style, physical activity (exercise) and good emotional management. The results of these factors can also change the response depending on genetic constitution.

Practically all hormones act in the skin. This organ is a powerful interphase between external medium, the body and the mind. It can be considered an endocrine organ, manufacturing hormones for general use like Vitamin D, peripheral conversion of inactive T4 to active T3, if a supply of necessary factors for conversion is available.

VITAMIN D is a real hormone because act directly over genomic transcription to made protein for many functions. The active vitamin D(3) regulates proliferation and differentiation of epidermal keratinocytes. Topical vitamin D

ESTROGENS : Maintains the amount of collagen and the elasticity of the skin, so decreases wrinkling. Helping to maintain the elasticity of arteries. Dilates small arteries. Improves blood flow. Increases the water content of the skin, and is responsible for its thickness and softness and for all this estrogens increase thickness of skin on the second part of cycle Estrogens maintains healthy muscle intima media.

PROGESTERONE: Antinflammatory, prevent healthy venous and arterial system, modulates HDL-col in skin fibroblast that is crucial for elastina formation. It helps the skin from sagging Have anti-inflammatory effects on skin (and general).

ANDROGENS - TESTOSTERONE : Tans the skin, strengthen facial muscles, prevent wrinkles. The distribution of androgen receptor (AR) in human skin is a significant date that its importance action here. The distribution of AR was similar in male and female skin. Estrogens as well as testosterone are anabolic hormones and therefore retain water and salt and maintain skin turgid, without wrinkles. Also, testosterone increase skin grease and facial hair.

GROWTH HORMONE : accelerates the curing of wounds, maintain epi-dermal thickness. Also, GH exerts a tonic effect over muscles mass of facial and skeletal muscles that prevent sagging. Diminished secretion of growth hormone is responsible in part for the decrease of lean body mass, the expansion of adipose-tissue mass, and the thinning of the skin that occur in old age. For this reason it is very interesting GH administration two weeks before, during and after medical or surgical aesthetic procedures in case of GH deficiency, that is normal fact in medium age people.

DEHIDROEPIANDROSTERONE (DHEA) determines epidermal thickness. Both men and woman produce DHEA. DHEA is made by the adrenal glands; a small amount is also made in the brain and in the skin. Treatment with DHEA increase epidermal

thickness only in woman (bad news for men)

INSULIN and amino acids determine the rate of wound healing. Restoration of Insulin metabolism is of extraordinary importance, before any aesthetic/surgical procedure.

PARATHYROID HORMONE and hair. Parathyroid hormone (PTH) related peptide (PTHrP) is thought to influence proliferation and differentiation of epidermis and hair follicle which suggest that PTHrP may be the major factor responsible for control of hair cycle through angiogenesis effects.

MSH-ALFA : reduce collagen production by fibroblast in case of excessive fibrosis (scleroderma) in skin or other tissues. Dermis fibroblast expresses high affinity to bind MSH-a and reduce or suppress collagen production.

PHITOESTROGENS : The use of a concentrated, isoflavone-rich soy- extract during six consecutive months causes a significant increase in epithelial thickness, increase the number of elastic and collagen fibres, as well as the blood vessels.

BERNARD WEBER, MD PHD*

Interpretation of genomic results and practical recommendations
Session: Genetics - The Latest Advances on Genomic Testing
and How to Use Genomic Testing in Your Practice

Friday April 9th, 11.00 - 1.00
Auditorium Camille Blanc

* Laboratoires Réunis, Junglinster, Luxembourg

Background and aim of the study: Personalized medicine is health care that tailors interventions to individual variation in risk and treatment response. Although medicine has long strived to achieve this goal, advances in genomics promise to facilitate this process. Relevant to present-day practice is the use of genomic information to classify individuals according to disease susceptibility or expected responsiveness to a pharmacologic treatment and to provide targeted interventions. Gene regulation represents a new powerful strategy for increasing life-expectancy by adapting the way that our genes work to our environment. Numerous well validated scientific studies have demonstrated the impact on gene variation on our sensitivity to aging and multifactorial age related diseases. Furthermore there is growing evidence for targeted nutrigenomic interventions that can optimize the expression of our key metabolic, regulatory and inflammatory genes thus enhancing our health and anti-aging capacities. The knowledge of our genetic background and how to regulate gene expression permits us to optimize personalized prevention measures. The interpretation of genetic profiles is however very complex due to high number of key genes that are involved in the aging process and through the existence of numerous gene-gene and gene-environment interactions.

Material and methods: A new expert system has been developed that permits the interpretation of genetic tests results by combining data on genetic variation together with a general health questionnaire on risk factors, lifestyle, nutrition and familial and personal history. A comprehensive summary gives a scoring of the defense capacities of the patient against age-related diseases and personalized recommendations for nutrigenomics and lifestyle changes and depending on the requested profile on weight management, hormonal replacement therapy, bone health, brain and cardiovascular protection. Another unique feature is that interpretation is dynamic and can be reassessed and rescored after a time period of three months after starting of a gene induction program through personalized changes in lifestyle, nutrition and by adding micronutrition supplementation. The presentation focuses on a case of a patient who underwent an anti-ageing program based on the dynamic genomic expertise. The initial complaints and symptoms were allergy, skin infections, sleep disturbance, overweight and low self esteem. Laboratory markers showed evidence for leaky gut syndrome, multiple vitamin and mineral deficiency, low anti-oxidative capacity, food intolerances, elevated liver enzyme values and a pro-inflammatory status.

Results: The interpretation of the genomic expertise showed that the lifestyle was not in "harmony" with the genetics of the patient. Despite that the patient was compliant to general recommendations for a healthy lifestyle; there was an increased susceptibility for environmental exposures, cardiovascular diseases, osteoporosis, inflammation and oxidative stress. The patient underwent a personalized gene induction program for optimizing her genomic potential. This "smart" therapeutic matrix included the following interventions: Tailored diet to patient's genetic risk, environment & life style changes based on gene-environment interactions, comprehensive treatment strategies based on genetic and phenotypic test results, pharmaceutical interventions based on pharmacogenetics, anti-ageing procedures and skin care in accordance with the genetic susceptibility of skin. After a period of three months the genomic expertise was reassessed and showed that the impact of lifestyle factors was significantly reduced thus enhancing the general anti-aging capacities in this particular case.

Conclusions: This particular case represents a good example of what can be achieved in daily practice by applying advanced genetic programs in individualized health management. The potential benefit of harmonizing lifestyle and nutrition with the individual genetic background of an individual can extend life expectancy on average by 14 years mainly by preventing or delaying the outbreak of age related diseases.

BERNARD WEBER, MD PHD*

Epigenetics and prevention of breast and prostate cancer
Session: Nutrigenetics - Beyond your Genes

Saturday April 10th, 4.30 - 6.30
Room Auric

* Laboratoires Réunis, Junglinster, Luxembourg

Background and aim of the study: Breast and prostate carcinogenesis are multistep processes involving both genetic and epigenetic changes. Epigenetics is defined as a reversible and heritable change in gene expression that is not accompanied by alteration in gene sequence. DNA methylation and histone modifications are the two major epigenetic changes that influence gene expression in cancer. The interaction between methylation and histone modification is intricately orchestrated by the formation of repressor complexes. Several genes involved in proliferation, antiapoptosis, invasion and metastasis have been shown to be methylated in various malignant and premalignant breast and prostate neoplasms. Since epigenetic changes are potentially reversible processes, much effort has been directed toward understanding this mechanism with the goal of finding novel therapies as well as more refined prevention, diagnostic and prognostic tools in breast and prostate cancer.

The aim of the present review is to give an overview about how epigenetics can be used for the prevention of the most frequent cancers in women and men.

Material and methods: A systematic review of the literature published between 2000 and March 2010 and cited in Medline (<http://www.ncbi.nlm.nih.gov/sites/entrez>) was performed by using search criteria targeted on epigenetics and prevention of prostate and breast cancer.

Results: Epigenetic changes in prostate and breast cancer can be modulated by molecules that are part of our daily diet. The association between dietary factors and prostate cancer has been investigated and one explanation for the low incidence of the cancer in Asia might be high consumption of fresh vegetables including soybean and its products. Soybean is a species of legume which contains high amounts of isoflavones including genistein, daidzein, glycitein, and equol, which have a prophylactic effect on prostate cancer. Epidemiological studies have indicated a link between a low occurrence of prostate cancer and a genistein-rich diet. Review of the existing literature suggests that consumption of soy foods or an exposure to a soy isoflavone genistein during childhood and adolescence in women, and before puberty onset in animals, reduces later mammary cancer risk. A meta-analysis of human studies indicates a modest reduction in pre- and postmenopausal risk when dietary intakes are assessed during adult life. These findings concur with emerging evidence indicating that timing may be vitally important in determining the effects of various dietary exposures on the susceptibility to develop breast cancer. Genistein is working, at least in part, through epigenetic mechanisms of telomerase inhibition in breast benign and cancer cells and may facilitate approaches to breast cancer prevention and treatment using an epigenetic modulator combined with genistein.

Sulforaphane (SFN) is an isothiocyanate found in cruciferous vegetables, such as broccoli and broccoli sprouts. This anticarcinogen was first identified as a potent inducer of Phase 2 detoxification enzymes, but evidence is mounting that SFN also acts through epigenetic mechanisms. SFN has been shown to inhibit histone deacetylase (HDAC) activity in human colon and prostate cancer lines, with an increase in global and local histone acetylation status. In human subjects, a single ingestion of 68 g broccoli sprouts inhibited HDAC activity in circulating peripheral blood mononuclear cells 3-6 h after consumption, with concomitant induction of histone H3 and H4 acetylation. These findings provide evidence that one mechanism of cancer chemoprevention by SFN is via epigenetic changes associated with inhibition of HDAC activity. Other dietary agents such as butyrate, biotin, lipoic acid, garlic organosulfur compounds, and metabolites of vitamin E have structural features compatible with HDAC inhibition.

Conclusions: The ability of dietary compounds to de-repress epigenetically silenced genes in cancer cells, and to activate these genes in normal cells, has important implications for cancer prevention and therapy. In a broader context, there is growing interest in dietary HDAC inhibitors and their impact on epigenetic mechanisms affecting other chronic conditions, such as cardiovascular disease, neurodegenerative diseases and aging.

XANYA SOFRA-WEISS, PHD

Nanotechnology in aesthetics. Ionic anti-aging solutions for rejuvenation and obesity
Session: Contributing Lectures in Anti-Aging Medicine

Saturday April 10th, 2.00 - 4.030
Room Van Dongen

The aging process cannot be conceptualized by examining a single gene or a single pathway, but can best be addressed at the systems level. Aging is not only the sum total of shortened telomeres, denatured proteins and DNA molecules, or oxidative damage in the mitochondria. Aging attacks key regulatory nodes crucial for the biological network stability. It is the dynamic process of increasing imbalances in the systemic organization of degenerating biological processes. DNA and stem cells engineering have successfully reversed certain individual components of time attrition resulting in rejuvenation and aging delay. So far, research has merely followed a sequential process that goes from the part to the whole, identifying aging genes and engineering stem cells, etc. However, discovering pieces of the puzzle still requires identification of the interconnections between matching pieces before the solution emerges. The old, the ill, and the injured all suffer from misarranged patterns of atoms. A single substitution an A for a G in a DNA molecule can cause a significant change in the conductance of the molecule leading to cancer. Such research findings demonstrate how the sequence and interrelations of amino acids in a protein, or the sequence of base pairs in a DNA molecule can become determining factors between health and disease, aging and youth. The DNA sequence alone doesn't determine everything. The importance of the spatial organization or nuclear architecture in regulating gene expression begs for scientific observation that does not merely focus on the study of atoms and molecules, (the basic components of a Gestalt); but on the interrelations, sequence, orientation and spatial organization of these atoms and molecules (the dynamic whole or Gestalt). Recent research has shown that DNA, proteins, cells, including stem cells, appear to be electrical in that they demonstrate conductivity or the presence of ionic currents. Since electricity is a dynamic entity emerging out of the interactions of atoms and molecules, we propose that perhaps the simplest way of focusing on the entire system is by decoding the complex electrical signals that map biological interactions with respect to spatial organization. Biological signals must be analyzed in terms of their amperage, frequency, voltage, interactions, orientation, spatial organization. Next will be their translation into electronic signals that comply with the specifications of amperage, frequency, voltage or biological signals. Electronic signals will then be intertwined to orchestrate a Gestalt waveform built on the basis of information attained from observations of biological interactions and architecture - a process similar to that done in Pollock's lab (1990-2004). This Gestalt waveform will act as an electronic diplomat to awaken biological processes that have diminished with aging or disease by signaling the recuperation and activation of biological reparative mechanisms leading to extended longevity.

A clinical study with individuals presenting abnormally clumped Red Blood Cells' (RBCs) was completed in February 2009 with a device representing the Pacemaker Technology for the Skeletal muscle. Results indicate that this technology rapidly and efficiently leads to normalized erythrocytes' separation at the microscopic level. RBCs separation is crucial for the overall blood flow and timely transport of hormones, antibodies, oxygen and nutrients to the cells, and waste products to the kidneys. Transport of Hormones is a crucial process lipolysis (T3 and Growth Hormone -- GF) and muscle hypertrophy (Insulin Growth Factor - IGF-1) Additionally, erythrocyte separation resulting from treatment with the Pacemaker Technology appears to have a negative correlation with the number of fungal forms, poikilocytosis, thrombocyte aggregation and bacteria present in the blood prior to treatments. In summary, the erythrocyte separation resulting from treatments with the Pacemaker Thechology enhances hormonal transport including T3 and GH leading to lipolysis and muscle hypertrophy;

2) RBC;s separation enhances overall level of health by a significant reduction of free radicals. bacteria, fungal forms. etc.;

3) Obesity is characterized by reduced blood flow. The Pacemaker Technology increases RBC's separation resulting in normalized blood flow. In conclusion, re-establishing normal levels of blood flow will not only help reduce obesity but it will help

reduce the risk of heart attack as well as all other disorders associated with obesity. Due to its resonance with the biological signal and following the rule of reinforced synapses when signals are in synch with the CNS, the signal of the Pacemaker Technology spreads throughout the CNS inducing effortless and painless isometric and isotonic muscle contractions. The Pacemaker Technology signal to the nerve ultimately triggers hormonal secretion such as Growth Hormone (GF), Thyroxine (T4) and Triiodothyronine (T3) for lipolysis and Insulin Growth Factor (IGF-1) for muscle hypertrophy.

Goals and Objectives: To integrate the diverse data on aging genes, cellular oxidative damage, telomere attrition, protein and DNA denaturation and mitochondria damage into a unified theory that addresses aging at the systems level.

- (1) To discuss studies that have used ionic currents to enhance molecular reparative mechanisms.
- (2) To introduce clinical and experimental results obtained with the Pacemaker Technology
- (3) To introduce the ionic currents model of anti-aging for rejuvenation and obesity and discuss consequential medical benefits involved with this technology.

T.S. WILEY*

Predictive modeling of steroid receptor response
Session: Contributing Lectures in Anti-Aging Medicine

Saturday April 10th, 2.00 - 4.00
Room Van Dongen

* CEO - Wiley Systems

The interrelatedness of rhythmic "receptor response" to individual hormone frequencies and environmental interference can be nuclear or even second and third messenger "non-genomic" pathways in young healthy women. Unfortunately, the current state of BHRT for menopausal women does not address the correct scientific template to affect real recovery.

Instead, the Standard of Care in the US and Europe offers patients - across the board - BHRT dosed in concentration and timing to replicate synthetic drugs with hormone-like effects offered by big pharmaceutical companies like Wyeth Ayerst or Pfizer such as Premarin, Depo-Provera and PremPro to ameliorate symptoms at a huge health deficit.

Creating a BHRT regimen that does not fully restore complete replacement values and menses seems as if it would further derange the template of hormonal and environmental interrelatedness that has evolved over millennia. Perhaps the devastating side-effects of the purported "hormone replacement" reported around the world by the Women's Health Initiative (using those synthetics) could have been due to the alteration of natural molecules; but on the other hand, one could just as well speculate that the dosing regimen of static dosing might, in fact, be as, or more so, detrimental to outcome.

The point of re-establishing the normal rhythmic threshold-driven events at the receptor sites and on the molecular level serves to create, with a follicular dosing peak on Day 12 of the 28 day cycle, the initiation of LH surge, G1 arrest, and the provocation of the PR (progesterone receptor). Conversely, on days 14 to 28 of the same cycle - once P4 has an available receptor - apoptosis can naturally ensue on days 19 to 22.

Adaptive intelligence at the receptor site continues to evolve by reacting to input from the internal environment provided by information driven feedback loops. Positive feedback loops feed-forward momentum, and self-perpetuate like a simple food chain model. Negatik loops are self-controlling programs that work from event to event to re-modulate larger scenarios.

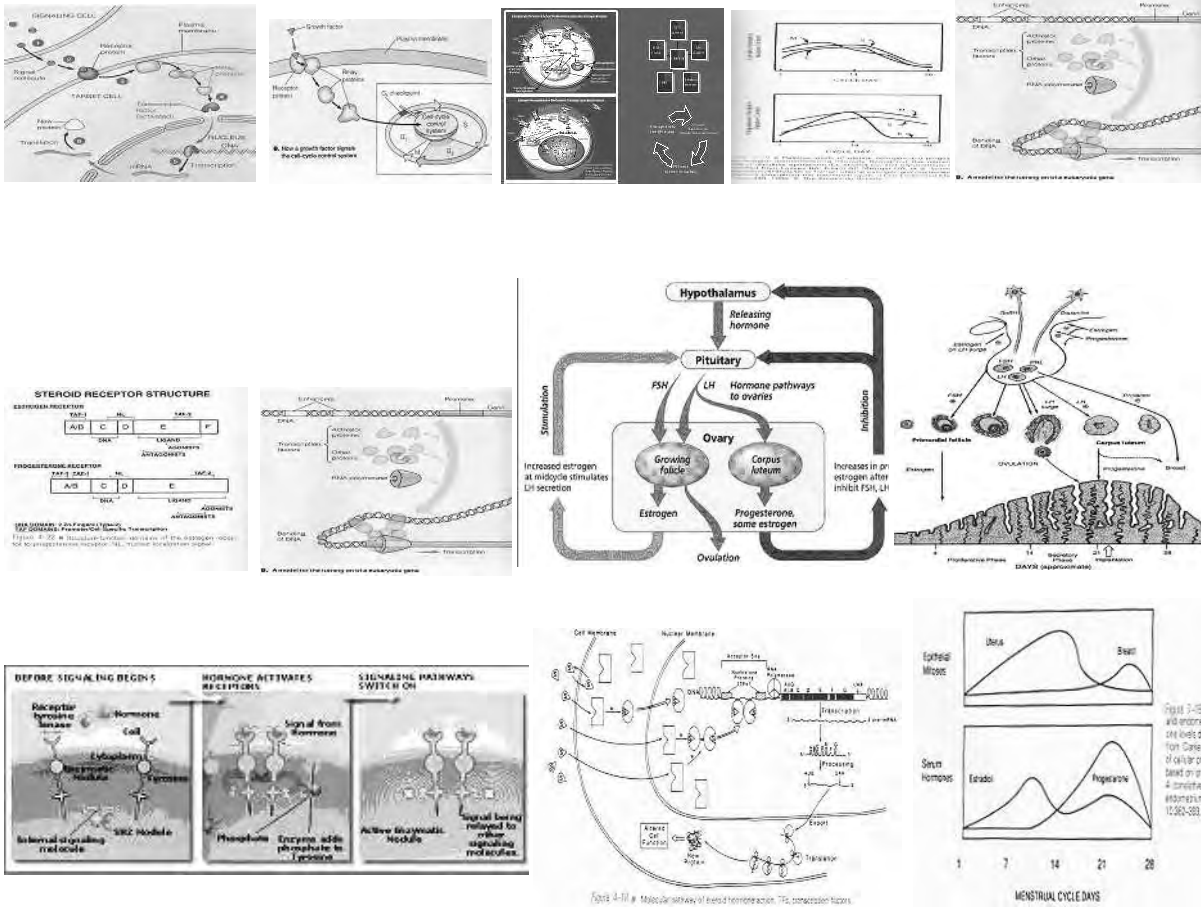
Controlling Receptor Anticipation and Response: Hormones and receptors are single molecules of different weights. Receptors are large and ligands like E2 and P4 are small. Receptors are really protein chains with polarity produced by a gene provoked by a hormone, neurotransmitter or cytokine that float to the cell's surface. When the ligand meets the receptor, the receptor molecule embraces the ligand's chemical key. Once the receptor is mounted and the crescendo is past, switches are thrown on various strands of DNA. We can create E2-alpha receptors with the introduction and escalation of the dosing of the hormone estradiol - E2. Once created, population also escalates until Day 12. Then the PR, mandatory for a normal menstrual shed is a fait accompli.

The aims of the multi-phasic, rhythmic, sequential dosing mode of BHRT dosing are to:

- Create a receptor, then fill it by reaching youthful physiological levels of E2 and P4
- Reach critical activity tipping points, such as progesterone receptor creation on day 12 by reaching peak serum levels of estrogen, LH spike and G1 Arrest of the cell cycle
- The luteal phase's Day 21 apoptotic events and the activation of VEGF for normal endometrial pruning (menstrual shed) are possible with the preceding Day 12's precursor provocation of the progesterone receptor.

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ALFRED WOLF, MD PHD

Shedding light on neurotransmitters in 2010. How to do?
Session: Neurotransmitters

Thursday April 8th, 3.00 - 4.00
Auditorium Camille Blanc

Neurotransmitter Medicine has developed in the past due to enormous increase of neuro-psychiatric diseases and improved knowledge of neuronal biochemistry by neuroscience. Especially depression, anxiousness and panic disorders, attention deficit and hyperactivity syndrome (ADHS) seem to be extremely enhanced by stressful life events. Until today catecholamine measurement within 24-hours urine was an established, but lazy instrument for NT diagnosis. Therefore modern approaches have been established for the dynamic detection of disturbances of NT secretion.

Neurotransmitters (NTs) are synthesized by neurons and secreted within the synaptic cleft to bind at specific receptor sites at the postsynaptic membrane. Most NTs are not only produced by the CNS but also peripherally, leading to problems of interpretation. Another problem is the transportation of NTs abroad the blood-brain-barrier (BBB): New data from neuroscience enabled for a better understanding of any NT measurement: Intact Nts are directly and constantly transported via specific transporter systems (eg GABA: GAT2/BGT-1, DA and NE: NET, serotonin SERT, glutamate: EAAT 1-3) from CNS into the blood, so measurements are reflecting CNS secretion of NTs. However, estimations within the serum are only short term evaluation, whereas measurements within urine reflect a wider timer frame allowing a more valuable consideration.

Actually measurements within the 2nd morning urine are highly reliable to express basic NT activity: While 1st morning urine reflects the morning trophotropic-vagotonic NT secretion (which is of less interest), the CNS is acutely regulating after "morning-get-up" into upright position adequately with respective balance of excitatory (EN, NE, DA, glutamate) and inhibitory NTs (serotonin, GABA). This balance is of main interest for the evaluation of total NT activity.

For the measurement specially prepared vials are needed for stabilization of neurotransmitters, especially the biochemically sensitive catecholamines.

The NT-values are related to g creatinine and expressed in µmol/g creatinine. Then data are interpreted in terms of

1. absolute concentrations (normal, too low or high)
2. balance of excitatory versus inhibitory NTs
3. interrelation of catecholamines as a sign of specific enzyme inhibition (eg. DA to NA, NA to EN) and
4. relation to other stress-parameters (cortisol day profile, DHEAS etc)

In most cases a precise actual status of NT activity can be defined with consecutive decision for a concrete NT support or inhibition.

For the treatment NT precursors are used altogether with its necessary micronutrients, essential for NT synthesis. For the enhancement of serotonin micronutrients like Vit B3, 6 and folic acid are as essential as serotonin precursors L-tryptophan and 5-Hydroxy-tryptophan (5-HTP). In addition neuromodulators like taurin, theanin as well as neurosteroids are prescribed for support of NT synthesis.

Neuroscience has elucidated NT biology a lot enabling the physician to do the appropriate test and NT treatment.

Multisystemic diseases (MSD) like CFS (Chronic Fatigue Syndrome), MCS (Multiple Chemical Sensitivity), FMS (Fibromyalgie-Syndrom) and PTSD (Post-Traumatic Stress Disorder) are characterized by an overlapping symptomatology and a mainly common basic disorder: mitochondrial dysfunction due to oxidative and nitrosative stress.

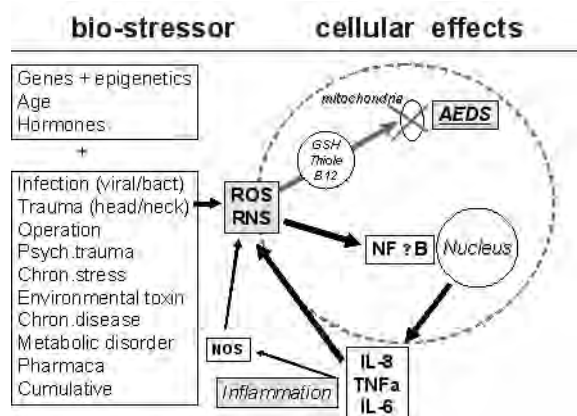
The pathophysiology is very interesting as irrespective the kind of biological stressor (infection, physical or psychological trauma, chronic stress, environmental toxic load, metabolism, medication and chronic diseases) oxydative (ROS) and nitrosative (RNS), as well as AGE-products are generated as signal-molecules for further adaptive reaction of cell-systems (immune-system and organic cells).

Normally a basic pattern and concentration of ROS is necessary for an adequate immune-activity. Higher concentrations of ROS are normally neutralized by intracellular GSH, thiols, Vit B 12, CoQ10 and other antioxidants. In pathologic situations and in the presence of higher amounts of nitric oxide (NO) a highly toxic peroxy-nitrite (ONOO) is synthesized. At the cellular level two main consequences will occur:

- Blockade of mitochondrial energy-production mainly of ATP (AEDES = acquired energy dysfunction syndrome) by enzyme deregulation of aconitase of citric oxide cycle.
- Stimulation of inflammation by direct upregulation of the transcription-factor NF κ B with consecutive transcription of inflammatory synthesis of prostaglandins and induction of "proinflammatory" cytokine activity of IL-8, TNF α , IL-6 and IL-1 β . These cytokines will directly stimulate NO synthesis via induction of NOS and generation of ROS and RNS. This biochemical cycle may serve as a "turbo" for the upregulation of inflammation and mitochondrial dysfunction.

The blockade of mitochondrial function will affect any cell system, leading to typical symptoms of physical, cognitive and emotional weakness and loss of energy. The remarkable fact of these pathways is, that mitochondrial dysfunction and/or inflammation is initiated irrespective whether the stressor is somatic or emotional in origin.

For the clinical medicine a thorough diagnosis is necessary to detect kind and degree of the biochemical defect. For a stepwise diagnosis of the single pathomechanisms the following parameters are recommended:



- Clinical tests : Cortisol or IL-8 after 100-150 Watt test, "Prolonged 2-day-test" by spiroergometry, stress evaluation, general exam
- ROS / RNS: Total Oxidative Capacity, nitrotyrosin (EDTA), Citrullin (1st morning-urine),
- Inflammation: CRP hs, fibrinogen, IL-8, TNF α , IL-6, IL-1 β
- Hormones: estradiol, testosterone, 25OH-Vit.D3, stress-diagnosis (cortisol),
- Neurotransmitters
- Micronutrients
- Serology: Coxsackie, EBV, Borreliose, HHV6,
- LTT (borelliosis, heavy metals, dental material)

The treatment of mitochondrial dysfunction the antagonisation of ROS and RNS (peroxynitrate) is essential. The basic treatment therefore is Methylcobalamin (or hydroxycobalamin) in remarkable dosages to antagonize RNS, as well as upregulation of cellular antioxidative systems by means of reduced glutathione (infusion), acetyl-glutathione

or acetyl-cystein (ACC) as precursor of GSH. Additionally alpha-lipoic-acid, Co Q10, PUFA and other anti-inflammatory substrates should be prescribed basically.

Parallely an adapted lifestyle (low energy sport, nutrition rich in vitamins, low carbohydrates and general reduction of underlying stress) should be part of a coaching program.

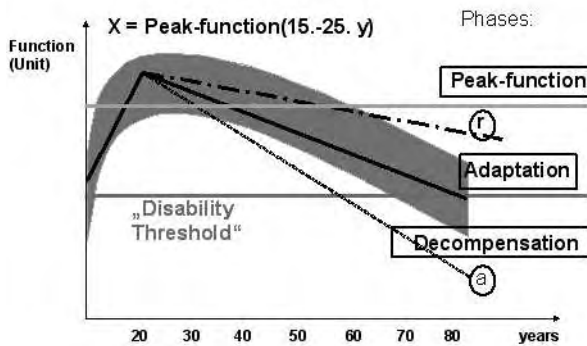
The treatment is focussed on restitution of mitochondrial enzymes and membranes, protection of mt DNA. If successful treatment must be designed as integrative, complex and based on latter scientific knowledge and experience with the therapy of multisystemic and mitochondrial diseases.

The process of human aging is running individually different, complex, and even diverse in various body compartments, particularly leading to differences between chronological and biological age. The typical signs of biological and organic aging are: Decrease of vitality, muscle-strength and -tension, change of body composition (muscle/fat-ratio), decrease of joint-flexibility and bone-mass, sagging body and skin-folding, reduction of brain function in terms of brain-flexibility and -speed, fluency, memory, reaction and concentration, loss of cardiovascular (VO₂ max), and respiratory capacity (expiratory vital capacity), increase of inflammatory processes (/Inflammaging), loss of hormonal activity (DHEAS, human growth-hormone hGH, estradiol and testosterone) and sexuality. The aging process is also genetically determined (SIRT-1-gene, DAF-2, Fox-0-genes) as an "intrinsic biological watch". The run-time of this watch is furthermore driven by epigenetic factors, especially the lifestyle. Muscle and brain function are highly depending on personal activities, nutrition, exercise, and cognitive demands by profession and recreational activity.

For the description of the aging processes in different organic systems biological age-markers were developed for the objective description of systemic and organic vitality, enabling the detection of early loss of function in view of initiating medical prevention

and intervention

Any vital biophysical or biochemical organ function is developing according to a typical underlying time-frame:



Organ-vitality increases from birth to "peak function" at the age of 15-25 (women) and 18-28 (men), with a more or less rapid linear decline afterwards. Over a long period during lifetime the loss of function is compensated (phase of "adaptation"). After reaching the "disability threshold" the loss of function is decompensated (phase of "decompensation"), leading to disease or disability.

The velocity of the aging process can be retarded (r) with a slower decrement, or accelerated (a), when vitality loss is speeding-up.

Parallel to the decrease of vitality chronic and life-threatening diseases like cardio-vascular and cerebro-vascular disease (CVD), pneumonia, dementia, osteoporosis/osteoarthritis, depression and malign tumours are becoming more frequent with age, due to

decrease of the entire and single-organ vitality. The lower the vitality-status, the more likely are health problems (Rennie KL et al, 2003)

For this reason a thorough vitality-status and risk analysis for each organ system and type of disease is recommended.

The following parameters are relevant and precise predictors of vitality and the aging process enabling to express the "biological age" :

- Body mass Index (BMI), waist circumference (in cm)
- Lung-function: Forced vital capacity (FEV and FEV in 1sec)
- Heart/circulation: Cardio-respiratory fitness (VO₂ max.), Heart-Rate-Variability (HRV), blood-pressure, blood-pressure
- Muscle function: hand grip strength, number of push-ups and/or knee-bends per minute
- Neuromuscular function: balance test, finger tapping, muscle speed
- Bone: Osteodensitometry (t- and z-score)
- Brain function: highest audible pitch, visual and/or acoustic reaction time, memory test, complex concentrative tests
- Endocrine markers: DHEAS, cortisol, estradiol, testosterone, IGF1,
- Biochemical age-markers: Creatinine, cholesterol, hemoglobin
- Risk-markers for age-related diseases: CVD: Cholesterol, HDL-c, fibrinogen. CRP hs, Lp(a), homocystein, PAI 1, breast-cancer: mammogram, prostate-cancer: PSA
- Inflammation status: CRP hs, Total oxidative Capacity (water and lipid-soluble ROS), RNS (3-nitrotyrosine), IL-8, TNFα, IL-6, IL-1β
- Immun-status (CD 8 / CD 4 - ratio)
- Genetic testing: Polymorphism (Single nucleotide polymorphisms of main regulating enzyme genes as risk indicators)

For the clinical practice a mixture of various biological tests using physical (apparative), biochemical and neuro-hormonal parameters is needed for a precise definition of entire and organ-specific vitality and biological age.

Several test systems have been developed in the past:

The "H-Scan" of HOCHSCHILD (1980) was the first scientifically proven system, but disappeared in the past.

BIOAGING is a newly designed system using a different pattern of scientifically proven biochemical and biophysical age-parameters and additional risk-analysis, with precise evaluation of the vitality in all relevant organic systems.

The determination of biological age- and vitality-parameters is an important and interesting tool for any physician practicing preventive or antiaging medicine. On the basis of exact defined vitality-values any intervention or preventive method can be exactly monitored, instead of an only superficially control of symptoms. For the patient a precise test-value is a better motivator for long-term adherence and compliance. For this reason biological markers of aging and vitality are necessary modern instruments for preventive medicine to increase health and vitality and to reduce age relevant diseases and disability.

TOSHIKAZU YOSHIKAWA, MD PHD*

Free radical and anti-aging
Transversal Session - Anti-aging for Optimal Aesthetics

Saturday April 10th, 11.00 - 1.00
Room Van Dongen

* Kyoto Prefectural University of Medicine, Japan

Aging is the progressive accumulation of deleterious changes with time that increase the chance of diseases, especially life style-related disease. The basic chemical process underlying aging is first advanced by the free radical theory of aging: the reaction of oxygen free radicals, normally produced in the organisms, with cellular constituents (lipid, protein, DNA, et al.) initiates the changes associated with aging. Oxidative stress in aging also can result from an imbalance of prooxidants and antioxidants with excessive, destructive free radical chemistry. Although definitive proof and many mechanistic details are still lacking, available information is consistent with the predictions of the mitochondrial free radical theory of aging. Long-lived mammals and birds have low rates of mitochondrial reactive oxygen species (ROS) production and low levels of oxidative damage in their mitochondrial DNA. Caloric restriction, which extends longevity, also decreases mitochondrial ROS production at complex I and lowers mtDNA oxidative damage. Recent data show that these changes can also be obtained with protein restriction without strong caloric restriction. By reducing mitochondrial ROS, some antioxidants may inhibit mitochondrial permeability transition and cytochrome c release, thus preventing oxidant-induced cell death. In Japan, we have just started the health system evaluating the grade of aging for bone, nervous system, muscle, hormone, vessel, etc. and preventing the progress of these aging by natural food factors. In this presentation, we will discuss the recent advances in this field.

* Hospital Henri Mondor, Dpt of Urology, Creteil - France

Urinary incontinence is a frequent condition associated with ageing and may dramatically affect the quality of life. Transplantation of cultured muscle precursor cells (MPC), a novel therapeutic strategy for stress urinary incontinence, is aimed at generating muscle tissue in the urethra and to improve urethral sphincter contractility. However, recent studies raised questions regarding the possible cellular damages caused by the successive steps of the cell preparation process, mainly enzymatic digestion and cell expansion in culture, leading to massive death of the MPC following injection. These results advocate for the use of fewer but undamaged MPC in therapeutic applications. Here, we investigated a new method of MPC delivery into the urethra consisting to implant freshly isolated myofibers with their satellite cells representing the main source of MPC.

Myofiber cores measuring 2 mmx10 mm were prepared from a muscle biopsy in 9 female pigs, labelled with anionic magnetic nanoparticles (AMNP) for MRI (T1-weighted sequences) and histological monitoring, and implanted into the smooth muscle layer of the proximal urethra. Animals were sacrificed after MRI analysis on days 7 and 30. The urethras were harvested, sectioned and assayed for the presence of activated satellite cells (desmin), centronucleated myotubes (MHCf) and AMNP (Perl's stain). In parallel, myofiber implants were incubated for cell culture and immunohistological studies to assess satellite cell activation in vitro.

MRI revealed a distinct area of low signal intensity in the proximal urethra on days 7 and 30. Activated satellite cells (day 7) and centronucleated myotubes (day 30) were found in the areas stained with Perl's stain. Cell culture studies demonstrated continuous secretion of desmin-expressing cells by the implants over 4 weeks.

Intraurethral implantation of myofibers leads to a myogenic process consisting in satellite cell activation followed by myotube formation. Direct delivery of MPC without prior cell culture represents an original and simple method of cell therapy to engender muscle formation in the urethra as a one-step procedure.

* Hospital Henri Mondor, Dpt of Urology, Creteil - France

Erectile dysfunction (ED) is a frequent condition increasing in incidence with ageing and may dramatically affect the quality of life. ED can be the consequence of a treatment for prostate cancer, mainly radical prostatectomy, due to the injury of the cavernous nerve that provide most of the autonomic input to the penis. We previously showed in the rat that ablation of cavernous nerves causes apoptosis of several cell types in the penis, including smooth muscle cells, mesenchymal supportive cells and endothelial cells. Here, we investigate the therapeutic potential of bone marrow cells to repair cellular damages caused by this injury.

Bilateral ablation of cavernous nerve was performed in 40 Fisher rats. 107 bone marrows cells were isolated in Ficoll gradients from the femur of rats of the same breed, labeled with PKH26 and injected immediately after injury into the corpus cavernosus. Animals were sacrificed 3 (n=20) or 5 weeks (n=20) later after neurophysiological testing consisting in electrical stimulation of the pelvic ganglion while recording simultaneously intra-cavernosal and intra-carotid pressures. In control group (n=20), the same procedures were performed with saline serum injection instead of bone marrow. Histological analysis investigated the presence of apoptotic (Tunel), smooth muscle (alpha-actin), mesenchymal (vimentin), and endothelial (CD31) cells. The 3 isoforms of NOS (NOSn, NOSe, NOSn) were studied by RT-PCR and Western Blot. 20 additional non-injured rats were used as normal controls.

Cavernous nerve injury induced a significant drop of intra-cavernous pressure compared as normal controls (35 vs. 8 mm Hg, P<0.02) and a diffuse apoptosis of cavernous cells, mainly vimentin+/alpha-actin- cells. Injection of bone marrow cells restored 40% of intra-cavernous pressure (P<0.03) and dramatically decrease the number of apoptotic cells. PKH26+ cells were found in the connective tissue lining sinusoid spaces. A drop of the 3 isoforms of NOS was observed in the control group at week 3. Bone marrow cell injection significantly increased NOS concentration at week 3.

Injection of bone marrow cells may represent a promising curative therapeutic strategy for post-prostatectomy erectile dysfunction aimed at repairing cellular damages caused by cavernous nerve injury.

NOTES

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ABSTRACTS

MEDICAL SPA

MICHAEL HASE, MD

Burnout and depression: Different perceptions and practical management
Session: "Burnout": Psychotherapy and Medical Spa

Friday April 9th, 4.30 - 6.30
Room Auric

Burnout seems to be a strongly debated topic in psychosomatic medicine. The genesis of this condition is quite often related to workplace and career, although individual predisposition has to be considered. There is growing evidence on the prevalence of depression or adjustment disorders in this group of patients. Adjustment disorders seem to originate from critical episodes, enabling the individual to complete a cycle of action. Hobfoll (2004) postulates a common nature in traumatic stress and stressful life-events leading into a burnout process. Burnout has a profound impact on psyche and body followed by impaired functioning and if untreated quite often leading into chronic depression. This lecture addresses the chance of psychotherapy and adjunctive therapy in a psychosomatic setting. Eye Movement Desensitization and Reprocessing - EMDR (Shapiro 2001) seems to be an appropriate therapeutic tool within a comprehensive treatment plan. There is growing evidence of the efficacy of EMDR in the treatment of chronic depression. As EMDR is often well tolerated and accepted there is hope to gain another option in the treatment of burnout and chronic depression.

Shapiro, F. (2001): Eye Movement Desensitization and Reprocessing. Guilford, NY
Buchwald, P. & Hobfoll, S.E. (2004): Psychologie in Erziehung und Unterricht. 51, 247 - 257

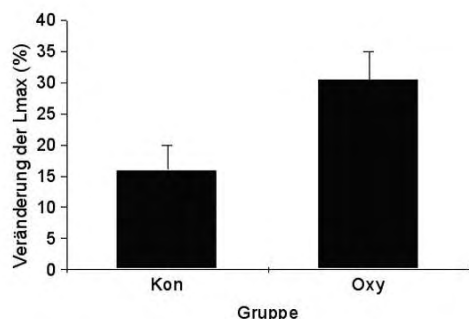
ULRICH JERICHOW, DR.-ING.

Effect of hyper oxygen supply during the rehabilitation training of COPD patients
on performance improvements compared to a Placebo group
Session: Oxygen in Medical Spa: Which therapies are safe and powerful?

Friday April 9th, 8.30 - 9.30
Room Auric

The chronic obstructive pulmonary disease (COPD) is beside the strong limited pulmonary function characterized by a poor overall performance caused by a limited oxygen uptake ability of the lung and various factors within the skeletal muscles (Villaca et al. 2005). Since a long time it is known that training of the respiratory muscles can improve the performance of a COPD patient (Flynn et al. 1989, Larson et al. 1988, Lisboa et al. 1994, Reid et al. 1995, Sanches et al. 2001, Weiner et al. 2003). Whereas the effect of training the leg and arm muscles on performance improvements became recently an area of interest. The main problem by training COPD patients is the limitation of the skeletal muscles to perform a sufficient long intense work out. This is caused by the limitation of the pulmonary system (Maltais et al 1997). This limitation has been studied by Dolmage et al. (2006) by measuring the maximum oxygen uptake (VO₂max) with an ergo spirometric test of a COPD group performing the test with one leg and a COPD group performing the test with 2 legs. After stopping the test at peak performance the VO₂max was nearly identically of both groups. Performing this test with a healthy control group shows a significant improvement when being tested with both legs. This results lead to this assumption that hyper oxygen training might be of great benefit for COPD patients. However there are only very limited information for a hyper oxygen supported training available. For this reason the aim of this study is to show the effects of a 12 week lasting systematic training supported with 38% oxygen supply on performance improvement compared to control group training with norm oxygen air.

The percentage performance improvements of a norm oxygen (Kon) and hyper oxygen (Oxy) are shown in picture 1.



Pic 1: Percentage improvements of the maximum performance after training for 12 weeks compared to the initial performance (average value + SE)

The results show clearly:

- COPD patients benefit from norm oxygen as well as hyper oxygen training
- The performance improvements for the hyper oxygen group shows a double as much improvement compared to the norm oxygen group.

The training method shows a tremendous potential for the therapy of COPD patients and might be a way to stop the continuously worsening course of disease of this patients.

WENDY LEWIS

Global trends in MedSpa and skincare services for 2010 and beyond
Session: Medical Spa Business Session

Saturday April 10th, 8.30 - 10.30
Room Auric

President, Wendy Lewis & Co Ltd, USA and UK

The medspa market has undergone many changes since 2008 in response to a global downturn in surgical procedures, consumer spending, and credit. For 2010, the keys to success are to stay relevant and visible to your customers and to offer a wide range of non-surgical services from cosmeceutical skincare to injectables and medical devices. Bundling treatments and

products and offering good value to customers by selecting therapeutic and rejuvenating technologies is important to maintain high customer satisfaction, generate repetitive business, and grow your medspa's revenue stream. Although the new realities of aesthetics have created some challenges, there are opportunities for expansion and building your brand. Successful medspas and clinics are actively marketing their services effectively online and via social networking to generate exposure and capture new customers.

PAKPILAI THAVISIN, MD

Environmental & domestic toxins

Session: Detoxification: Principles, Diagnostic and Therapy

**Friday April 9th, 9.30 - 10.30
Room Auric**

A toxin is often defined as a poisonous substance produced by plants, some animals and disease causing bacteria. Another definition for a toxin is Xenobiotic which means a foreign chemical not produced by the human body. Toxin also refers to anything that can be harmful or hazardous to the body or that affects the balance of the body.

There are 3 categories of toxins:

- Exogenous toxins have source externally.
- Endogenous toxins are a result of microorganism contagions inside our body.
- Autogenous toxins are produced by the body itself.

There are more than 3,800 chemicals in daily use, and polluted environment accounts for 50% of Cancer risk (NIH).

Toxin accumulation in the body can alter body's metabolism, cause enzyme dysfunction, nutritional deficiencies, hormone imbalance, damage immune system and also cause psychological decline.

The internal toxin accumulation can be from alteration of acid-alkaline balance due to too much processed food, sugar, high GI food, meat and less grains and vegetables, while abnormal bowel flora can cause many health problems from indigestion to allergic reactions.

External and internal toxins should be addressed so we can help balance the body by simply remove the cause.

PAKPILAI THAVISIN, MD

Detoxification: Trick or treat?

Session: Detoxification: Principles, Diagnostic and Therapy

**Friday April 9th, 9.30 - 10.30
Room Auric**

Detoxification is the process that the body rid itself of any unwanted chemicals. Detoxification handles waste not only from the environment but also from every process in all the organs and systems of the body.

Most people believe that we don't need any detoxification therapy since the body has its natural ways of detoxification thru skin-perspiration, kidneys-urination, lungs-exhalation, colon-defecation, liver-lymphatic flow and immune system. However the polluted environment, the contaminated food and drink, the household synthetic chemicals, the modern diet full of processed, less natural, high GI, high protein and fat but low fiber content overload the body with excess toxins more than the natural ability to handle. The body's systems are unable to cope with the daily poisonous assaults because the toxins accumulate in the body faster than they can be eliminated. This results in "Bioaccumulation" and "Autointoxication" which can cause cell and tissue breakdown, weakens the body and cause diseases.

Detoxification therapy is aimed to enhance toxin elimination while reduce toxin intake. Detoxification can be done in many ways such as "Fasting", "Detox Diet", Detox supplements", "Herbal Steam", "Lymphatic drainage Massage", and "Colon Hydrotherapy".

PAKPILAI THAVISIN, MD

CRM (Customer Relation Management): How to survive the economic crisis

Session: Medical Spa Business Session

**Saturday April 10th, 8.30 - 10.30
Room Auric**

During the global economic crisis, it is crucial to choose the right marketing tool that is most effective, efficiency and least expense. Customer Relationship Management (CRM), to keep an existing customer, costs 7 times less than acquire a new one.

CRM is the provision of service to customer before, during and after purchase.

CRM is a series of activities designed to enhance the level of customer satisfaction, meet & beyond customer expectation. A satisfied customer is a walking advertising. Satisfied customer becomes loyal customer who but more, but more often, frequently recommend your business to others and more profitable than newly acquired customers.

CRM plays an important role in organization's ability to generate income and revenue.

6 steps to build CRM:

- 1) A total Approach: a business strategy for everyone in your company
- 2) Essentials of customer care: a personalized service
- 3) Customer feedback: customer complaint is a golden opportunities for improvement
- 4) Communications: regular contact, different type of communication for each customer group
- 5) Friendship: be your customer best friend, trustworthy
- 6) Added-value schemes: rewards to loyal customers, membership-sense of belonging

Integrated Medicine: The marriage of medicine & Spa
 Session: Which Treatments and Products for your Medical Spa?

Saturday April 10th, 4.30 - 6.30
Room Ravel 1

Conventional medicine mainly treats the illness, sometime just the symptoms but may be not address the real root of the problems, while Spa, as a part of Alternative or Complimentary therapy mainly treats the mind. 80 % of the degenerative diseases such as cardiovascular disease, Alzheimer, chronic pain and cancer are the result of chronic stress. So the combination of conventional medicine and alternative medicine can really treat the whole- body and mind.

Integrated medical treatments with spa therapy can be done in many ways:

- Integrated Aesthetic program: Laser, fillers, facial acupuncture, facial massage, nutraceuticals etc.
- Integrated Weight loss program: Behavior modification, diet, exercise, carboxy therapy, RF, ultrasound, acupuncture, detoxification, firming massage, etc.
- Integrated Anti-Aging program: diet-nutraceutical, HRT, stress management, massage, meditation, sleep lab, TCM, etc.
- Integrated Cancer treatments: Chemo-radiotherapy, detoxification, lymphatic drainage massage, acupuncture, diet - nutraceuticals, etc.

The integration of medicine and spa is aimed for Holistic approach which encourages the body's natural healing system and take into account the person as a Whole.

DAVIDE TONINI, MD - Co-authors: Dr.Michele Tonini,Dott.M.C.Orlandini

The real great news in aesthetic medicine: The hyperbaric oxygen technology (Intraceuticals)
 Session: Oxygen in Medical Spa: Which therapies are safe and powerful?

Friday April 9th, 8.30 - 9.30
Room Auric

The Intraceuticals Rejuvenate infusion is a non invasive treatment specifically indicated for three objectives:

- Rejuvenation of the face, neck and hands.
- Hyper pigmentations
- Acne

As plastic surgeons, we use this method especially for skin rejuvenation.

In this case, the treatment has three important characteristic: First peculiarity, the treatment doesn't use needles or injections. Hyperbaric oxygen helps to carry into deep skin the active principles (Rejuvenate serum), increasing at the same time their levels of superficial oxygenation with a calming effect.

The Rejuvenate serum has the peculiarity to contain low molecular Hyaluronic acid with antiox product and vitamins, and this complex get into deep skin giving more tonicity, fine line and wrinkles reduction and face contour improvement. The use of specific treatment's support products generates a stratification of the Hyaluronic Acid obtaining an optimal hydratation of the tissue.

As plastic surgeons, we have always preferred more invasive treatment as laser skin resurfacing, deep peelings or sometimes soft middle face lifting. The use of this specific aesthetic procedure give to our patients incredible results in skin rejuvenation without any pain, any post op.

Moreover, can be used to improve result of other surgical procedures as face and neck lift or blepharoplasty.

NANCY TRENT - CEO - TRENT & COMPANY, INC. MARKETING COMMUNICATIONS

How to become a trend trailblazer instead of a trend follower in the anti-aging industry
 Medical Spa Business Session

Saturday April 10th, 8.30 - 10.30
Room Auric

Description: Are you setting trends or following them? A trendsetter sees where things are headed and gets there first. In this session, Public Relations expert Nancy Trent, President of Trent & Company Inc., speaks about initiating and identifying trends for cosmetics from a global and US perspective.

Presentation objectives

Attendees will learn about:

- How to analyze the anti-aging marketplace to identify consumer needs
- How to determine the staying power of trends and capitalize on them
- Health & Wellness Trends - the evolution and impact of natural and organic products and the need for a universal development of standards and regulations
- Cosmetic and personal care trend predictions

RENATE VIEBAHN-HÄNSLER, DR.RER.NAT

Medical Ozone and hormesis in aging
 Session: Oxygen in Medical Spa: Which therapies are safe and powerful?

Friday April 9th, 8.30 - 9.30
Room Auric

Rationale: The Low-Dose Ozone - Concept with its moderate oxidative stress seems to represent an ideal Hormesis or Healthy Aging strategy. The precise concentrations and well directed reactions of the active oxygen molecule O₃ - producing specific reactive oxygen species ROS- are well known, documented and published.

Cellular antioxidants and radical scavengers are upregulated as a response to the mild oxidative stress, increasing the antioxidative capacity as defence mechanism of cells and organism. As a consequence the cells are protected from an excess of free radicals as aging components and inducers of age related diseases.

Results and conclusion: By the regulation of the leading enzymes Superoxidedismutase SOD and Glutathion GSH the low-dose-ozone effect will be demonstrated in animals as well as in humans. Correspondingly, those parameters characteristic for extensive oxidative stress (eg in chronic inflammatory processes or age related diseases) such as MDA (Malondialdehyde) or AOPP (advanced oxidation proteins) decrease significantly.

Following the definition of hormesis ozone is a real hormetic substance: while toxic for the lung epithelium during longer contact periods ozone shows a beneficial and cell protective effect if properly administered at low dosages.

ALFRED WOLF, MD PHD

Orthomolecular treatment of burnout
Session: "Burnout": Psychotherapy and Medical Spa

Friday April 9th, 4.30 - 6.30
Room Auric

Burnout is characterized by exhaustion, cynicism and inefficacy. It is associated with long term stress exposure of both sexes and even children, with elevated risk for anxiety and depression. It mainly affects people from social professions like physicians, priests, teachers, free-lancers, leading employees and managers.

The main symptoms are exhaustion, weakness, frustration and associated with overtax at low gratification ("A burnout has burnt once"). The neurobiology of burnout is characterized by inadequate coping with chronic stress and consecutive depletion of adrenal cortisol-synthesis and CNS-neurotransmitter production (decreased stress adaptivity)

Burnout is not a recognized disorder in the DSM although mentioned as disease-factor in the ICD-10. Burnout needs a thorough psychological and somatic diagnosis (Maslach burnout inventory (MBI), Stress-test (acc. Kaluza / Wolf), exclusion of other possible causes of exhaustion and adynamia measurement of blood pressure, HRV, Cortisol-day-profile (in saliva, and Neurotransmitters (2nd morning urine). Treatment is individualized according to diagnostic data:

The initial treatment needs a cessation of energy consumption due to chronic stress by lifestyle intervention, sleep support, and stress reduction.

Substrate therapy mainly exists from micronutrients and NT-precursors (orthomolecular treatment):

Serotonin-enhancement by micronutrients (vitamine B3, B6, folic acid) and serotonin-precursors (L-Tryptophan/5-HTP), Increase of epinephrine, norepinephrine and/or dopamine by means of SAMe, phenylalanin, L-tyrosin, mucuna pruriens.

Neuromodulators (taurine and theanine) for GABA enhancement.

The aim is to reconstitute the neuro-endocrine balance within 4-8 weeks. In most cases however balance of excitatory and inhibitory NTs is achieved after 2-4 months.

Burnout prevention by means of a learning-program for better stress coping, self development ("auto-coaching") by weekly exercise program, mindfulness based treatment of nutrition, avoiding alcohol and nicotine, stimulation of social contacts and music-activity, development of competence in relationship, respectful contacts with coworkers within the professional environment, care for realistic working plans and its realisation, development of team-spirit, safety of time, self-determination, tolerance and self-esteem.

As individual symptoms and somatic stress-responses show only a weak association, medical and emotional support is needed altogether for a successful intervention of burnout in view of "integral medicine".

Notes

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AESTHETIC WORKSHOPS

Aesthetic Workshop
ANTEIS

Friday April 9th, 2.00 - 3.00
Room Ravel 1

IOANNIS LYRAS, MD

Volumizing filler treatments with the new electronic Injection System from Anteis

The hyaluronic acid filler market has been constantly growing over the last 15 years reaching 2.3 mio* procedures worldwide in 2008 and aiming at 3 mio* in 2010. In the world of aesthetic practitioners, HA's rapid growth and the expansion of rejuvenating procedures erode the boundaries between plastic surgery, dermatology and aesthetic practice. So-called "dermal fillers" no longer just fill wrinkles the old-fashioned way. A new class of fillers has come to life whose high elasticity allows modeling the desired shapes, adding volume and structure to the crucial facial areas which start to sag or sink with age. The areas treated by fillers are no longer limited to the face only but include the neck, cleavage, hands, etc. In the meantime, consumer desire continues to rise for quick, painless, minimally invasive procedures followed by no downtime with almost surgical-standard results.

All these market developments increase the importance of the effectiveness and accuracy of HA-based injections. The choice of the product to be injected is of major importance and should be considered with regard to its technology, safety record and delivery of desired aesthetic outcome. But the effectiveness of the treatment also greatly depends on the quality of the injection itself. Until recently there were no solutions to optimize and improve the injection process.

At the end of 2009 Anteis S.A. pre-launched an innovative Injection System that could most probably create a new trend in product delivery and pain management. It is a technologically advanced automated injection system for local injections with Anteis HA-based gels aiming to optimize clinical results while bringing comfort for patients. The uniqueness of this service comes from the compatibility with both filling and rehydrating products and all injection techniques. Shortly after its international pre-launch, Anteis Injection System was awarded with the Gusi Peace Prize for contribution to improving people's well being through the application of innovative technology in November 2009.

Clinical studies on 193 patients have demonstrated that the new Anteis Injection System improves the standard of practice for both the practitioners and the patients:

Injection results' optimization for practitioners:

- Absence of injectors' muscular fatigue - no plunger pushing leads to more precise tissue augmentation;
- Improved accuracy of injection - more precise dosage thanks to the pre-calibration of the injected volume, predictable results with the regular injection flow, size, volume, speed;
- Improved effectiveness of injection - no tissue oversizing or overstretching, no product loss, less product needed;
- Improved safety of injection - no needle breakage/ejection, blocked needle detection;
- Easier injection of highly elastic products like Fortélis.

Comfort for patients:

- Less pain during and after injections (80% of patients), thinner needles can be used to decrease the pain even more, no need to use anesthetics;
- Fewer immediate side effects (haematoma, swelling, redness, bruising) compared to manual injections (none in 79%);
- A considerably reduced downtime - quicker return to social life;
- Increased satisfaction with immediate aesthetic results.

Anteis Injection System can be used with the whole range of Anteis' products for complete volumetric facial rejuvenation - Esthélis, Fortélis and Mesolis - each benefiting from its own unique patented technology tailored to respective dermal tissue and desired aesthetic results.

Apart from the Anteis Injection System, there is no other power-assisted injection device that is compatible with both fillers and rehydration products and allows practicing all the injection techniques with all products with maximum injection control and safety.

*Millenium Research Group 2006

Aesthetic Workshop
ANTEIS

Friday April 9th, 3.00 - 4.00
Room Ravel 1

ANNE GRAND-VINCENT, MD

Rehydrating treatments with the new electronic Anteis Injection System

The market of skin rehydration by hyaluronic acid (HA) delivered with mesotherapy techniques, also called biorevitalization, grows in parallel to the filler market. The driving forces behind it are on one side, the so called "French touch" trend with youthful skin "au naturel", and on the other side, the growing importance of prevention of skin aging. The major aim of rehydration products amongst other is to give tired and dried-out skin back all its glow, tone and elasticity thus improve the complexion and prevent the formation of wrinkles. The traditional way to achieve it is to compensate for the loss of endogenous HA through its microinjections.

Mesolis range by Anteis is designed to satisfy this market demand addressing 2 different rejuvenation needs. Mesolis is more suitable for rehydration of younger dermis and Mesolis+ - for rehydration of severely dehydrated, superficially damaged dermis.

The Mesolis+ became the reference product in its group thanks to unique association of HA and glycerol. This breakthrough Anteïs patent allows to compliment HA's known water-retaining power in a number of ways:

- glycerol strengthens the rehydrating power of HA through its own extremely hydrating properties;
- glycerol increases HA gel's resistance to degradation by creation of a "protective mantle" around it thus providing a long-lasting hydration effect;
- glycerol reinforces the stratum corneum in its role as a barrier to water loss and contributes to preserving the skin's hydration rate.

These most powerful endogenous hydrating agents combined with the highest concentration in HA* and a very high molecular weight allow to achieve unparalleled dermis hydration on the face, neck, cleavage and back of hands.

But the effectiveness of the treatment also greatly depends on the quality of the injection itself. Until recently there were no solutions to optimize and improve the injection process. At the end of 2009, Anteïs S.A. pre-launched an innovative Injection System that will most likely create a new trend in product delivery and pain management. It is a technologically advanced automated injection system for local injections with Anteïs HA-based gels aiming to optimize clinical results while bringing comfort for patients. The uniqueness of this service comes from the compatibility with both rehydrating and filling products and all injection techniques. Shortly after its international pre-launch, Anteïs Injection System was awarded with the Gusi Peace Prize for contribution to improving people's well being through the application of innovative technology in November 2009.

Clinical studies on 156 rehydration patients have demonstrated that the new Anteïs Injection System improves the standard of practice for both the practitioners and the patients:

- Less pain during and after injections with 80% of practitioners claiming that anesthetics could be avoided;
- Fewer immediate side effects (haematoma, swelling, redness, bruising) compared to manual injections (none in 79%);
- Highly precise injections thanks to improved control of speed and several pre-calibrated volumes of ejected gel for both papular and nappage techniques;
- Possibility to use finer 32G needles making injections painless and with even less side effects;
- No need to push the plunger leads to absence of injectors' muscular fatigue especially after work on bigger skin areas;
- A considerably reduced downtime with papules disappearing in half the usual time allowing quicker return to social life.

Usually performed manually, revitalization treatments by mesotherapy technique undergo a real evolution through the usage of the new Anteïs Injection System. If the principle remains unchanged, "inject little, infrequently, in the right place", the outcome is much more impressive. It allows more precision of the injected volume of product and also of the level of injection irrespective of the site of injection. Moreover, contrary to the classical manual technique, the pain disappears. With the Injection System, there is no product waste. The new Injection System is a revolutionary aid which optimizes the quality of the results.

Anteïs Injection System can be used with the whole range of Anteïs' products - volumetric Esthéïs and Fortéïs and rehydrating Mesolis - each benefiting from its own unique patented technology tailored to respective dermal tissue and desired aesthetic results.

Apart from the Anteïs Injection System, there is no other power-assisted injection device that is compatible with both rehydration products and fillers and allows practicing all the injection techniques with all products with maximum injection control and safety.

*amongst non cross-linked HA

Aesthetic Workshop
ANTEIS

Saturday April 10th, 2.00 - 3.00
Room Ravel 2

TVETEN STEIN, MD

Innovative technology in the field of facial treatment with the new Injection System from Anteïs

Filler injections are among the most commonly used in the field of aesthetic dermatology. Pain and bruising are the most reported adverse events.

An innovative injection device which provides a reduction in these side effects has been launched in January 2010. The Anteïs Injection System is an automated system that delivers unprecedented results for practitioners and their patients. To date, this is the only injection system that is compatible with all products (with 1ml and 2 ml glass syringes), for all applications from modelling to revitalization and suitable for all indications. It offers patients a comfortable experience and effective result (no pain or trauma) and offers practitioners ease of use and precision.

Anteïs Injection System can be used with the whole range of Anteïs' products for complete facial rejuvenation treatments - Esthéïs, Fortéïs and Mesolis -

Esthéïs is devoted to treating all wrinkles, even the finest and most superficial ones, enhancing lip volume and correcting scars. It has increasingly been used for multiple cosmetic dermatology indications for the last three years.

The recent launch of Esthéïs + Glycerol provides further illustration of Anteïs' commitment and enables practitioners to offer their patients an overall wrinkle solution: hyaluronic acid to generate a mechanical response in the dermis (filling) and glycerol to generate physiological response in the epidermis (rehydration and elasticity).

The appeal of this product can be attributed to its use in multiple indications, its excellent results and its strong safety profile.

Nevertheless, the question of more volume and a longer-lasting effect is still very common in filler treatment procedures.

Fortéïs Extra, the new cross-linked monophasic filler from Anteïs, gives more volume and a real long-lasting effect. This resorbable implant is devoted to the treatment of folds and deep wrinkles, work on the face's contours and reliefs and increased lip volume. The indications are different from those of Esthéïs.

This workshop will show in theory and practice the strategy and management of the most complex treatments on the face and neck area with the assistance of the new Injection System.

Methods and materials: Two patients will be treated with Esthéïs and Fortéïs using the new Injection System. The treatment

plan will be as follow:

1. Anaesthesia: a new concept for the face and the neck
2. Explanation of the new Injection System
3. Periorbital region: tear troughs and crow's-feet
4. Perioral region: upper lip lines, lip sculpting, oral commissures
5. Lower jaw line: volume given to the lower jaw
6. Neck: horizontal lines

Anti-Aging Workshop
BELJANSKI FOUNDATION

Friday April 9th, 8.30 -9.30
Room Ravel 1

SYLVIE BELJANSKI

Plant Extracts for Prostate Health: An Overview of Preclinical and Clinical Research

Prostate cancer is among the most prevalent cancers in men; the American Cancer Society estimates that around 200,000 cases of prostate cancer will be diagnosed in 2008. It is estimated that 1 out of 6 men will get prostate cancer, with 65% of these cases occurring in men 65 or older. 1 For these men, the goal is to learn to manage the disease and to continue living a productive life. The fact that most prostate cancers advance slowly makes the disease an excellent model for holistic medicine in which conventional treatments are combined with alternative therapies, focusing on supporting prostate health and preventing the development of more aggressive disease. In his close to 50 years of research as a molecular biologist and biochemist at the Pasteur Institute in Paris, Mirko Beljanski, PhD was able to discover two plant extracts that are currently being clinically studied at Columbia University's Department of Holistic Urology (under the direction of Dr. Aaron Katz) with very promising preliminary results.

Beljanski found that certain natural molecules, specifically those from the tropical plants *Pao pereira* (*Geissospermum vellosii*) and *Rauwolfia vomitoria*, could specifically recognize and bind to the destabilized DNA that has been exposed to carcinogens and thereby inhibit the replication of abnormal DNA. In vitro, these two natural extracts suppress the proliferation of a wide variety of cancer cells but do not affect healthy cells. Experiments with animals confirmed these in vitro results, and some human case studies have also validated this approach. 2-5

Scientific research from the Columbia team has shown that the combination of *Pao pereira* and *Rauwolfia vomitoria* extracts provides a unique synergy. The scientific data concerning the *Rauwolfia vomitoria* experiments were recently published in the *International Journal of Oncology*⁶ and the data relating to the *Pao pereira* extract will be submitted for publication this year.

Sylvie Beljanski will present an overview of the Beljanski theory of carcinogenesis and the ongoing research being conducted at Columbia University on the plant extracts that he discovered. Clinical studies at Columbia University using a combination of the *Pao* and *Rauwolfia* extracts have been very encouraging by reducing prostate specific antigen (PSA) levels in men and improving symptoms of benign prostatic hyperplasia (BPH).⁷

Beljanski also found evidence that the *Pao pereira* extract influences anti-inflammatory pathways and researchers at Columbia are exploring the extent of this important mechanism of action.

Learning Objectives:

1. Prostate cancer is well suited to prevention and treatments by alternative medicine.
2. Background of Beljanski's research and the natural plant extracts that he discovered.
3. Continuing research on those extracts at Columbia University for men with prostate issues as well as research on the *Pao* extract in conjunction with inflammation.

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- 7) Steinman, David. Prostabel Reduces Men's PSA Counts. *Doctor's Prescription for Healthy Living.* 2007;11.8:30-32. (Contains interview with Dr. Katz)

Aesthetic Workshop
CYTORI

Friday April 9th, 1.00 - 2.00
Room Auric

MICHAEL SCHEFLAN, MD

Clinical applications of Adipose derived stem cells in Plastic & Reconstructive surgery

Fat Grafting has advanced in recent years from Instability to Predictability, from Absorption to Retention, and from Filling to Regeneration

Autologous fat grafting is increasingly used to reconstruct soft tissue defects. This approach has several advantages over allogeneic or synthetic fillers; adipose is readily available, the potential of immunological rejection is avoided, and it carries no

risk for infectious disease transmission. Transplanted fat is subject to early ischemia and long-term graft survival depends upon diffusion and development of an adequate blood supply through neovascularization. Autologous fat grafting has not been widely adopted as a tool because of unpredictable outcomes. This unpredictability stems from variability amongst patients, methods of tissue harvest and processing, and graft delivery techniques. Much of the renewed interest in fat grafting is derived from the numerous studies documenting the abundance of adult stem and regenerative cells in adipose tissues. These stromal cells are capable of expressing cytokines and growth factors that reduce fibrosis, accelerate neovascularization, and modulate the inflammatory response. In addition, these cells can differentiate to form replacement tissues and structures. It is proposed that these mechanisms promote increased graft survival and thus long-term volume retention. Today, automated systems can process fat and add regenerative cells to prepare a cell-enhanced fat graft aimed at improving long-term graft retention. The expanding clinic experience using cell enhanced grafting is pushing this technique from an underutilized, underperforming tool to today's leading edge of regenerative surgery.

Our preliminary experience using fat grafting and grafting enhanced with adipose derived stem and regenerative cells in aesthetic and reconstructive surgery over a period of one year will be presented.

Aesthetic Workshop
DEKA

Saturday April 10th, 3.00 - 4.00
Room Ravel 2

PAOLO BONAN, MD*

Application and treatment with Smartxide DOT

* Department of Dermatological Sciences - University of Florence

Background: Recent developments in the search for innovative laser treatment methods have given birth to fractional systems, and in particular, the "minimally-ablative CO2 fractional laser", thus creating a sort of "cross-roads" between the effectiveness of ablative and the safety of non-ablative sources.

Fractional resurfacing is a method of treating thermal injury in numerous microscopic areas with controlled width, depth, and density, surrounded by a reservoir of protected epidermal and dermal tissue, thus enabling rapid repair of laser-induced thermal injury.

Objective: To clinically, histologically and ultrastructurally evaluate the safety and efficacy of the fractional CO2 laser in the treatment of photo-damaged skin, with special attention to a specific clinical parameter of this kind of laser: the Stacking Mode.

Materials and methods: The aim of our work was to compare how different CO2 laser powers, by modulating the secretory pathway of cytokines, are able to influence the wound healing process, and how these powers and other important parameters such as the Stacking mode, are associated with different clinical results.

Histological and ultrastructural changes were also assessed.

Results: We focused on the clinical outcomes and wound healing processes in which numerous growth factors and cytokines are involved.

Light microscopy of biopsies provided important information about skin changes at three different times after fractional treatment, revealing significant differences between the powers used in the three groups of patients.

The flexibility of Smartxide DOT has been demonstrated with excellent clinical results using various combinations of all parameters.

Conclusion: Fractional resurfacing with CO2 laser offers interesting applications in patients who show various degrees of photo- and chrono-damage. The procedure makes it possible to partially restructure the epidermis with excellent results, shorter healing time, and less side effects than traditional resurfacing. Moreover, our histological, immunocytochemical, and ultrastructural studies show how treatment powers such as 15 and 20 W, instead of 30 W, achieve better results without the risk of scar formation. The addition of a new parameter, the Stack Mode, has enhanced the flexibility and effectiveness of the system.

The positive results suggest that working in this field is a complex issue that requires a great deal of experience and knowledge of laser-tissue interactions.

Aesthetic Workshop
GALDERMA

Friday April 9th, 1.00 - 2.00
Room Ravel 1 and 2

TANJA FISCHER, MD -

Mastering facial injection techniques - Part I

Dermatologist, Skin and Laser Center of Potsdam (Germany)

Approved for aesthetic use in Europe since last year, AZZALURE® (Botulinum toxin type A, Speywood Units, s.U.) comes with a recommended injection technique to optimize safety and efficacy. The technique involves delivering 10 Speywood Units per point in 5 very specific injection points of the glabellar lines.

AZZALURE also comes with a recommended simple reconstitution process, which is unique and cannot be compared to the dilution of the other aesthetic BoNT-A products. Using a specific syringe graduated in Speywood units, the white powder of AZZALURE should be reconstituted with 0.63ml of 0.9% sodium chloride solution for injection to obtain a final concentration of 10 Speywood Units/0.05ml of reconstituted solution.

A live demonstration will show you how simple it is to use AZZALURE in the treatment of glabellar lines, while taking you through the added benefits that you will be able to provide your patients for their highest satisfaction.

Upper face & lower face anatomy revealed

Botulinum toxin (BoNT) is now one of the most popular aesthetic medicine treatments worldwide, used to address hyper functional lines of the face as it involves less recovery time. Since it treats wrinkles by inhibiting the contraction of muscles, the knowledge of facial anatomy is key to maximise safety and efficacy and optimize patient outcome.

A live cadaver dissection will be performed as part of our in-depth review of the different facial muscles. The first day will focus on the muscles in the upper part of the face, and the second day will focus on the lower part of the face.

This workshop will provide you practical guidelines to further improve your injection technique and ensure patient satisfaction.

DANIEL CASSUTO, MD*

AZZALURE Clinical Profile & International Treatment Guidelines

* Professor of Plastic Surgery, University of Catania (Italy)

The use of botulinum toxin continues to grow and evolve. The resulting benefits include the arrival of treatments specifically designed for aesthetic use, as well as international treatment guidelines.

AZZALURE® (Botulinum toxin type A, Speywood Units, S.U.) has been officially authorized in Europe last year for the temporary improvement in the appearance of moderate to severe glabellar lines seen at frown in adults under 65 years, when the severity of these lines has an important psychological impact on the patient.

Since then, it has been commercially available in the UK, France, Germany, Portugal, the Nordic countries and soon in other European countries such as Italy, Spain, Belgium or Luxembourg.

The use of Azzalure can help reduce the incidence of serious side effects caused by other treatment modalities for glabellar lines: fillers and lasers have been reported to cause skin necrosis and scarring, whereas in eight clinical trials involving more than 2,600 patients in Europe & US, the use of AZZALURE® in the treatment of glabellar lines demonstrated safety, efficacy, rapid onset of action and long-lasting effect.

The arrival of AZZALURE® provides European aesthetic medicine practitioners in Europe a reliable choice when it comes to BoNT-A.

In addition to a review of the clinical profile of AZZALURE® in the glabellar lines, guidelines on the treatment of facial wrinkles developed by a panel of international experts with extensive experience with BoNT-A will be presented.

LAURA BARIQUELO BURATINI¹, MD & SERGIO TALARICO², MD - SYMPOSIUM CHAIRMAN

Mastering facial injection techniques - Part 2: The Brazilian Experience

Dermatologists, ¹- Coordinator of the Cosmetic Dermatology Center, Dermatology Department, Universidade Estadual Paulista, Botucatu; and ²- Associate Professor Coordinator of the Unity of Cosmetic Dermatology, Surgery and Oncology, Department of Dermatology, Universidade Federal de São Paulo - Brazil

The practice of aesthetic medicine in Brazil is regarded as cutting-edge, and European as more conservative. Several factors such as the number of aesthetic indications and patient demand contribute to this difference between Brazil and Europe.

Similar to Europe, in our practice we highly value the following: high efficacy and safety of BoNT-A Speywood Units, patient management and personalisation of treatment.

The objective is to provide you practical tips and tricks from the Brazilian perspective: use of BoNT-A Speywood Units in Brazil and international consensus developed together with European experts on treatment of the lower face.

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VLADIMIR VALENTINOVICH KHOMCHENKO, MD

SMA Rejuvenation: Evolution of method of fractional photothermolysis

Fractional photo-thermolyses are increasingly used in laser cosmetology. Almost all the manufacturers of laser equipment have fractional lasers in their list of products. The method in question is realized in CO2 lasers, erbium lasers and in garnet and glass. All of them allow having quite a good aesthetic effect. However, is it the effect promised at the beginning of the age of fractional photo-thermolyses? Are ablative methods really replaced with micro-ablative ones? Unfortunately the answer to this question is not always positive.

What is the main problem of fractional photo-thermolyses? Why is it more efficient in some cases and less efficient in others? Besides, why painful sensation of the procedure is far from minimum when it is possible to do without anesthesia at all? The answers to all these questions are evident. First, technologies used at present do not allow making the size of micro-spot small enough. As a result, its size is bigger than the size of skin cells leading not to damaging the part of the cell but to evaporation or to coagulation of the whole group of cells. Moreover, the distance between the micro-spots is larger than the size of cells, which

does not allow affecting all the cells on the surface of the skin during one procedure.

Decrease of the size of micro-spots and the distance between them can naturally solve this problem. In the used method of SMA - rejuvenation the size of micro-spots is 50 micrometers in diameter, and the distance between the centers of these spots is 100 micrometers. That is, traumatized and not-traumatized places have approximately the same area. As a result of such influence all the cells of the skin surface are exposed to micro-traumatizing, but they are not destroyed completely. The method does not require anesthesia. The period of rehabilitation is 5 - 6 days. The effect is cumulative for a month. It is not necessary to have several procedures. In case the patient wants it, there can be performed an additional procedure in a month.

This method allows carrying out skin rejuvenation of face, neck, to treat scars and trophic ulcer.

Aesthetic Workshop
MEDICALOO BIOPHOTON

Friday April 9th, 8.30 - 10.30
Room Ravel 2

MARC DIVARIS, MD¹ - CO-AUTHOR: SYLVIE BOISNIC, MD^{1,2}

BodyTite™: New technique for face, arms and body tightening by Radio Frequency Assisted Lipoaspiration (RFAL™)

¹: Consultant and Associated professor, Maxillofacial Surgery Service, Pitié Salpêtrière Hospital, Paris, France

²: GREDECO Research Association, Paris, France

Objective: The aim of this study is to analyze the effect of Radiofrequency Assisted Liposuction, BODY TITE device. This device has the ability to heat quickly and uniformly a significant volume of tissues with the coagulation effects of blood vessels, of dissolving of fat (lipolysis) and tightening of the skin by controlled sub dermal heating.

The direct effect of the canule of lipoaspiration can also be visualized and the destruction of fat cells with coagulation of blood vessels.

Moreover, the maintain in surviving of the skin during 3 weeks is equivalent to 3 months of clinical evolution post-treatment and can allow to evaluate the modulation of fibroblast. This evaluation was made by biochemical dosage of collagen and elastin and analysis of the modification of the junction between dermis and hypodermis. Indeed, it is important to prevent the recidive of cellulitis obtaining a fibrous band between dermis and hypodermis.

Français

Evaluation de l'efficacité clinique à long terme de BODY TITE en utilisant un modèle expérimental de maintien en survie de peau

L'originalité du modèle expérimental a consisté à évaluer l'efficacité à court et à long terme au niveau de la peau d'un traitement par BODY TITE.

En effet, l'examen immédiat de la peau après traitement va permettre de visualiser le tightening effect et la lipolyse.

L'effet tenseur immédiat a été mis en évidence sur les premiers donneurs en raison du raccourcissement des fibres élastiques dans le derme et à la limite derme-hypoderme.

A long terme, une stimulation de la synthèse de collagène a été observée ainsi que l'apparition d'une bande fibreuse à la jonction dermo-hypodermique permettant une prévention de la récurrence de la cellulite.

Aesthetic Workshop
MEDICIS LIPOSONIX

Thursday April 8th, 4.30 - 5.30
Room Ravel 2

AFSCHIN FATEMI, MD

High Intensity Focused Ultrasound (HIFU) for non-invasive body sculpting

Goals/Purpose: Liposonix is thought to be a nonsurgical treatment for body contouring. Using HIFU, a high intensity focused ultrasound, to disrupt adipocytes percutaneously. We want to find out about efficacy, effectiveness and so forth.

Methods/Technique: The technique delivers energy across the skin surface at a relatively low intensity, but brings this energy to a sharp focus in the subcutaneous fat. At the skin surface, the intensity of the ultrasound energy is low enough so that no damage occurs. The focusing of the ultrasound beam at specific depths beneath the epidermis, combined with proprietary application techniques, results in adipose tissue disruption.

Once adipocytes have been disrupted, chemotactic signals activate the body's inflammatory response mechanisms. Macrophage cells are attracted to the area to engulf and transport the lipids and cell debris. This results in an overall reduction in local adipose tissue volume.

Our clinical and histological studies will show exactly, what happens under the skin. We did a series of studies on gross pathology and histology, we tried to correlate these to the clinical results.

Results/Complications: The studies show clearly, that adipocytes are disrupted by HIFU. The correlation between focal depth, energy levels and clinical results is evident. The average circumference reduction after treatment of abdomen and waist is 4-5cm. The presentation will also discuss the reasons for the so far seen skin tightening and possible complications due to the treatment.

Conclusion: Liposonix turns out to be a safe and effective technique for nonsurgical body sculpting by reduction of fat deposits.

Use of High Intensity Focused Ultrasound to Remove Unwanted Adipose Tissue from the Abdomen and Flanks: A Case Series of 125 Patients

The following report describes the safe and effective use of a new high intensity focused ultrasound (HIFU) device for reducing unwanted adipose tissue from the anterior abdomen or both abdominal and flank areas.

Among patients undergoing treatment of the anterior abdomen only, the HIFU device was calibrated to deliver a total energy of

104-148 J/cm² (mean 127.9/cm²) at a focal depth of 1.1-1.6 cm. For patients undergoing treatment of both anterior abdomen and flanks (N=85), the HIFU device was calibrated to deliver a total energy of 104-148 J/cm² (mean 134.8J/cm²) at a focal depth of 1.1-1.6 cm.

In all cases, the focal depth was determined by the thickness of the adipose tissue being treated. The change in waist circumference was measured 3 months following treatment.

The anterior abdomen was treated in 29 women and 11 men with a mean age of 46 years (range, 26-70) and mean weight of 70.6 kg (mean 53-95). A total of 57 women and 28 men with a mean age of 43.8 years (range 22-69) and mean weight of 74.3 kg (range 50-108) underwent treatment of both anterior abdomen and flanks.

Anterior abdomen only: After 3 months, 33 patients (82%) demonstrated a reduction in waist circumference. The mean reduction in waist circumference was 2.9 cm (median 3.0; range +2 to -7). Four patients had adverse events that resolved; there were no serious events.

Abdomen and flanks: After 3 months, 79 patients (93%) demonstrated an average waist circumference reduction of 4.7 cm (median 5.0; range +9 to -4). One patient withdrew from the treatment session due to discomfort. Ten patients had adverse events which all resolved the most frequent being haematoma (3) and tenderness (3). There were no serious events.

Using this new device, a single HIFU treatment to the anterior abdomen or both abdomen and flanks can reduce mean waist circumference by approximately 2.9 and 4.7 cm, respectively.

Aesthetic Workshop
REVITACARE

Saturday April 10th, 8.30 - 9.30
Room Ravel 1

HERVÉ S. PADEY, MD

Full-Face rejuvenation with the new CytoCare® LINE

The ageing of the body and the face can be diminished thanks to the CytoCare® LINE (Exclusive combination of HYALURONIC ACID long lasting (no cross linked) and REJUVENATING COMPLEX.

Soft filling more than Mesotherapy is a technology that allows treating well the skin and the subcutaneous tissues, which supplements at its best, the aesthetic and volumator effect of Hyaluronic acid injections.

Before undertaking any surgical gesture or dermatological program, it is mandatory to get the skin well hydrated and healthy. Different techniques can be combined for this purpose: Botox and Hyaluronic Acid Fillers...

The innovation of the CytoCare® LINE -synergy between three different concentrations of Hyaluronic Acid and REJUVENATING COMPLEX- allows:

- 1) To prevent, fill and reduce fine lines and wrinkles.
- 2) To get an intensely and deeply hydration of the skin, an antioxidant action, a soft and beautifully radiant skin, a correction of the visible signs of ageing and a re-densification of the dermis.
- 3) To prevent the first signs of ageing.
- 4) To keep a good biological balance of the skin.

In order to optimize the result. It is of first importance to get and use different concentrations of Hyaluronic Acid depending of the age of the patient and the type of skin

The requirements of the skin differ according to age and lifestyle.

Treatment requirements:

CytoCare® is formulated in 3 different concentrations - each applies to a given aging and skin quality range:

CytoCare® 502

Junior Skin - Under < 35 years old

Complemented by CytoCare® 516 if necessary

10 Vials 5.0cc 10 Flacons 5.0cc

2mg HA + REJUVENATING COMPLEX - Sterilization: Filtration

CytoCare® 516

Normal Skin - Under < 45 years old

Complemented by CytoCare® 532 if necessary

10 Vials 5.0cc 10 Flacons 5.0cc

16mg HA + REJUVENATING COMPLEX - Sterilization: Filtration

CytoCare® 532

Damaged Skin - Over > 45 years old

Complemented by REVITACARE® Bio-Revitalisation if necessary

10 Vials 5.0cc 10 Flacons 5.0cc

32mg HA + REJUVENATING COMPLEX - Sterilization: Filtration

REVITACARE® Bio-Revitalisation

For Mesolifting, Mesoglow and Mesoplasty

HA 4ml - Biotech origin

Sterilization: Autoclave

MultiVitamins 10ml - A - C - E - D - B1 B2 B3 B5 B6 - Sterilization: Filtration

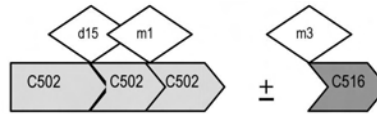
HYALURONIC ACID + VITAMINS + TRULY EFFECTIVE CONCENTRATION

Different techniques:

Topping, napping, point by point, retro-tracing (like fillers techniques: Linear, Multipuncture, Fishbone, Fernbrake, Fan, Sandwich /Plates, Cross Hatching, Rehydration/Meso, Hockey Stick):

Different protocols - to be tailored on a case-by-case basis:

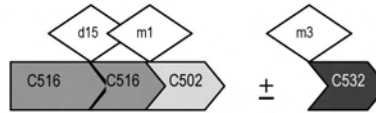
Which must be given during trainings.



- **Junior Skin - CytoCare® 502 + CytoCare® 516**

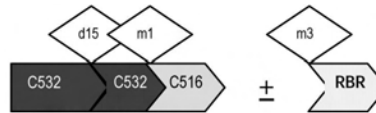
- **Normal Skin**

- CytoCare® 502 CytoCare® 516+ CytoCare® 502 + CytoCare® 532



- **35 - 45 years old**

- CytoCare® 532 + CytoCare® 516+ CytoCare® 502 + REVITACARE® Bio-Revitalisation



- **45 - 60 years old**

- Damaged and Aged Skin - REVITACARE® Bio-Revitalisation + CytoCare® 532 + CytoCare® 516



FULL-FACE REJUVENATION - Conclusion :

Thanks to:- the whole CytoCare® LINE and REVITACARE® Bio-Revitalisation

- All the different combined techniques of injection, we can reach truly effective, better and faster results. For an immediate and extremely natural result. Experience and knowledge of the REVITACARE® products.

Aesthetic Workshop
TEOXANE

Friday April 9th, 11.00 - 1.00
Room Ravel 1

RAJ KANODIA, MD

Facial enhancement with Teosyal Hyaluronic Acid dermal filler

Hyaluronic acid is my favorite filler because of safety, predictability and reversibility. Wide range of products designed with utmost safety in mind makes me confident when I use Teosyal fillers. Robust filler like "Ultimate" in a 3 cc syringe is an amazing product for facial volume restoration. 3-D knowledge of the facial anatomy is key to inject subdermally with canula technique

Aesthetic Workshop
VIVACY

Friday April 9th, 11.00 - 12.00
Room Auric

SANDRINE SEBBAN, MD

STYLAGE: S, M, L, XL IPN Technology and antioxidant. New innovative injection techniques: Safe full face treatment and efficiency (needles/canulas)

Background & Aim of the study: Vivacy has developed a complete line of HA preparations based on the IPN-like technology and containing an anti-oxidant, mannitol. This range is perfectly adapted to the SoftFil® range of blunt tip needles designed to match the needs of the Soft Filling technique, an innovative, well-standardized, efficient and safe injection method accessible to all.

Materials & Methods: Vivacy's Stylage® range of hyaluronic acid preparations is based on the IPN-like technology, an innovative production method characterized by the interpenetration of two different HA molecule networks which ensures a high pseudoplasticity, a low level of injectability, and a very good product longevity.

The Stylage® range comprises 4 different products named S, M, L and XL with increasing viscosities and designed for various injection techniques, covering all areas and depths, so as to address the various clinical signs observed in daily cosmetic practice. This product line is particularly well adapted to the Soft Filling technique and the range of SoftFil® blunt tip needles.

The Soft Filling technique offers highly valuable advantages over the conventional sharp tip needle injection technique. It requires only a limited number of injection sites, causes no pain and presents no risk of bruises or lesions of fragile structures such as vessels and nerves.

Five types of blunt tip SoftFil® needles of different diameters and lengths have been featured, allowing a perfect match between each insertion point, each injected area and injection depth, and the corresponding filler viscosity. Each SoftFil® kit contains one blunt tip needle and one sharp needle of the same diameter packed in a sterile pouch: 18G/70mm, 22G/70mm, 25G/50mm, 27G/40mm, 30G/25mm.

The basic principles of this new technique are the following:

- Each area should be treated at the exact depth it requires either to restore a specific loss of volume, to correct a line or to

make a nappage.

- In order to obtain the best possible results with optimal safety, each area should be treated with the type of HA preparation presenting the best adapted viscosity and remanence;
- 2 to 4 insertion points (among 6 possible points) are usually used on each side to treat a full face; specific points are also used to treat other areas such as the neck, the décolleté and the hands;
- The choice of the injection tool should be made depending on the filler, the insertion point, the injection depth, and the injection technique;
- The cannula is inserted into the skin through a "pre-hole" made with a sharp tip needle of the same diameter;
- This technique is not painful and usually there is no need of anaesthesia.

Results: With Vivacy's full range of Stylage® fillers, it has been possible to treat successfully, thanks to the Soft Filling technique and the SoftFil® needles, over 500 patients in the following areas:

- face: global volumizing (cheeks, jowls, lips, temporal areas)
 - wrinkle filling (all areas)
 - nappage (all areas, including the forehead)
- neck: wrinkle filling
- décolleté: nappage
- hands: nappage

Conclusions: The global objective of the Soft Filling technique is to make available to aesthetic practitioners the tools necessary to change their HA injection procedures to a safer and more efficient approach. It has become obvious that this injection method gives natural and harmonious results with virtually no side effects such as bleeding, ecchymosis or hematomas, and without compulsory anesthesia.

POSTERS

ALLERGAN - MARYNA TAIEB, MD

HYALURONIC ACID PLUS MANNITOL TREATMENT FOR IMPROVED SKIN HYDRATION AND ELASTICITY

Category: mesotherapy

Background: Juvéderm® hydrate is a new combination product comprising uncross-linked hyaluronic acid plus 0.9% mannitol (HA + mannitol). It is used for improving skin hydration and elasticity by multi-injection into the dermal/epidermal junction and into the superficial dermis.

Method: This prospective, multi-centre, non-interventional study evaluated the efficacy of HA + mannitol gel on skin hydration and elasticity after 60 days of treatment, as well as evaluating subject and physician satisfaction. Twenty-seven healthy female subjects were enrolled by 3 investigators using the 'depot' injection technique of small injections into the middle to deep dermis.

Results: The main analysis criterion was the measure of hydration from Days 0 to 60. There was a significant time effect for cheek ($p=0.0036$), with hydration significantly better at Day 30 (mean 56.4%) and Day 60 (mean 59.3%) than at Day 0 (mean 50.9%) ($p=0.0262$ and 0.0021 , respectively). Peri-oral hydration was significantly improved ($p=0.0024$), with hydration significantly better at Day 30 (mean 61.2%) and at Day 60 (mean 59.3%) than at Day 0 (mean 52.4%) ($p=0.0041$ and 0.0467 , respectively). There was also a significant time effect for neck-line ($p=0.0346$), with hydration significantly better at Day 30 (mean 66.5%) and Day 60 (mean 65.3%) than at Day 0 (mean 59%) ($p=0.0022$ and 0.0448 , respectively).

Physician and subject satisfaction was assessed at Days 15, 30 and 60. Physician assessment of skin texture was 'improved' for 88.9%, 95.8% and 82.6% of subjects at each respective timepoint. Skin brightness was 'improved' for 74.1%, 87.5% and 82.6% of subjects and skin hydration was 'improved' for 81.5%, 79.2% and 65.2% of subjects at each respective timepoint. Skin appearance was noted as 'improved' for 87.5% and 82.6% of subjects at Days 30 and 60, respectively. Subject satisfaction showed that skin roughness was 'improved' in 68%, 84.2% and 61.9% of subjects at each timepoint. Skin brightness was judged to be 'improved' in 76%, 63.2% and 57.1% of subjects, respectively, and skin hydration was 'improved' for 60%, 63.2% and 40% of subjects, respectively.

Conclusion: HA + mannitol gel delivers significant improvements in skin hydration at Day 60 in the cheek, neck-line and perioral areas compared to baseline. Physician satisfaction of aesthetic results at each visit showed that skin texture, brightness, hydration and appearance were 'improved' or 'very improved' for >80% of subjects at Day 60. Similarly, subject satisfaction indicated that skin roughness, brightness and hydration were 'improved' or 'very improved' for >80% of subjects.

At Day 60, subject assessment of overall global aesthetic effect and skin revitalisation was 'very improved' or 'improved' in 100% of subjects and in almost 80% of subjects with respect to face fullness. Almost all subjects were delighted with treatment and 85% would undergo repeat treatment and would recommend treatment to a friend.

Treatment was well-tolerated with all adverse events related to injection technique rather than to the product. All adverse events were transient with no sequelae.

Conflict of Interest Statement: This study was sponsored by Allergan and the presenting author received payment for participation in the study, as well as payments for consultancy services.

ANTEIS - MESOLIS STUDY - P. HUMBERT¹, S. SAINT HILLIER², C. MASSON³

EXPLORATORY STUDY: EVALUATION OF THE EFFECT OF A NON-CROSS-LINKED HA WITH GLYCEROL REJUVENATION TREATMENT IN THREE PATIENTS

¹ Research Center on Tegumentary System, CHU Besançon, France.

² Private practice, Chemaudin, France

³ Anteis SA, Geneva, Switzerland

Background: With ageing, skin becomes more dehydrated, thus in order to reduce or delay this phenomenon, rejuvenation treatments can be applied on the face, neck, décolleté and back of hands. These rehydration or rejuvenation treatments were inspired by mesotherapy, and are becoming more and more popular.

Purpose: The purpose of this clinical study is to evaluate scientifically the efficacy of a rejuvenation treatment based on a non-cross-linked hyaluronan gel with glycerol. The treatment was assessed by measuring the following parameters: skin hydration, skin tone and skin micro-relief in three patients.

Methods: Three healthy women aged between 55 and 60 received three injections of non-cross-linked hyaluronan gel with glycerol, with an interval between 2 visits of 2 weeks (at Day 1, Day 15 and Day 30). The injections were performed with an automated injection system in order to get calibrated drops of the product delivered into the skin. One syringe of the product was injected on each side of the face. The following criteria were measured before and after treatment: Clinical Score, Hydration Index (Corneometer CM 825®, Courage and Khazaka), Skin Viscoelasticity (Reviscometer RVM 600®, Courage and Khazaka), Skin Radiance/Light Reflexion, Roughness/Fringes Projection (DermaTop-blue, Breuckmann GmbH); before and after pictures were taken with the Skin Surface Analyser, and a questionnaire and a self-administered patient questionnaire were completed at the different visits.

Results: According to the results obtained, it seems that this treatment improves the relief of the skin, with an improvement of surface irregularities, fine wrinkles, stains and skin texture.

The state of the skin is also improved in transparency, brightness of the complexion, elasticity and softness.

However, the treatment does not really affect the color of the skin, even if a slight decrease in spots and redness were observed (not significant).

Between Day 0 and Day 90, skin hydration was increased by 4.76 points; skin viscoelasticity decreased by 28.26 points (The higher the viscoelasticity, the less the skin is elastic and hydrated); light reflection and roughness decreased by 55.72 points.

Regarding the patient self-evaluation, the three patients perceived an improvement in their skin for all the following parameters studied (scale 0 - 9), respectively at Day 0 and Day 90:

- Skin more hydrated (Day 0 = 2.50; D 90 = 6.84)
- Lighter complexion (Day 0 = 1.33; D 90 = 6.67)
- Brighter complexion (Day 0 = 2.33; D 90 = 6.67)
- Smoother skin (Day 0 = 1.33; D 90 = 4.84)
- Finer skin texture (Day 0 = 2.33; D 90 = 5.84)
- Firmer skin (Day 0 = 2.00; D 90 = 5.50)
- More elastic Skin (Day 0 = 2.67; D 90 = 7.33)
- Softer skin (Day 0 = 3.33; D 90 = 6.67)
- More comfortable skin (Day 0 = 3.00; D 90 = 7.17)
- More had fresh ideas about skin (Day 0 = 1.67; D 90 = 7.00)
- Skin improved at the level of fine wrinkles (Day 0 = 3.00; D 90 = 6.50)

100% of the subjects claimed that they looked better at D30 and D90 after treatment.

1 subject indicated at D90 that she did not feel tightness anymore, and that she needs a less nourishing cream and fewer applications. 100% of the patients liked the treatment and would recommend it.

Regarding safety, only immediate itching lasting 2 to 3 days after injection were reported. One patient had little and light bruising on one cheek that lasted 5 days.

Conclusion: According to these data, this non-cross-linked hyaluronan plus glycerol rejuvenation gel seems to have an action on the relief of the skin (smoothing, skin texture), on the brightness of the complexion, and also acts on the hydration and the elasticity of the skin.

ANTEIS - A. CAMPANELLI¹, B. ELIAS², O. MEYER², A. CALMY³, D. SALOMON¹, L. TOUTOUS-TRELLU¹

HYALURONIC ACID INJECTIONS TO FILL FACIAL LIPOATROPHY IN THE CONTEXT OF A LIPODYSTROPHY SYNDROME ASSOCIATED WITH HIV

¹Dermatology and Venereology Department, ²Plastic Surgery Department, ³Infectious Diseases Department - University Hospitals of Geneva

Introduction: Facial lipoatrophy associated with HIV can be compensated by different type of filling products including the absorbable biomaterial hyaluronic acid (HA). We are presenting our experience with Fortélis Extra®, an HA-based product, marketed since November 2007 in most European countries. Known and used in wrinkles and facial depression, this product has not yet been evaluated for facial lipoatrophy correction in HIV patients.

Observations: The patients were recruited during the multidisciplinary lipodystrophy consultation at the University Hospitals of Geneva. All were treated with antiretroviral drugs and had a viral load undetectable. The injections were done in the deep hypodermal plane of the zygomatic, sub-zygomatic and/or peri-buccal region until an appropriate filling volume was obtained. One to two ml of Fortélis Extra® were injected per patient, completed by a second injection, four weeks later, if necessary. The response to the treatment was evaluated through photographs before and after the injections and on the basis of a questionnaire adapted to lipodystrophic persons. The evaluation was done at 3, 6, 12 and 18 months.

Results-Discussion: 10 patients were injected and showed good tolerance and satisfaction after the 3 months' evaluation. This small group of patients concerns the most severely affected. This explains the large amounts of HA that could be injected and encouraged the use of the most volume-enhancing products. A pilot study is underway to validate this product for this indication and for different degrees of atrophy severity. The study also supports the coverage of a treatment that is not reimbursed in Switzerland. Moreover, objective evaluation techniques such as MRI are ongoing and results will be shown.

ANTEIS - Injection System A. CAMPANELLI¹, B. ELIAS², O. MEYER², A. CALMY³, D. SALOMON¹, L. TOUTOUS-TRELLU¹

ANTEISA PRELIMINARY CLINICAL EVALUATION OF A NEW ELECTRONIC INJECTION SYSTEM DESIGNED FOR FILLERS AND REJUVENATION PRODUCTS

Benjamin Ascher¹, Sabine Bechaux², Katarzyna Kwarecka-Zajac³, Patrick Micheels⁴, George Papageorgiou⁵, Ildiko Papp⁶, Natalija Portnova⁷, Bhertha Tamura⁸.

¹Plastic surgeon, France; ²Dermatologist, France; ³Dermatologist, Poland; ⁴Aesthetic doctor, Switzerland; ⁵Plastic surgeon, Greece; ⁶Dermatologist, Hungary; ⁷Dermatologist, Latvia; ⁸Dermatologist, Brazil.

Objective: To provide clinical evidence of the safety and efficacy of the new medical device in the treatment of different facial wrinkles, volumetric injection and rejuvenation. To assess the strengths, limits, ease and mode of use of this device.

Methods: A total of 193 patients in 8 centers were involved in this assessment, 63 patients were injected with fillers: Esthélis Soft, Esthélis Basic and/or Fortélis; 130 patients were injected with Mesolis or Mesolis+ products for rejuvenation treatment. In total 267 indications were treated with the Anteïs Injection System: 92 with fillers and 175 for rejuvenation. Sometimes both treatments, fillers and rejuvenation, were combined. Outcomes were recorded and assessed through questionnaires and evaluation forms filled in by patients and practitioners.

Results:

Outcome for fillers: Main indications treated were nasolabial folds (47%), marionette lines (11%), cheeks (7%), lips (7%) and around the eyes (7%).

Fortélis is the most used filler with the injection system with 47%, closely followed by Esthélis Basic with 45%. Fortélis is mainly used in flow mode (62%) with a 27G needle. Esthélis Basic and Esthélis Soft are mainly used in flow mode with a 30G needle. The flow mode is used for more than 81% of the indications.

Almost no side effects were reported: only little redness which disappeared immediately after the treatment and a very small

amount of bruising (4%).

Regarding the pain, 68% of the patients declared that the injection was not painful. 86% of patients did not feel any pain after the injection. Among the patients treated with fillers, 63% had already been injected manually. All of them reported that the injection is less painful with the Injection System.

After injection, 100% of the practitioners stated they were satisfied with the result.

Anteis Injection System for use with fillers allows for:

- An injection with high precision and better control and optimization of speed and volume
- A very homogeneous filling effect.
- An injection easy to keep within desired plane delivery: superficial, mid and deep dermis.
- More comfort for both the patient and the practitioner.
- The use of all injection techniques (retrotracing, blanket, fan...)
- A significant reduction in adverse events, mainly less painful injections for the patient.
- An easier injection (especially for deep wrinkles) as the operator's hand is released from pressure on plunger.
- Better results induced by the improvement of the injection mode.

Outcome for rejuvenation:

The three main indications reported were: facial hydration (65%), crow's feet (12%) and neck (7%). The main modes used for these indications were the drop mode and low speed mode.

The drop mode was used for 88% of the indications. 30G needles were used the most (52%). 46% of the injections were done with 32G despite the fact that only 30G are provided in Anteis boxes. By using 32G needle with the Anteis Injection System, the pain during the treatment could be significantly reduced, the use of an anesthetic before treatment could be avoided and fewer side effects were observed.

75% of patients did not report or notice any side effects. The side effects reported were only slight redness immediately after the injection. 67% stated that the injection was not painful and 88% did not feel any pain after injection. The perception of the practitioner was even better as 100% of them said it was not painful for the patient. As for fillers, the satisfaction rate of the practitioners was close to 100%.

Anteis Injection System for use in rejuvenation treatment allows for:

- An injection with a high precision and optimized control of speed and papule volume.
- The use of both injection techniques, micro-papular and nappage, thanks to the different modes (drop and flow).
- A reduced downtime, as papules disappear faster due to the homogenous volume of drop delivery.
- A significantly less painful injection for the patient with fewer side effects.

Conclusion: Altogether, these results demonstrate that the Anteis Injection System is compatible with all types of products (fillers and rejuvenation) and all techniques, with no safety concerns, providing better control of injection by optimizing speed and volume. Patients experience less pain and fewer other side effects and a singularly reduced downtime after rejuvenation treatment. The results are improved as the product is more homogeneously placed and integrated into the different levels of the dermis.

MAHA AL-SEJARI, MD

AGE AT NATURAL MENOPAUSE AND MENOPAUSAL SYMPTOMS AMONG SAUDI ARABIAN WOMEN IN AL-KHOBAR

Assistant professor

Department of sociology and social work - Kuwait University, Kuwait

Menopause is physiological event, experienced as a long process of climacteric change (transition phase that is immediately prior to and after menopause, when clinical, biological, and endocrinological symptoms of menstrual cessation commence), occurring universally in all women who reach midlife. The timing of menopause as well as women's experience of menopausal symptoms varies between populations and within populations. Age of menopause and climacteric symptoms have been extensively studied in the developed world as well as in developing countries; but there have been few systematic studies of menopause in Arab countries.

The current study was conducted in 2003 among Saudi Arabian women in the city of Al-Khobar in the East of Saudi Arabia. Biocultural and lifespan perspective were used to assess age at natural menopause and the prevalence of menopausal symptoms. The objectives of the study are (1) to assess the mean and median age at natural menopause ;(2) to detect factors that might contribute significantly to a more rapid decline to ovarian function ; (3) to determine the factors that significantly affect the prevalence of menopausal symptoms that Saudi Women's experience ; and (4) to assess the relationship between women's perceptions and attitudes toward the menopausal event. This study also examines the differences in women's attitudes toward menopause, depending in whether these women were experiencing, or had already experienced natural menopause.

In this cross-sectional study, a face-to-face questionnaire was administrated to 200 Bedouin and Hadar Saudi Arabian women. The mean age of the sample ranged from 40 to 55 years. The finding of this study indicated that while age at natural menopause varied within and among the menopausal factors (anthropometric measures, sociodemographic status, reproductive history, and life style); the only factors that were significantly associated with age at natural menopause were women's weight, marital status, and employment status. The finding also indicated that the respondent's martial status and number of children were significantly associated with the prevalence of menopausal symptoms. Women's attitudes toward menopause varied based on their menstrual status and ethnicity. And there was a significant association between the respondents' total menopausal symptoms reported and their attitudes toward the menopausal event and the women's educational level.

Objective: Check the uses of melatonin in their various you use by focusing on regulating the process of aging and sleep-wake cycles, thus improving health and quality of life ace well ace stimulating the immune system, act ace an antioxidant to fight this way against free radicals and anti-aging sees effective regulator

Introduction: Taking into account the effects of melatonin hormone is to substance present in all life forms, humans melatonin is produced by the pineal gland located in to center of the brain in the stomach and ophthalmic level. The discharge occurs AT night in response to darkness peaking AT midnight and gradually declining in the second half of it, besides this hormone reaches its maximum peak AT puberty and then decreases sharply proving that people to greater than 50 years secrete only one tenth of the total melatonin is secreted during puberty.

Soluble it is to solution very in both fat and to water is rapidly metabolized in to liver and excreted in the urine is why the risk of overdose is minimal.

The functions of this there are to lot on our body. Biological It regulates our clock and the secretion of important hormones in our body that affect the aging process improves sleep quality is also battling insomnia and jet lag strengthens the immune system, acts radical ace an antioxidant to fight free improvement powers mentally improves function and contribute to achieving to better overall health during the aging process and reliefs symptoms of emotional affective to disorder. In addition to being verified by to other studies that makes him to powerful comprehensive antioxidant that protects every part of the cell and every cell of the body by preventing free radicals. In contrast to conventional you remedy such ace anxiety that you induce natural physiological sleep and addition to contributing to reset your biological clock influences quickly with that achieved in falling asleep and the duration and quality of it helps to improve the circadian rhythm.

Method: Is working with to group of 50 patients without any pathology in women aged 45 to 55 years previously selected through to good history and for they had in common one concern the aging and disturbances in sleep.

They had strict evaluation in 25 of them were given melatonin, there plows many in the market but few FDA approved under we got the best and especially like this made from pharmaceutical identical clay ingredients and molecularly to that of melatonin produced by our body were administered to this group to 30 mg capsule 15 you make a draft before bedtime.

To other group of 25 people were prescribed clonazepam 0,5 mg to per day 1 before you see. Face and both groups mesopeeling help techniques and mesotherapy to improve appearance in total a of 6 sessions divided into 1 session to per week

Study-Design: Patients were followed weekly evaluations to sees seeing the effects that had also seen the effects of each of these data were entered into to clinical data collected by stories. Addition to receiving the mesopeeling and peeling for ace required each patient the aim was thus able to verify the additional effect of antioxidant and anti-aging to producer to pair to sees recommended and used additional ace product AT home and in this way give greater process rust and slow the aging process.

Results : We saw in the first group were subjected to melatonin which helps regulate the sleep wake cycle without having insomnia and awakenings decay whilst posing daytime does not tire and referring them to better mood to start the day. Also about anti-aging effect ace an adjuvant was to better than those who did not take it ace somehow regulated various hormones in our body thereby controlling the anti-aging process group with not to adver reactions despite having begun treated with high doses for to short for Time study only two patients reported that the effect was delayed just three or four days began to have reactions.

In group 2 to however it was noted that patients reported to delayed awakening without any desire to do things, apathy and noticed an accumulation of dose effect because every day feeling tired most noticeable addition to presenting insomnia if not taking the medication is to process of dependence and altered circadian rhythm, also reported having to hangover effect the next day and expressing that feeling upon awakening. And as soon as adjunctive noticed that it helped U.S. on mesotherapy and needed dwells therapy to help mesotherapy that taking melatonin,

Conclusion: We dog say that melatonin there are many benefits within them:

1. - Insomnia and jet lag

For Noting that melatonin supplementation is effective remedy insomnia, problems of adaptation of schedule gives daytime does not tire or sleep without arousal parasomnias interrupted

2. - Affective to disorder:

Those who took melatonin feel in better spirits referred to as daily activities off to sleep to better and feel less distressed during the day.

3. - Immune System

Gradual Melatonin regulates the effects of combat stress and the declines of immunity makes the body dwells resistant to disease and protects the immune system by increasing T cell function vital defense for our

4. - Longevity and Anti-aging:

Melatonin acts as an adjuvant drug to combat aging prolonging our life expectancy ale to better hormonal functioning in our bodies as well radical as being an effective antioxidant and free reduction in our body.

Then we dog concluded that melatonin is to good Anti-aging PROCESS CONTROLLER OF SLEEP CYCLES AND THEREFORE VIGIL OF HEALTH AND QUALITY OF LIFE You act ace drug coadjuvant about anti-aging drug technical ace an antioxidant and help with of mesopeeling and mesotherapy for best results under if we give it and always to under medical surveillance ace directed doses dog estimates the difference by noting the regulation of sleep and watch to pill 15 you make a draft before bedtime to 3mg if adjuvant antioxidant preferably one tablet AT night from 1 mg daily assistance.

With the advancement of skin research, today's consumer has increased access to technological information about ageing skin and hair care products.

As a result, there is a rapidly increasing demand for proof of efficacy of these products. Recognizing these demands has led to the development and validation of many clinical methods to measure and quantify ageing skin and the effects of anti-ageing treatments.

Many of the current testing methods used to research and evaluate anti-ageing product claim to employ sophisticated instruments alongside more traditional clinical methods.

Intelligent use of combined clinical methods has enabled the development of technologically advanced consumer products providing enhanced efficacy and performance.

Of non-invasive methods for the assessment and quantification of ageing skin, there is a plethora of tools available to the clinical researcher as defined by key clinically observed ageing parameters: skin roughness and surface texture; fine lines and wrinkles; skin pigmentation; skin colour; firmness and elasticity; hair loss; and proliferative lesions.

Furthermore, many clinical procedures for the evaluation of ageing skin treatments are combined with invasive procedures, which enable added-value to claims (such as identification and alteration of biochemical markers), particularly in those cases where perception of product effect needs additional support.

As discussed herein, clinical methods used in the assessment of skin ageing are many and require a disciplined approach to their use in such investigations.

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Introduction: The surgery is still the gold standard in breast cancer. Also if the elective treatment, thanks to the adjuvant therapy, is becoming most conservative, the breast surgery remains, in the mind of the woman affected, a demolitive surgery. The collaboration between the breast surgeon and the plastic surgeon have to be more strength to obtain the total asportation of the tumor and an aesthetic result as limit the psychological trauma to the woman.

Methods: We do a review of different oncoplastic approaches, as to help to improve both the aesthetic outcome of breast cancer resection and the likelihood of surgeons .

There are different techniques, in particular, it is very important to know the volume that the surgeon must remove:

- for small or medium tumors is indicated the standard lumpectomy or Full-thickness lumpectomy
- if the tumor is near or under the NAC, we can use the batwing mastoplastic
- round block technique, if the tumor is near, under the NAC or in the upper pole of the breast.
- if we have big breast we can use the reductive mastoplasty techniques.

Results: Many studies evidence that the oncoplastic surgery has the same results of the radical and demolitive surgery. Also we analyze which are the advantages and the defects of this surgery.

Conclusions: We think that this way to approach the breast in case of tumor is the gold standard for the patient, because the surgeon can remove the tumor with safety margins, and, at the same time, he can obtain an aesthetic good result.

ANN COLONNA

PLURIPOTENT UNDIFFERENTIATED VEGETAL CELLS STIMULATE THE CONTRACTILE FUNCTION OF FIBROBLASTS AND DENSIFY ENGINEERED DERMAL SUBSTITUTES AS SHOWN BY IN SITU 3D-IMAGING.

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Background: In aging dermis, fibroblasts progressively lose contacts with their fibrillar environment resulting in a defective mechanical microstimulation and alteration of their biosynthetic programme. Restoring functional cell-matrix interactions should revert this deteriorated regulation and prevent the installation of irreversible signs of aging. Fibroblasts interactions with their fibrillar surroundings can be mimicked in vitro in three-dimensional collagen-based engineered dermal substitutes that become progressively contracted and reorganized by and around the cells. The effects of substances extracted from pluripotent undifferentiated vegetal cells (*Vitis vinifera* and *Sequoia*), active principles of Prodigy Extreme, were evaluated by three-dimensional in situ imaging.

Method: Dermal equivalents made of fibroblasts-populated collagen gels were supplemented or not by an aqueous extract of vegetal cells (1mg/ml). After 4 days of culture, the samples were fixed with paraformaldehyde and multiphoton microscopy was used to image the three dimensional structure of the retracted collagen gel taking advantage of intrinsic multiphoton signal of fibroblasts (two-photon excited fluorescence) and fibrillar collagen (second-harmonic generation).

Results: The contraction of the dermal equivalents by fibroblasts was significantly increased in presence of the cell biomass compared to control samples (45% vs 25% of the initial diameter). Using multiphoton microscopy, we observed that fibroblasts

contractile activity was indeed increased by the cell biomass extract which induced a three dimensional remodeling of the collagen matrix with enhanced density around fibroblasts.

Conclusion: The undifferentiated pluripotent vegetal cells from *Vitis vinifera* and sequoia contain active principles able to stimulate the contractile activity of fibroblasts to densify their fibrillar environment as seen by 3D imaging in situ.

ARNAUD DEGOUY - PIERRE FABRE

CONTRIBUTION OF INSTRUMENTAL METHODS FOR THE ASSESSMENT OF HYALURONIC ACID FILLERS

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Background / Context: In the literature, assessment of filler performance has only been made by qualitative or semi-quantitative methods: clinical scoring, photography, self assessment...

The objective of this study was to measure the performance of a new hyaluronic acid (HA) based filler product using original techniques.

Method/ Study:

Objective: To assess the cutaneous modifications induced by injection of a hyaluronic acid (HA)-based filler product (reticulated HA-free HA-mannitol, for moderate to deep wrinkles) in the nasolabial folds (NLF) during 12 months after injection, on volunteers who had no previous filler injection and who presented moderate to average NLF scores [1].

The measurement time-points were: before (0) and after 1, 3, 6, 9 & 12 months and the methods used were:

Semi-qualitative methods:

- blind (hidden time-point) clinical scoring of the depth of the nasolabial folds (NLF) from standardised photographs using the Lemperle scale (0 to 5) [1] by 2 trained investigators who did not participate in the injections (principal efficacy criterion)
- real time clinical scoring of the depth of the NLF using the Lemperle scale by 5 investigators who performed injections
- self evaluation by the volunteer of satisfaction

Quantitative instrumental measurements:

- volume of NLF from skin replicas and in vivo 3D fringe projection images (Dermatop®, Eotech, France)
- Tissue characterisation and thickness of NLF by Radio Frequency (RF) ultrasonography (Dermcup 2000, ATYS) [2]

Results: 47 volunteers analyzed in intention of treatment (37 F, 10 M); average age 55,7 ± 3,7 years; initial average score of severity: 4,1±0,7; average amount of HA per NLF: 1,3±0,5 ml

Qualitatively: Blind and real time clinical scoring showed a highly significant reduction of the depth of the NLF for each time-point with maintenance up to 12 months. The self assessment showed a high and sustainable satisfaction of volunteers at each time-point.

Quantitatively: Analysis of skin replicas and 3D fringe projection imaging showed a highly significant reduction of the volume of NLF at each time-point

RF ultrasonography showed a significant reduction of the acoustic attenuation of the dermis 9 months after injection.

High resolution ultrasound imaging showed a slight significant reduction of dermal thickness 9 months after injection, and a dermo-hypodermic localisation of the HA implant.

Conclusion/ Discussion: Clinical scoring, self assessment of satisfaction, measurement of the NLF volume by skin replicas and 3D fringe projection imaging corroborated, and showed the same effect: highly significant improvement in reducing NLF depth during the 12 months following injection.

Ultrasound images showed hypodermic localization of HA implant. Since the dermis only was examined and not the hypodermis, significant modifications of tissue and thickness are later observed at the level of the dermis (9 months after injection). Another method, Magnetic Resonance Imaging, has already shown dermo- hypodermic localisation of HA implants [3]. The slight decrease in dermal thickness may be due to compression by the underlying HA filler. Thus, the effect of filling is not due to an increase of dermal thickness.

The aim of this pilot study was to objectively measure the performance of a new filler product using original instrumental techniques. The results of the subjective and objective measurements are linked and demonstrate significant product efficacy in treating nasolabial folds of moderate to intense severity for up to 12 months.

The instrumental data confirm the clinical results observed, and help to understand the mechanism of action of the injected reticulate HA. These objective measurements can only be carried out by trained staff in specially equipped centres.

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Background: A prospective, randomised, double-blind, phase III, multinational, multicentre placebo-controlled trial to determine the efficacy and safety of NT 201 (Merz Pharmaceuticals, Germany) in the treatment of lateral periorbital wrinkles (LPW) and to compare 2 different injection patterns.

Methods: Subjects with symmetrical moderate to severe LPW at maximum smile were enrolled at centres in France, Germany, Italy and UK. Subjects were randomized to be treated with a total dose of 12 U NT 201 or an equivalent volume of placebo on either side in a randomised assignment using either a 3- or 4-injection scheme. Efficacy parameters were response (at least a 1-point improvement on the 4-point LPW scale) assessed by the investigator and by an independent rater at maximum smile 4 weeks after treatment compared to baseline for either eye area. Standard safety assessments included the incidence of adverse events (AEs).

Results: 111 subjects were randomised (NT 201 n=83; placebo n=28). There were no notable demographic differences between treatment groups. 91.9% of patients were female and mean age was 47.1 years. At week 4, the percentage of responders given the 3-injection scheme was 88.7% and 20.8% by the investigator and 69.9% and 21.4% by the independent rater in the NT 201 and placebo groups, respectively ($p<0.0001$). For the 4-injection scheme, the response rate was 85.9% and 16.7% by the investigator and 68.7% and 14.3% by the independent rater in the NT 201 and placebo groups, respectively ($p<0.0001$). The differences in the proportion of responders treated with NT 201 compared to placebo for each injection scheme were small (-2.8% and -1.2%). 15.7% of subjects in the NT 201 group and 14.3% of the placebo group reported AEs. Six subjects reported AEs related to the study drug though none were serious or severe.

No ptosis was reported. There were no withdrawals due to AEs.

Conclusions: NT 201 is an effective and well-tolerated treatment for moderate to severe lateral periorbital wrinkles. Due to the comparable efficacy and safety a 3-injection scheme is preferable over a 4-injection scheme.

MOHAMED L. ELSAIE, MD, MBA

PHOTODYNAMIC THERAPY IN DERMATOLOGY

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Photodynamic therapy (PDT) is used for the prevention and treatment of non-melanoma skin cancer. Until recently, clinically approved indications have been restricted to actinic keratoses, nodular and superficial basal cell carcinoma, and, since 2006, Bowen disease. However, the range of indications has been expanding continuously. PDT is also used for the treatment of non-malignant conditions such as acne vulgaris and leishmaniasis, as well as for treating premature skin aging due to sun exposure. The production of reactive oxygen intermediates like singlet oxygen depends on the light dose applied as well as the concentration and localization of the photosensitizer in the diseased tissue. Either cytotoxic effects resulting in tumor destruction or immunomodulatory effects improving inflammatory skin conditions are induced. Treating superficial non-melanoma skin cancer, PDT has been shown to be highly efficient, despite the low level of invasiveness. The excellent cosmetic results after treatment are beneficial, too.

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QCW PULSED Nd:YAG 1064 NM LASER LIPOLYSIS

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Background: Laser Lipolysis and Laser Assisted Liposuction become widely used and very popular method of body sculpturing, due to its ability to simultaneously melt the fat and tighten the skin giving thus excellent aesthetic results. Gaining popularity and achieving great results with 1064 nm Nd:YAG laser, the method recently diversified in many wavelengths, each of them being strongly promoted by its manufacturer. Following wavelengths are currently most commonly used: 920, 980, 1064, 1320, 1440 nm and still new are coming. This work discusses the role of wavelength in laser lipolysis procedure.

Method: The wavelength dependence of laser lipolysis was simulated using a Monte Carlo computer simulation. Various wavelength used for laser lipolysis were analyzed in terms of safety and efficacy.

Results: The results show that the Nd:YAG 1064 nm wavelength is the optimal wavelength for laser lipolysis in terms of safety and efficacy. Compared with other wavelengths, the 1064 nm wavelength exhibits the largest directly heated volume of subcutaneous tissue (efficacy) and has the smallest undesirable thermal effect on neighboring dermal tissue (safety).

Discussion: Some interpret the high absorption of certain wavelengths in lipids, or water as their big advantage, but in reality only the proper combination of absorption, scattering and laser power in complex structure of fat tissue is resulting in optimal efficacy of laser lipolysis procedure - the achievement of largest thermal volume at appropriate temperatures.

In execution of laser lipolysis procedure, two types of tissues are involved - subcutaneous fat tissue and dermis, having different optical characteristics. Due to these differences the effects of the laser light in fat and dermis could be quite different, causing development of different temperatures in those two issues. The results of the Monte Carlo simulation show that the injury to the dermis can be appreciable when working with sub-optimal wavelengths.

Conclusion: Among analysed wavelengths 1064 nm NdYAG show best procedure efficacy and safety. Also, the 1064 nm Nd:YAG lasers are the most widely used lasers for lipolysis, with the longest clinical record of many thousands successful cases while the most of newly introduced wavelengths yet have to prove their clinical efficacy and safety.

Introduction: Intense Pulsed Light therapy (IPL) has been associated with erythema and increased lipid peroxidation. Polyphenolic antioxidants have been shown to decrease inflammation and reduce oxidative stress in irradiated skin. This study aimed to determine whether the topical application of polyphenolic antioxidants to IPL treated skin reduced adverse effects of IPL exposure.

Materials & methods

Patients: Ten female volunteers, with skin phototypes 1-3, aged 36-54 (average 42 ±5 years), participated in a split-face, prospective study.

Protocol: Three full face IPL treatments delivered by a Sciton Profile System with the Broad Based Light module (Sciton Corporation, Palo Alto, CA) spaced three weeks apart using the following parameters: 560 nm filter; fluence 16 J/cm²; pulse duration 10 ms. Immediately prior to the first IPL treatment and then every 7-10 days for a total of 6 treatments, an antioxidant rich solution (AntiOx™6, Edge Systems Corporation, Signal Hill, CA) containing polyphenolic flavonoids and polyphenolic diterpenes was pneumatically applied to the left side of the face using the HydraFacial Wave System (Edge Systems Corporation, Signal Hill, CA). Skin care products such as antioxidants, tretinoin and glycolic acid agents were avoided 6 weeks prior to and during the treatment period. Prior to treatment and one week following the last treatment, skin biopsies and measurements were obtained.

Measured Parameters: Skin polyphenolic antioxidant levels were measured using optical spectroscopy ; lipid peroxide concentration was determined from skin biopsy specimens; and skin moisture content was measured by calculating skin capacitance. Pre-treatment levels were obtained (Control). Post treatment levels from the right cheek reflected levels in skin exposed to IPL therapy.(IPL) Post treatment levels from the left cheek reflected levels in skin exposed to IPL therapy plus polyphenolic antioxidants. (IPL + Antioxidant)

Results:

N=10	Control	IPL	IPL + Antioxidant
Lipid Peroxide Concentration (nmol/g)	60 ± 10	260 ± 30 *	80 ± 20 †
Skin Moisture Content (International Units)	48 ± 5	38 ± 8 *	68 ± 10 *†
Skin Polyphenolic Antioxidant Level (Raman Intensity Units)	15,000 ± 2,000	12,500 ± 2,000 *	20,500 ± 3,000 *†

p<.05 vsControl †P<.05 vsIPL

Conclusion:

- Lipid peroxide concentration increased significantly after IPL treatment but did not increase when topical antioxidants were applied during the IPL treatment regimen.
- Skin moisture content decreased significantly after IPL treatment but increased when polyphenolic antioxidants were topically applied during the IPL treatment regimen.
- IPL exposure reduced polyphenolic antioxidant levels in the skin. This antioxidant depletion was reversed when polyphenolic antioxidants were pneumatically applied during the IPL treatment regimen.
- Polyphenolic antioxidants may confer a protective effect on facial skin

exposed to visible light radiation and reduce the adverse effects of IPL therapy.

Introduction: The purpose of this study was to determine whether the addition of topical polyphenolic antioxidants to an Intense Pulsed Light (IPL) treatment regimen augmented the effects of facial IPL treatment.

Patients: Thirty female volunteers, ages 34-52 with skin phototypes 1-3, were randomly assigned into 3 groups Treatment protocol:

Group A (n=10) received 3 full face IPL treatments using the Sciton Profile System with the Broad Based Light module (Sciton Corporation, Palo Alto, CA) at 16 J/cm², 10 ms, 560 nm filter. The treatments were spaced 3 weeks apart.

Group B (n=10) underwent 6 weekly treatments of a pneumatically applied topical polyphenolic antioxidant solution containing polyphenolic flavonoids and polyphenolic diterpenes (e.g., epicatechin, ursolic acid) to the entire face using the HydraFacial Wave System (Edge Systems Corporation, Signal Hill, CA).

Group C (n=10) received the combination of the 3 full face IPL treatments at 3 week intervals and the 6 weekly topical polyphenolic antioxidant applications.

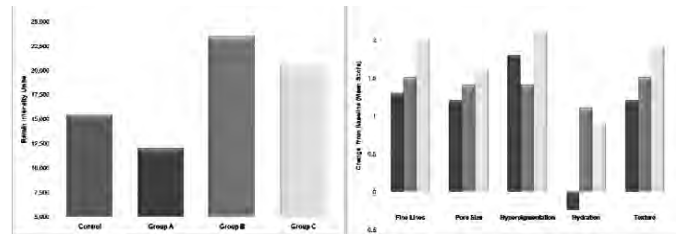
Measured parameters:

Skin biopsies to determine skin thickness and lipid peroxide concentration were obtained prior to and 1 week following the treatment period.

Clinical efficacy variables to measure changes in skin attributes were documented by 3 independent observers prior to and 1 week following the treatment period. Skin polyphenolic antioxidant levels, calculated by non-invasive optical Raman spectroscopy, and skin moisture content, determined by skin capacitance, were obtained prior to and 1 week following the treatment period.

Results:

	Control	Group A	Group B	Group C
Epidermal Thickness (microns)	50 ±5	55 ±7	75 ±9*†	80 ±8*†
Papillary Dermal Thickness (microns)	285 ±20	370 ±20*	360 ±30*	475 ±40*†‡
[Lipid Peroxide] (nmol/g)	60 ±5	260 ±30*	65 ±10†	80 ±20†
Skin Moisture (International Units)	45 ±5	35 ±6 *	71 ±5*†	59 ±9*†‡



*p<.05 vs Control ‡p<.05 vs Group B †p<.05 vs Group A

Conclusion: The addition of polyphenolic antioxidants to an IPL regimen enhanced the clinical, biochemical and histological changes seen following IPL treatment alone. This data supports the use of multimodal therapy to create synergy and to optimize clinical outcomes in non-ablative facial skin rejuvenation.

GALDERMA - JOANN HOULSTON

HYDRATION POTENTIAL OF A NEW ULTRA HYDRATING LOTION

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Background: A study was conducted to analyze the hydration properties of a new moisturizer (CDA) in comparison to three of the other recommended products that are currently available.

Methods: The study was an intra-individual, single blind, single centre and randomized comparison study. Moisturizing properties of CDA were compared to those of 3 competitors (P lotion, PAI cream and E lotion). A non-treated zone served as control. A single application of 2mg/cm² of each product was performed on a zone of 5 cm x 5 cm (50 µl on the entire zone) on the legs of volunteers. The moisturizing effect of each tested product was measured using a DermaLab® USB Moisture module before product application (t0) and at each of the following kinetic times: t2h, t4h, t6h t8h, t10h and t24h after product application. During the first 10 hours of the study, subjects were kept at rest in a room under controlled atmosphere, with temperature of 20 °C and relative humidity of 50 %.

Results: 22 subjects were recruited and all of them completed the study. Mean age was 52.1 years and all subjects were female. Compared to non-treated zone, all products induced a significant hydration at all time points at the treated zone and the highest hydration effect was induced by CDA. When compared with the other three products, CDA showed the best moisturizing properties at all time points (p<0.05). The least hydrating product was PAI cream.

Conclusion: These study results demonstrate that CDA ultra hydrating lotion has better moisturizing properties than P lotion, PAI cream and E lotion.

GALDERMA - JOANN HOULSTON

INTERNATIONAL CONSENSUS RECOMMENDATIONS ON TREATMENT OF UPPER FACE WRINKLES USING THE BOTULINUM TOXIN TYPE A (SPEYWOOD UNIT) NEWLY APPROVED FOR AESTHETIC USAGES

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Background: Botulinum toxin type A [BoNT-A] (Speywood Unit, Galderma) specifically designed for aesthetic indications has recently received approval for the treatment of glabellar lines in 15 European countries.

Methods: A panel of international experts with extensive experience with BoNT-A (Speywood Unit) convened twice to develop consensus recommendations in treatment of facial wrinkles.

Results: BoNT-A (Speywood Unit) should be reconstituted into a final concentration of 10 Speywood Units (s.U)/0.05 mL. For treatment of glabellar lines, the panel members recommended 5 injection points in the procerus and corrugators with 10 s.U per point, 0.5 to 1 cm from the orbital rim. For treatment of forehead wrinkles, the panel members recommended 4 to 5 superficial intramuscular injections into the frontalis with 5 to 10 s.U per point. For treatment of crow's feet, the panel members recommended 3 superficial intramuscular injections per side with 5 to 10 s.U per point at the lateral part of orbicularis oculi. For treatment of lateral eyebrow lift, the panel members recommended one point at each eyebrow tail and an additional one in each side of the frontalis, with 5 to 10 s.U per point and superficial intramuscular injection. In addition, simple and safe guidance for anatomical landmarks, injection depth and orientation of the needle were provided. Safety precautions and potential adverse events for each indication were also discussed, as well as the basis for dose adjustment among individuals.

Conclusion: These first international consensus recommendations will enable users of BoNT-A (Speywood Unit) to perform safe and efficacious injections based on a broad international consensus and to subsequently optimize treatment safety and efficacy.

Background: A new UVA/UVB protection cream SPF50+ (C) has been specially formulated for dermatologists and can be used as an adjunct to the treatment of photo-aggravated dermatoses and photo-induced dermatoses. The moisturizing properties of a protection cream provide additional comfort and therefore can contribute to maximizing patient adherence. A study was performed to assess the moisturizing properties of this new product.

Methods: This was an intra-individual, single blind, single centre, randomized study. Subjects having dry skin on the legs were recruited for this study. Moisturizing properties of C were compared to those of 2 other products (A, S). A non treated zone served as control. A single application of 2mg/cm² of each product on a zone of 5 cm x 5 cm (50 µl on the entire zone) was performed. The moisturizing effect of each tested product was measured using a Corneometer® CM 825 before products' application (t0) and at each of the following kinetic times: t1h, t2h, t4h, t8h, t12h and t24h after products' application.

Results: 21 subjects were recruited. Mean age was 35.6 years and all subjects were female. The Corneometer® measurements showed that C had a hydration rate significantly higher than the one measured on the non treated zone from one hour to 12 hours after its application. On the contrary, A and S never significantly differed from the non treated zone, whatever the timepoint. C also had a better moisturizing effect than all other products up to 12 hours after its application (p<0.05).

When the sum of hydration gains over 24 hours was considered, C was significantly better than A, and S (p<0.001).

Conclusion: These study results demonstrate the superior moisturizing properties of the new UVA/UVB protection cream.

Background: A new UVA/UVB protection cream has been specially formulated for subjects with UV sensitive skin. It is a very high factor photoprotector cream (SPF50+) containing two patented filters which provide best in class protection against UVA as well as UVB. The present study was performed to assess the comedogenicity and cosmetic acceptability of this product.

Methods: Single center and open study. Subjects with an oily or mixed acne-prone skin applied the product twice daily for 28 days. A dermatologist assessed the non comedogenic potential of the test product by counting the retentional and inflammatory lesions. A questionnaire regarding the product's cosmetic acceptability was completed by subjects at end of the study.

Results: 21 subjects were recruited and all completed the study. Mean age was 27.5 years and 81% of the subjects were female. The results of the acne counts showed that the number of blackheads did not vary between baseline and Day 28. These results were reinforced by the observed decrease of all other acne lesions, especially whiteheads and total retentional lesions (p<0.005). 76.2% of total subjects had a "pleasant" or "very pleasant" global impression about the product. The vast majority were positive about the product's texture, color, smell and the absence of sticky sensation. Most subjects considered that the product left a pleasant sensation during and just after application and this sensation persisted during the day of application. In addition, the product was considered to be non-irritant and left skin more hydrated.

Conclusion: The new UVA/UVB protection (SPF50+) cream is non-comedogenic and high rated for its cosmetic and hydration properties.

Background: Silastic ring vertical gastroplasty (SRVG) is highly preferred by the most patients from Romania. Plastic surgery is a logical and humane concomitant to bariatric surgical procedures which induce massive excess weight loss.

Patients, material, methods: During 13 years, between March 1997 and December 2009 there were 770 morbidly obese patients operated with SRVG. Their weight ranged between 95 and 270 kg and BMI between 36 and 80 kg/m². Abdominal panniculectomy can be performed either prior to SRVG (preoperative purpose) or after it (cosmetic purpose).

Results: Complete follow up was obtained in 650 patients at 3,6,9,12 months and then yearly (84.4%). Most of the patients had a successful weight reduction between 40-100 kg (80%). Between 2003 and 2009 we followed up 93 patients who underwent preoperative transverse abdominoplasty (23 patients) and postoperative transversal-vertical abdominoplasty (70 patients). The optimal time for abdominoplasty was 3-6 months before SRVG and 6-10 months after SRVG. The removed tissue weighted between 2 and 20 kg. Preoperative, the giant abdominal panniculus was suspended by pins on an orthopedic frame (Thorek technique). Postoperative we used the combined transverse and vertical incision (Pitanguy technique). We discuss the possible postoperative complications.

Conclusion: Most morbidly obese patients are candidates for the surgical removal of the abdominal adipose excess. We recommend abdominoplasty prior to gastroplasty to patients with monstrous obesity and pulmonary and/or cardiac diseases. Abdominoplasty after weight reduction by gastroplasty has a cosmetic role.

Background: Dermal fillers are commonly used to treat ageing process, that combined with facials volum loss and muscular hyperactivity. Belotero Basic is a smooth cohesive gel, indicated for injection into the middermis. The objective of this study was to compare aesthetic and anti aging results of Belotero Basic in naso-labial folds.

Patients, material, methods: All subjects were female, from 35 till 56 years and all of them were injected in middermis with 1-

2 ml of Belotero Basic in naso-labial folds.

Results: a natural looking, volume full, smooth face.

Conclusion: All patients were satisfied from the results and reported that the treatment was comfortable and totally painless.

PETR HORA, M.D., MBA - GABRIELA HOROVA, M.D., MBA

COMBINED FACIAL AESTHETIC TREATMENTS - OPTIMAL SOLUTION IN THE TIME OF ECONOMIC RECESSION

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Background: While agriculture industry, banks and factories failed during the Great Depression of 1929 to 1939, the beauty business remained strong and history promises to repeat itself in 2010 - 2012. But the development will be at a lower rate than in the last two decades. Therefore the optimal choice of the specialization of aesthetic clinics or medical spas is crucial for success in the future.

Methods: We determined these four goals for business development in economic crises: 1. No need of high investment in purchase new technologies, 2. Long term tested plus scientifically scriptural results, 3. Quickly visible therapeutic effect with high level of safety for patient, 4. Can be mainly intended for care in clinic conditions and partly at home setting, too.

Results: These four goals were realized through combined treatment - peeling with aesthetic injectables: mesotherapy, dermal fillers (and/or botulism toxin) and professional cosmetics for clinic and home use. These combination of invasive treatments with high quality cosmeceuticals facilitate the loyalty between aesthetic practice and patient. It makes possible to separate explicitly the medicine and cosmetician level in aesthetic business and to create the optimal marketing strategy for aesthetic clinic or medical spa.

Conclusion: The most important key to success for aesthetic clinic or medical spa is to decrease the expenses and to find the profitable treatments as application of high-concentrated chemical peeling, dermal fillers, mesotherapy (and/or botulism toxin) with minimal need of investments. The second key to success is the use of doctor who provide high-end treatments and oversee the quality of care delivered at the clinic. The last important key is the use of doctor for the increase of customer confidence and the optimal positioning above cosmetician level in aesthetic business.

PETR HORA, M.D., MBA - GABRIELA HOROVA, M.D., MBA

REQUESTS FOR FACIAL AESTHETIC TREATMENTS IN THE TIME OF RECESSION ? RESULTS OF A CZECH REPUBLIC SURVEY

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Background: The year 2009 was characterized in the aesthetic medicine with reduced consumer spending resulting in lower revenues for many aesthetic practices in Czech republic. Declining practice incomes resulted in lower spending for business development - advertising, promotion and supplies. We, as the owner of Clinic aesthetic, decided to specify the requests for the aesthetic facial treatments in the Czech republic - in the area of West Bohemia - for optimal allocation of expenses.

Methods: We performed 1 month lasting campaign - 2 weeks intensive radio advertising combined with newspaper advertising 2 times pro week and web-sites promotion for complete facial metamorphosis based on global anti-aging treatment with combination of chemical peel and injectables - dermal fillers with hyaluronic acid, botulism toxin and mesotherapy. The target group was women between 30 and 60 years. In the area live 246 265 inhabitants in this age interval. 51% of them are women. We analyzed the number of e-mail reactions, the age groups, previous aesthetic treatments and requested treatment.

Results: We have received 313 correct e-mails. The three age group of women were: 30 - 39 years old - 89 women (28%), 40 - 49 years old - 119 women (38%) and 50 - 60 years old - 105 women (33%). Only very limited number of ladies admitted any aesthetic treatment in the past: application of botulotoxin - 9 (2,8%), application of dermal fillers - 4 (1,2%), chemical peeling - 10 (3,2%), mesotherapy - 1 and plastic surgery treatment - 6(2%). The most requested treatment is chemical peeling - 112 (35,8%), the second mesotherapy - 91 (29%), the third dermal fillers - 61 (19,5%) and the last was the application of botulotoxin - 49 (15,6%).

Conclusion: The non-surgery aesthetic medicine is in the Czech republic on the starting gate. Nevertheless the reaction of women from Czech Republic survey is promise for the future - for the business development in aesthetic medicine based on preventive and physiological principles. The most requested treatments confirmed the interest for minimal invasive treatments (chemical peeling), preventive treatment (mesotherapy) or autogenous application (dermal fillers with hyaluronic acid). All these methods are very effective with minimal need of investment. The least necessitated position of botulism toxin application confirmed the BIO trend in aesthetic medicine.

GABRIELA HOROVA, M.D., MBA, - PETR HORA, M.D., MBA

HOLISTIC TREATMENT FOR CELLULITE

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Background: The cellulite hypothesis involves the affect of female hormones in the contraction and tonus of the lymphatic vessels. The consequence is lymphostasis and the accumulation of substances in the cell interstice. This accumulation may have an effect on the exchange of substances between the cell and the cell interstice and reflect in local reactions triggering oedema and fibrosis. The total reduction of cellulite attained utilizing the lymph drainage technique supports this hypothesis.

Methods: Any treatment of cellulite should be non-invasive in an attempt to reproduce the physiology of the organism. We tested

four kinds of treatments: 1. Power Plate training with focus on skin microcirculation improvement, 2. LPG Endermologie with Cellulite programme, 3. Device lymph drainage and 4. The combination of all methods. We provided the treatments on 4 groups of patients with comparison of treatments after three months of applications.

Results: The only way to get a real grip on cellulite is through holistic treatment. The lymph flow must be stimulated and at the same time the connective tissue should become firm. As many people simultaneously have local obesity or are overweight in general, the fat metabolism should also be stimulated. Therefore the triad of treatments is very effective for muscle strengthening, improvement of microcirculation, skin tightening and increasing of fat burning. The best results and decrease of cellulite level proven the combined approach.

Conclusion: To improve of cellulite treatments is very important and effective to combine different non-invasive techniques. The best result is the treatment based on physiopathological principles - to stimulate microcirculation, lymphatic drainage and fat burning last. The integral part of treatment is life-style correction including diet, detoxification and exercises.

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KIM JEONG EUN, KIM NAM CHUL, KIM HA JIN, SO JAE YONG, LEE SUN HO, CHAE GYU HEE†

GASTROCNEMIUS MUSCLE VOLUME REDUCTION BY RADIOFREQUENCY-INDUCED COAGULATION FOR AN IMPROVEMENT IN CALF CONTOUR

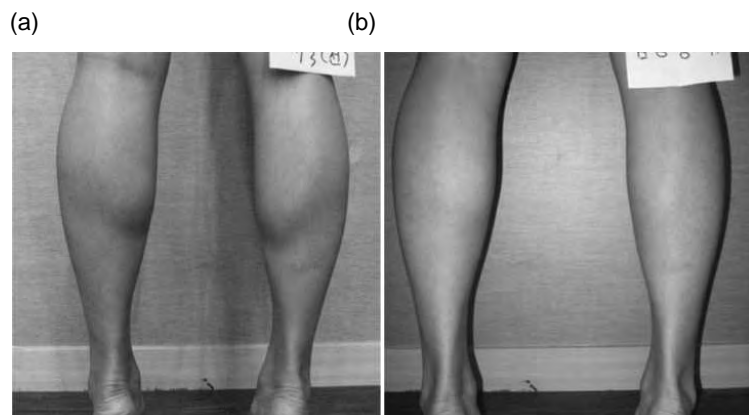
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Background: In Asian women, muscularly prominent calves, caused mainly by hypertrophy of the gastrocnemius muscle, are common aesthetic problem. Procedures of Gastrocnemius muscle reduction that can achieve an aesthetical improvement include Botulinum toxin A injection, selective neurectomy and radiofrequency-induced coagulation. This study was performed to evaluate the effectiveness and safety of gastrocnemius muscle reduction by radiofrequency-induced coagulation.

Patients, material, methods: Gastrocnemius muscle reduction by radiofrequency was performed in 52 patients from June of 2006 through December of 2007. The operations were performed under local anesthesia. The radiofrequency energy (mean power, 25W±10%, mean frequency 470KHz) was delivered via bipolar RF needle electrode inserted into gastrocnemius muscle layer. The expected target temperature was 60–80°C. We ablated large portions of the muscles by creating 10*5-mm-sized spots of coagulation. The numbers of spots created in each calf were 60 to 100 according to their volumes and thickness. One week later, in a triamcinolone injection group (n=32), triamcinolone was injected into the coagulated muscles to induce a resolution of postoperative edema. The patients visited the clinic regularly to check postoperative reactions for 5 weeks after the procedure. The results of the procedures were evaluated in each case by comparative study of pre and postoperative clinical photographs, the measure of calf circumferences and the score of subjective satisfaction with aesthetical change. We evaluated functional test including motor power, sensory change and range of motion.

Result: The mean of the reduction in calf circumferences at their thickest levels was 1.377±0.08cm. The mean of the score of subjective satisfaction was 3.04±0.196 (range; 0–5) (Figure1). Particularly, in a triamcinolone injection group (n=32), the result was better than a control group (non-injection group, n=21) (Table 1). The reduction of calf circumference in a triamcinolone injection group was significantly higher than that of a non-injection group (1.616±0.47 vs 1.024±0.54, P=0.001). There was no functional disability.

Figure1. Clinical photographs representing a change of calf contour:



(a)Preoperative photo, (b)Postoperative photo

Table 1. Comparison of the result of a triamcinolone injection group and a non-injection group

injection	Calf circumference				
	Baseline	5 weeks later	Total reduction	Reduction for 4 days just after the injection	Score of satisfaction
+(n=31)	36.194±1.87	34.577±1.96	1.616±0.47	0.52±0.379	3.61±1.202
-(n=21)	36.324±2.12	35.300±1.85	1.024±0.54	0.41±0.609	2.19±1.289
P value	0.817*	0.190*	0.001*	0.046*	0.000*

* Mann-Whitney test

Conclusion: Gastrocnemius muscle reduction by radiofrequency is effective method to improve a calf contour with no functional disability. In this study, rapid resolution of edema by a triamcinolone injection was a significant factor to achieve favorable results.

MRS KYONGYEUN LEE

THE EFFECT OF MESOTHERAPY FOR BODY CONTOURING

Background: Mesotherapy is a form of aesthetic therapy that is used to treat a variety of medical conditions including localized fat deposits and cellulite; this therapy is popular in Europe and South America.

Patients, material, methods: Mesotherapy injections to the abdomen were performed in 50 patients and to the hip in 30 patients. The control group consisted of 30 patients that were treated but not with mesotherapy. All of the patients were women and treated for a routine one month course. The injection ingredients consisted of aminophylline, buflomedil, and procaine. The injection was placed into the subcutaneous fat of the abdomen or hips with a mesogun on a weekly basis. We compared the mean weight reduction and reduction in the circumference between the mesotherapy and the control groups.

Results: The change in the mean weight was 1.3 ± 1.2 kg in the mesotherapy group and 1.7 ± 0.8 kg in the control group; this difference was not statistically significant ($p=0.089$). The mean reduction in the abdominal circumference was 2.1 ± 2.0 cm ($p<0.01$) in the mesotherapy group and 0.9 ± 1.1 cm ($p=0.091$) in the control group, and the mean hip circumference reduction was 1.0 ± 0.9 cm ($p<0.01$) in the mesotherapy group and 0.4 ± 0.7 cm ($p=0.065$) in the control group. Both the hips and abdominal circumference were reduced and these differences were Conclusion: Mesotherapy was an effective method of body contouring for the abdomen and hips.

CHARLOTTE LEQUEUX

IN-VITRO STUDY OF DEDIFFERENTIATED CRITHMUM MARITIMUM CELLS ON HIS CAPACITY TO AMELIORATE THE EPIDERMAL GRAFT

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Introduction: Skin Equivalent (SE) is used to test active or finished products efficiency from pharmaceutical, dermocosmetic or chemical industries.

Mimeskin model (BASF-BCS, Lyon, France), which structure is closed to normal human skin, is obtained by human fibroblasts and keratinocytes co-culture seeded on a collagen-glycosaminoglycan-chitosan (CGC) scaffold. This model allows to reproduce an alive dermal-epidermal system. Keratinocytes seeded on the dermal equivalent mime an epidermal graft on the dermis.

The objective of this study was to determine dedifferentiated Crithmum Maritimum cells effect on epidermis development after seeding a keratinocytes suspension on a dermis equivalent.

Material and method: SE model is prepared as followed: 57 year old fibroblasts were seeded onto CGC scaffold and cultured during 3 weeks giving rise to a dermal equivalent (DE). Then, keratinocytes were cultured at the top of the DE 1 week in submerged condition before elevation, then 1 or 2 weeks at air/liquid interface giving rise to a Skin Equivalent (SE).

Actives were Crithmum Maritimum cells (Biotech Marine, Pontrioux - France) which are dedifferentiated cells from "Crithmum maritimum" obtained by cells culture under sterile and controlled conditions.

Dedifferentiated Crithmum Maritimum cells at 0.1% were added to the culture medium 2 days after seeding fibroblasts until the end of the study. In the same time, non treated SE controls were prepared in the same condition, but without actives.

SE Characterization was done by i) histology using Hematoxylin Ploxin and Safran (HPS) staining for a global analyse and ii) immunochemistry using Ki67 and filaggrin antibodies to evaluate respectively proliferation and terminal differentiation. Hoechst staining allowed to count the layer number of the epidermis.

Results: Dedifferentiated Crithmum Maritimum cells allowed a complete regeneration of the epidermis with a complete differentiation faster than with the negative control (35 days instead of 42 days). Indeed, histology shows a multilayered, thick, and differentiated epithelium from the 35 days of culture: the basal and supra-basal layers number is $4,88 \pm 0,41$ times increased versus the negative control (Mann and Withney, $p<0,001$). This result was attributed to better proliferation of basal cells because the cell number expressing Ki67 proliferation marker is significantly increased versus the negative control (Mann and Withney, $p<0,001$).

Moreover, dedifferentiated Crithmum Maritimum cells allowed to recover differentiated epithelium because only treated SE express terminal differentiation maker filaggrin.

Conclusion: Thanks to this skin equivalent model, we showed that dedifferentiated Crithmum Maritimum cells enhance epidermal cells graft by stimulating its regeneration and its differentiation. It allowed the epidermis to recover its structure and protective functions faster than the negative control.

SHERIF MATTAR MD

BLUE PEEL

Medical Director of Obagi Specialized Hospital - Abu Dhabi, UAE

Trichloroacetic acid (TCA) peels are popular and widely used utilized to correct a variety of skin problems.

Different methods exist, ranging from the use of plain TCA to augmented or modified TCA at concentration ranging from 30% to 50%. However, peel results vary depending on the physician skill level, patient selection and patient management.

The purpose of this presentation is to fill the gap for a peel that is deeper than superficial exfoliative procedures yet deeper than medium-depth peel, to simplify and standerzize the peel, to define depth properly based on intra operative clinical signs, to

implement a color guide that facilitates the even application of TCA and avoid skip areas.

Obagi Blue Peel can be combined with other procedures like lasers, scar punch out...etc.

The improved results and lower complications rate makes this method easier to peel skin of all racial backgrounds, including non-facial skin.

GENOVEVA NAGY, MD

NEW APPROACH OF BREAST REJUVENATION AND TONING USING BIOLOGICAL AESTHETIC MEDICINE

Breast is one of the women's main symbols which are one of the most vulnerable areas of the body as years go by. Aging is individual. Changing of volume, loss of skin elasticity, tone reduction, are determined by a complex etiopathogenesis as metabolic disorders, free radical action or dietary bad habits, hormonal changes (the decline of oestrogens level), exogenous factors etc.

How is it possible to obtain breast augmentation, toning and rejuvenation without surgery, Macrolane or other invasive methods? How is it possible to do it without any risk, without side effects, contraindications in a manner which is yet effective and proved?

It's a new "3D" technique using the synergy between 3 different ways of action:

1. local mesotherapeutic special techniques
2. oral administration of hormones in physiological concentration which could rebalance the hormonal system
- 3 the pharmacological effect of the substance injected, which increases:
 - skin trophicity, vascularisation (cutis) and restraining aging processes (embryo),
 - metabolic support to the oxidative phosphorylation processes thus allowing a higher production of ATP and hence an energetic support to start new protein syntheses
 - endocrine stimulation through sensitization of prolactin and oestrogen cell receptors in breast.

The results interest both the quality of the skin, the volume and the tonus of the breast in a more healthier and younger body.

Fields of applications:

- Before breast surgery, before implants of Macrolane, improving the values of PINCH TEST and STRECH TEST.
- For hypotonic and hypotrophic breast, improving breast volume, tonus and skin quality
- In premenstrual syndrome, diminishing symptoms, rebalancing hormones

MRS MALTI O'MAHONY

A DESCRIPTIVE STUDY OF THE USE OF ANTI-CELLULITE TREATMENT USING HOMEOPATHIC AND ALLOPATHIC AESTHETIC ANTI-AGEING MEDICINE IN MESOTHERAPY

"Mesotherapy philosophy is a new therapeutic and simple concept that attempts to get the place of treatment to the area of pathology, increasing the effectiveness in a short time, without going through the entire body." Pistor (1958)

This study aims to describe the use of Mesotherapy in the Boston Aesthetics Clinic (UK) Ltd., London over a five-year period from 1998 to 2003 using routine information taken from patient records and patient testimonials as recorded by the staff during this period.

All 350 patients who attended the clinic for Mesotherapy treatment were included in the results. The medications included in the treatment are described, as is the method used in the clinic of adapting the dosages of the individual components to achieve optimum effect, based on the characteristics and response of each patient.

Results: One patient experienced a mild allergic reaction without vagal symptoms. 61% of patients experienced pain at the site of injection, but this was well tolerated. Bruising was experienced by 90%, with 51% suffering most commonly an inflammatory reaction, redness, slight tingling and treated area of warmth. They also have 0.5 - 1cm in size bruising. Bruising in all patients cleared up within 7 - 14 days of completing treatment.

Positive results were experienced in terms of overall weight reduction and reduction in girth measurements. The most striking effect described by patients was in terms of their feelings of well-being and mood, which improved dramatically during treatment.

Conclusions: Mesotherapy appears to be a safe and effective means of reducing cellulite, with positive effects of mood improvement, increased energy, overall healthy feeling and healthy skin, nails and hair.

Aim: The aim of the study was to ascertain that Mesotherapy would reduce the cellulite and improve the venous lymphatic drainage in 90% of the women in our sample. We sought a valid solution for treating the problem of cellulite within the purest orthodox Mesotherapy but without the unpleasant side effects caused by the allopathic drugs commonly used.

In accordance with Pistor, aesthetic medicine and treatments should be as non-traumatic and non-aggressive as possible.

Method: The study was conducted in the Boston Aesthetics Clinic (UK) Ltd. during the period from April 1998 and April 2003. The total number of patients who attended during this period was 350 with their ages ranging from 22 to 65 years.

The patients' ages are categorized in Table 1.

Table 1: Age

Age	
18 - 25	66 (19%)
26 - 35	115 (33%)
36 - 45	109 (31%)
46 - 55	52 (15%)
56 - 65	8 (2%)

All patients were female. The total number of Mesotherapy sessions (excluding maintenance sessions) was 8 to 16 sessions in 61%, 16 - 32 in 25% and 32 - 64 in 14%.

In accordance with the four classifications of cellulite described by Bartolletti the study distribution among patients was as follows:

Soft cellulite, 40%, occurring predominantly in the 18 - 30 age group

Hard cellulite, 26%, occurring predominantly in the 31 - 45 group

Hard cellulite, 18%, occurring predominantly in the 46 - 55 and

Oedematous cellulite, 14%, occurring predominantly in the 55 - 65.

Symptoms associated with the cellulites problems were varied, but the most significant were those associated with poor circulation i.e.

- | | |
|--|-------------------------------------|
| 1. Insufficient venous return | 2. Flabbiness |
| 3. Sedentary lifestyle | 4. Bowel movements |
| 5. Smoking | 6. Family history of varicose veins |
| 7. Alcohol consumption | 8. Oedematous water retention |
| 9. Abdominal inflammation | 10. Oral contraception |
| 11. Menopause | 12. Anti-depressants |
| 13. Cholesterol | 14. Diabetes |
| 15. Lifestyle issues in terms of poor diet, stress | |

- 227 (65%) of the patients in the study described a combination of symptoms, which were predominantly lack of exercise, poor eating habits, alcohol consumption, smoking and stress.

- 147 (42%) of patients had flabbiness, tiredness, feeling heavy legs, orange peel appearance under the skin, dullness of the skin, and feeling lethargic.

- 95 (27%) of the women under 46 showed the oedematous status during their pre-menstrual days and water retention especially in the summer time.

All the above problems are associated with the symptoms of poor circulatory and venous lymphatic functions. A previous study, (Latorre, J. 1982), found that insufficient venous return causes oedema and fluid retention in the lower extremities.

Treatment of lymphoedema of the arms and legs can be reduced according to Casley-Smith Jr. (1992), with a regime of complex physical therapy (CPT), comprising skin care, lymphatic massage, compression bandaging and special exercises to supplement the massage.

The technique: The technique we used was manual Mesotherapy, with a 5ml Mesotherapy mixture with 30G - 13mm x 0.3 diam needle with 1 - 2cm apart sub-cutaneous locally on region depending on the pathology to be treated. The medicine cocktails were micro dosages of 0.2 - 0.5mls. Between 25 and 75 injections were administered 4 - 10mm deep and covering a maximum area affected. Single use syringes and needles were employed.

Four techniques of injection have been traditionally used in Mesotherapy.

These are:

1. Intradermal - (superficial of deep) 4 - 10mm deep
2. Epidermic - 1 - 2mm deep
3. Mesoprofution - (punctual and systematic) 4 - 10mm deep
4. Nappage - (point to point) 2 - 4mm deep

The technique used at the Boston Aesthetics Clinic (UK) Ltd. was predominantly intradermal 4 - 10mm deep. First session after the patients' assessment Mesotherapy cocktail injections between 4 - 10mm of depth with volumes of 0.25 to 0.5ml were injected spaced 2 - 3cm apart. After the second week 1.5 to 2ml of Lipoliticus was used intramuscular to increase the lipolytic action, which increases the intra-adipocytary level of cAmp. This profound method was used in only one of the two sessions per week throughout the treatment.

The skin surface was cleansed rigorously and systematically before each session of Mesotherapy with Chlorhexidine 5% at 70% and disposable, single use only, gloves were used.

The manual methodology used as of 4 - 10mm penetration, with spacing 2 - 3cm under permanent visual control performed at an angle of 30 - 45 degrees and concomitant light constant pressure on the syringe piston with the other hand applying and withholding pressure whilst performing the sub-cutaneous injections. The sessions were performed twice a week with each one lasting 25 to 45 minutes. The more profound injections had 4 - 10mm penetration, with 2 - 3cm spacing unchanged.

The medication therapy: On initial consultation the clinician took details of the patient's age, daily activities, diet and lifestyle. The combination medication used was determined on this information. The younger patients required less of the component containing Triac, which has small doses of thyroxin. Treatment dose started at 2.5ml per session and increased by 1ml per session (2ml per week) in accordance with the patients' tolerance. Between 5 and 35ml of Triac could be used in treatments of up to 100ml, according to patient characteristics of age and type of cellulite to be treated.

The element most likely to cause pain or irritation at the site is artichoke, and this dosage was altered accordingly. Feedback from the patient was essential for the clinician in determining which dosages of medication to combine in order to achieve optimum effect while minimizing discomfort.

In the first week of treatment patients were given 20ml of mixture per session. This was increased weekly to finish in the last week of treatment with a maximum amount of 100 to 125ml per session.

Medication and actions:

The usual mixture of Silico Organico, Triac, L-Carnitine, Lipoliticus and Procaine (2%) was used and adapted in the clinic.

The action mechanism of each component is as follow:

- 1) L-Carnitine 5ml containing 1gr of L-Carnitine
- Component of B1 (B complex)

Break down and transport of fatty acids. Esterified fatty acids have a limited capacity of penetration into mitochondrion and it requires a physiological carrier to reform this connection. This job is done by L-Carnitine as a transporter. It transfers the fatty acid and the acetylco of fatty acids for oxidation. Because of its' action mechanism it is easy to understand that this is not a lypolitic medication, but an action enhancer to medications that do possess lipolytic action by increasing the intra-adipocytary level of cAmp. It is called "a fatty acid transporting molecule".

2) Silico Organico: Mineral and organic compound. The silanoles are composed of water-soluble organic silica and they are biologically active. They increase the intradepository concentration of cAmp, making possible the lipolysis and hydrolysis activation of the triglycerides in many tractions but they do not disturb the cellular metabolism. Therefore Silico Organico is an important medication in cellulite and mesotherapy treatment.

3) Procaine: Procaine 1 - 2% plain has properties of plasmatic hydrolisation and acts as a liposoluble by quick reabsorbsion through plasma by a pseudo-choline-esterase.

The action is on the autonomous nervous system in strong doses produces gangliophegic effects due to the inhibition of the ganglion receptors. Action on the central nervous system in small doses can cause arrhythmia an in large doses respiratory depression. On ageing tissue there is regeneration due to stimulation of DNA synthesis for some, controversial results for others.

4) Lipoliticus: Is a homeopathic favoring the blood and lymphatic circulation. It enhances degradation of triglyceredes acting on the oedematous fibrous component.

Composition:	Vena suis	Arterai suis	Funiculus umbilicalis suis	Tabacum
	Aesculum	Barium carbonicum	Vipera verus	Juclans
	Fumaria officinalis	Sepia	Pulsatilla	Placenta suis

The action mechanism of this component is that of inhibiting the phosphodiesterase in order to achieve sufficient cAmp, which is essential to activate the lipases. It directly increases lipolytic enzymes by activating ATP to cAmp and is a good transmitter and connector.

In addition to the procedure patients were advised to have maintenance sessions approximately one a month for 6 months, to be reduced gradually. The clinician gave advice verbally on diet during the sessions, and recommended patients eat less wheat, flour and sugar if their description of their current dietary habits demonstrated excessive intake of these.

5) Triac (0.067% in 5ml)

Action mechanism: Peripheral lipolytic action is preserved, especially by the Triac, which is also capable of stimulating the formation of anti-iodothyronine antibodies. Its lypolytic action is produced by the inhibition of intra-adipose phosphodiesterase, thereby increasing the cellular concentration of the second messenger involved in lypolysis cAmp. This stimulation process is one of the bases medication used treating cellulitis.

Results: The treatments were tolerated very well by the patients, 65% of the patients felt Mesotherapy punctures were slightly painful at the first and second sessions, but the degree of pain experienced was not a deterrent to attending for further treatments. The techniques used during the punctures were to keep the patient talking and slight withholding of pressure with the other hand. The psychological effect produced was to distract them to decrease the perceived pain.

After the initial one or two sessions there were no pain complaints and after 3 - 4 sessions patients tolerated pain, if any felt, as they could see and feel the benefits of the treatment, resulting in the psychological benefit of uplifted mood. Only one patient did not return for a second session due to pain. At the first 3 - 4 sessions the clinician asked each patient to score their perceived pain on a scale of one to ten, with one being the lowest, and most (76%) scored three.

No correlation between age and pain tolerance was observed among the patients at the clinic, however, from clinicians observations there was a positive correlation between good tolerance of pain and good results. Mesotherapy sub-cutaneous injections were well tolerated in almost all patients with visual effect of the cellulite reduction within 3 - 5 sessions. Patients with oedematous and hard cellulite had less pain tolerance than those with soft cellulites, as observed by Ordiz (1992).

At each session the clinician completed a checklist of symptoms observed and described by the patient and the main side-effects are noted in the following table.

Table 2: Side Effects

Pain	65%	Pain was at the site of the Mesotherapy injection. Erythema and bruising was because of drugs used, their action mechanism and intra sub-dermal deposition. When an allergic reaction (which occurred in one patient only) was observed it was temporary, non-painful vasodilation without vagal symptoms. It was also observed that treatment for patients aged 18 - 35 was more effective using less sessions then other age groups. Patents aged 36 - 45 needed between 16 and 24 extra sessions to achieve optimum effect. Those over 46 years needed 18 to 32 sessions to attain the same outcome as the younger age groups.
Erythema	51% (3 - 4mm in size)	
Priuritis	44%	
Itching	0.5%	
Oedema	0%	
Allergic reaction	0.03%	
Bruising	90%	

Bruising was observed in almost all patents (90%). This was delayed and not at all sites of injection. Cold packs were used to minimize bruising, which lasted for between 7 and 14 days post treatment.

Observations made during the study period of virtually all the aetiological factors which were considered for the cellulite process, with a predominance of dietary and circulatory problems, and an emphasis on micro-circulatory factors, which are in turn related to endocrinal vascular, neurodegenerative, lymphatic toxins. Multedo's circulation theory plays an important role in identifying the connection between intracellular and connective tissue to restore the neuro-transmission and tissue resistance. The overall subjective evaluation of the Mesotherapy was conducted at the final session of the treatment, taking into account not only losses of volume or weight (see girth measurements described in Table 3) but also actual development of symptoms of heaviness, cramps, pins and needles, oedema and dull skin appearance (see Table 4).

Table 3: Girth measurements

Reduction	Proportion of patients
3cm	30%
4cm	24%
5cm	23%
6cm	7%
7cm	8%
8cm	6%

Table 4: Subjective appearance

Appearance	Proportion of clients
Very good	27%
Good	54%
Moderate	26%
Poor	3%

An account was taken weekly from the patient during which the clinician noted changes in lifestyle and any positive or negative effects described which were not accounted for in the checklist of side-effects. All patients described an increased feeling of well being, increased energy levels and a resulting change in habits and lifestyle, with increased levels of physical activity. Those who habitually drank alcohol noted that they felt intoxicated following

a much reduced intake compared to intake prior to commencing treatment. This is accounted for by the process of detoxification, which occurs during treatment.

Observationally 96% of patients had improved skin in that it appeared healthier and brighter, with a concurrent improvement strength and structure of nails and hair.

Patients' comments on the treatment were also recorded at the final session and some examples of testimonials given are:

"The service is top rate. I've just finished my course of eight Mesotherapy sessions and I'm so satisfied that I've actually renewed another course." - V. A., London

"The Mesotherapy treatment definitely works for me". - S. S., Oxford

Conclusions: Mesotherapy is a very effective treatment for cellulitis and weight loss. Initiation of Mesotherapy maintains physiological changes in microcirculation, in connective oedematous and fibrous tissue. It contributes to improvement of venous and lymphatic drainage. Mesotherapy has an excellent acceptability with minimal risk.

It is a perfectly valid alternative treatment for cellulite with orange peel effect. It also helps to reduce weight and is a general pick-me-up. It has proven to be the most successful in terms of outcome and patient satisfaction of all treatments on offer at the Boston Aesthetics Clinic (UK) Ltd. over the period of the study, and remains so at time of write up.

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PIERRE FABRE

CONTRIBUTION OF INSTRUMENTAL METHODS FOR THE ASSESSMENT OF HYALURONIC ACID FILLERS

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Background: In the literature, assessment of filler performance has only been made by qualitative or semi-quantitative methods : clinical scoring, photography, self assessment... The objective of this study was to measure the performance of a new hyaluronic acid (HA) based filler product using original techniques.

Method:

Objective: To assess the cutaneous modifications induced by injection of a hyaluronic acid (HA)-based filler product (reticulated HA- free HA-mannitol, for moderate to deep wrinkles) in the nasolabial folds (NLF) during 12 months after injection, on volunteers who had no previous filler injection and who presented moderate to average NLF scores [1].

The measurement time-points were: before (0) and after 1, 3, 6, 9 & 12 months and the methods used were :

Semi-qualitative methods:

- blind (hidden time-point) clinical scoring of the depth of the nasolabial folds (NLF) from standardised photographs using the Lemperle scale (0 to 5) [1] by 2 trained investigators who did not participate in the injections (principal efficacy criterion)
- real time clinical scoring of the depth of the NLF using the Lemperle scale by 5 investigators who performed injections
- self evaluation by the volunteer of satisfaction

Quantitative instrumental measurements:

- volume of NLF from skin replicas and in vivo 3D fringe projection images (Dermatop®, Eotech, France)
- Tissue characterisation and thickness of NLF by Radio Frequency (RF) ultrasonography (Dermcup 2000, ATYS)[2]

Results: 47 volunteers analyzed in intention of treatment (37 F, 10 M); average age 55,7 ± 3,7 years; initial average score of severity: 4,1±0,7; average amount of HA per NLF: 1,3±0,5 ml

Qualitatively: Blind and real time clinical scoring showed a highly significant reduction of the depth of the NLF for each time-point with maintenance up to 12 months. The self assessment showed a high and sustainable satisfaction of volunteers at each

time-point

Quantitatively: Analysis of skin replicas and 3D fringe projection imaging showed a highly significant reduction of the volume of NLF at each time-point

RF ultrasonography showed a significant reduction of the acoustic attenuation of the dermis 9 months after injection.

High resolution ultrasound imaging showed a slight significant reduction of dermal thickness 9 months after injection, and a dermo-hypodermic localisation of the HA implant.

Conclusion: Clinical scoring, self assessment of satisfaction, measurement of the NLF volume by skin replicas and 3D fringe projection imaging corroborated, and showed the same effect: highly significant improvement in reducing NLF depth during the 12 months following injection.

Ultrasound images showed hypodermic localisation of HA implant. Since the dermis only was examined and not the hypodermis, significant modifications of tissue and thickness are later observed at the level of the dermis (9 months after injection). Another method, Magnetic Resonance Imaging, has already shown dermo- hypodermic localisation of HA implants [3]. The slight decrease in dermal thickness may be due to compression by the underlying HA filler. Thus, the effect of filling is not due to an increase of dermal thickness.

The aim of this pilot study was to objectively measure the performance of a new filler product using original instrumental techniques. The results of the subjective and objective measurements are linked and demonstrate significant product efficacy in treating nasolabial folds of moderate to intense severity for up to 12 months.

The instrumental data confirm the clinical results observed, and help to understand the mechanism of action of the injected reticulate HA. These objective measurements can only be carried out by trained staff in specially equipped centres.

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Q-MED - MR ÖHRLUND ÅKE

EXTRUSION FORCE AND SYRINGE DIMENSIONS OF TWO HYALURONIC ACID (HA) DERMAL FILLERS

Background: The force that has to be applied to the syringe when injecting a dermal filler is a function of many factors, e.g. dimensions of the syringe and the needle as well as the viscoelastic properties of the filler material. Not taking the resistance from the tissue into account, the extrusion force is easily measured in the laboratory.

Despite the obvious simplicity of the measurements, the results are often misinterpreted. Although different manufacturers of hyaluronic acid dermal fillers use different syringes and needles, results from extrusion force measurements are still compared without taking these differences into account. In some cases the results are wrongly considered to be an effect of the "softness" or "smoothness" of the filler material rather than the mechanical dimensions of the syringe.

The objective of this study was to compare the extrusion force of two HA dermal fillers. The results are discussed in relation to measurement setups, but also to ergonomic considerations in the design of the syringe.

Methods: The extrusion force was measured using a Zwick BTC-FR2.5TH.D09 material tester with a 100 N load cell, an ejection speed of set to 10 mm/min and 10 measurements/s. The needle was a B-D, Hypoint, 30 G ½". Two commercial HA filler products were tested. Since the syringe inner diameters for each product were different, 6.3 and 4.4 mm inner diameter respectively, the filler material in the 6.4 mm syringe was transferred to the 4.4 mm syringe for comparative measurements.

Results: When compared using identical syringes and experimental setups, the two fillers were found to require similar extrusion forces. When measuring the extrusion force for the stabilized HA filler using syringes of different inner diameter, the difference in extrusion force corresponded to what should be expected from syringe dimensions alone.

Conclusions: When compared using identical syringes and experimental setups, the two fillers were found to require similar extrusion forces. For any given HA filler material, using syringes with a smaller inner diameter will give lower extrusion force, but may also have negative effects on the ergonomics of the syringe. The grip length will increase, as well as the hand to patient distance, resulting in less ergonomics and less control.

Q-MED - MR ÖHRLUND ÅKE

LIFTING CAPACITY OF HYALURONIC ACID (HA) DERMAL FILLERS

Background: Lifting capacity is the desired effect of the gel implant in the body i.e. the capacity to lift tissue and resist deformation after correction. Gel strength is a quantifiable property of the gel, describing its ability to resist deformation. To achieve correction and volume restoration, the gel implant must lift the tissue. A strong gel can provide the force required to lift the tissue and resist subsequent deformation, resulting in the desired correction. A high lifting capacity requires a high gel strength.

A liquid, or a weak gel, will not resist deformation, and will therefore displace in the direction of least resistance, resulting in deformation of the corrected volume. A strong gel will resist deformation and stay where injected, and will therefore prevent deformation of the corrected volume.

Two different measures of gel strength are presented in this study, Cmin and G*, that demonstrate two inherently different aspects of the gel strength. Cmin is the concentration of HA in the fully swollen gel in an excess of solvent. Stronger gels swell less and have a higher value for Cmin. G* is the complex modulus measured by rheology, and is a measure of the total resistance to deformation. Stronger gels have a higher resistance to deformation and a higher value for G*.

The objective of this study was to investigate the lifting capacity of a number of different hyaluronic acid dermal fillers.

Methods:

Determination of Cmin: Cmin is calculated as the concentration of HA in the product multiplied by the gel content and divided by the swelling factor. The gel content is the fraction of HA that cannot pass through a 0.22 micrometer filter when filtering a diluted suspension of the product. The swelling factor is calculated as V/V_0 where V_0 is the initial volume of the gel and V is the volume of the fully swollen gel in 0.9% NaCl.

Determination of G*: The viscoelastic properties was measured on an Anton Paar MCR 301 rheometer using the parallel plate measuring system using a gap of 1 mm. G* was measured in a frequency sweep within the linear viscoelastic range determined by a strain sweep and evaluated at 1 Hz.

Results: The gel strength measured as Cmin and G* was significantly higher for the stabilized HA filler compared to the other HA-fillers. Obviously the stabilization process results in a very high gel strength, enabling an excellent lifting capacity. Since the stabilized HA filler is less modified than other HA-fillers, the high gel strength can only be explained as being the effect of the ability of the stabilization process to preserve the entanglements of the natural HA.

Conclusions: The stabilized HA filler showed an outstanding gel strength and resistance to deformation, resulting in excellent lifting capacity. The high lifting capacity ensures that stabilized gels will stay where injected to give full correction.

Q-MED - MR ÖHRLUND ÅKE

THE DIFFERENCE BETWEEN STABILIZATION AND CROSSLINKING

Background: Most hyaluronic acid (HA) dermal fillers are chemically modified with crosslinkers to improve the mechanical properties and the duration in vivo. The crosslinking can be made in many different ways. The most common method is traditional crosslinking, where most of the gel strength is achieved by introducing a high amount of chemical (synthetic) crosslinks. Alternatively there is stabilization that uses a small amount of synthetic crosslinks that stabilize the natural crosslinks i.e. the entanglements.

The objective of this study was to investigate if there are measurable differences between hyaluronic acid dermal fillers manufactured using the stabilization process and products using other crosslinking processes.

Methods

Degree of modification: Degree of Modification (MoD) is defined as the number of molecules (moles) of crosslinker attached to HA relative to the total number of HA-disaccharides. It is determined by NMR spectroscopy and reported as percent.

Gel strength: In this study two measures of gel strength were used, Cmin and G*. Cmin is the concentration of HA in the gel when it is fully swollen in an excess of solvent. Stronger gels swell less and have a higher value for Cmin. G* is the complex modulus measured by rheology, and it is a measure of the total resistance to deformation. Stronger gels have a higher resistance to deformation and a higher value for G*.

Modification efficiency: The modification efficiency (MoE) is a measure of the gel strength achieved for each introduced crosslinker molecule. MoE is calculated as the gel strength, Cmin (in mg/mL) divided by the degree of modification, MoD (in %).

Results: The examined HA-fillers produced with traditional crosslinking had MoE values below one, whereas the stabilized HA filler had an MoE value over four. This shows the high efficacy of the stabilization process which results in HA gels with a very high gel strength for each modification. It seems that the stabilization process is unique in preserving entanglements when compared to the processes used for manufacturing the other examined HA-fillers in this study.

Conclusions: The modification efficiency (MoE) is a measurable quantity that differs between HA-dermal fillers manufactured with the stabilization process and HA-fillers manufactured with other crosslinking processes. The high modification efficiency (MoE) that was obtained for the HA filler manufactured using the stabilization process demonstrates the preserving of entanglements, which contribute to the gel strength. The combination of high gel strength and minimal modification is unique for the stabilized products.

Q-MED - BENGT AGERUP, MD

THE SCIENCE BEHIND NASHA™ GELS

by Bengt Ågerup, Åke Öhrlund and Jacques Näsström

Background: The NASHA™ family of products were in the present study compared to several other HA gels for aesthetic use, using experimental setups that are scientifically sound and relevant to the intended use of the products.

Restylane® is based on the proprietary NASHA technology for which a patent was granted in 1995. Since then several other NASHA products have followed. Today in excess of 10 million injections of NASHA products have been made and the scientific documentation and safety record for these products are in a class of their own.

However, the competitive landscape has changed considerably. As a group, the scientific evidence for HA based tissue fillers is either poor or non-existing and the language to describe this class of products has deteriorated.

The aim of the present study is to restore the scientific level of the experimental domain, as well as of the language used for communicating the experimental results, when HA gel products are compared.

Method: The methods used to characterize the NASHA gels and compare them to other HA gels for aesthetic use are described below. Nuclear magnetic resonance (NMR) was used to quantify the degree of modification (MoD). MoD is defined as the number of bound cross-linking molecules per a 100 disaccharides. Rheology is a technology used to measure the complex viscoelastic modulus G* and HA content combined with swelling degree were analyzed to measure Cmin. Cmin is the HA concentration of the gel after equilibrium swelling. Both Cmin and G* are measures of gel strength and the higher these numbers are the stronger the gel is. The ratio between Cmin and MoD was calculated and this ratio is called modification efficiency (MoE). MoE is quantification of how efficient the cross-linking process is i.e. that the HA gel is not modified more than necessary. Lastly, the

particle size distribution (PSD) was measured by laser diffraction (LD).

Results: The MoD for NASHA gels is approximately 1% i.e. only one in every 100 disaccharide is chemically modified. This should be compared with 5-30 % for other HA gels for aesthetic use on the market. Both C_{min} and G* are higher for NASHA gels compared with other HA gels i.e. the NASHA gels are stronger compared to other HA gels on the market. This gives a MoE for NASHA gels in a class of its own at a level that only can be obtained through the unique NASHA stabilization process. Finally, the products within the NASHA family have a noticeably well defined and narrow particle size distribution.

Conclusion: Despite more than 10 years on the market, the unique NASHA stabilizing technology is still unsurpassed. Even though NASHA gels are the least chemically modified gels on the market, they are still the strongest gels with the best defined particle size distributions. The reason for this is that the unique stabilizing technology is much more efficient than any of the other processes used to manufacture HA gel products for aesthetic use. Finally, the NASHA gels are also in a class of their own when it comes to the number and the quality of the clinical publications. NASHA gels are still the obvious choice for a safe and efficient HA gel for aesthetic use.

Q-MED - PER HEDÉN, MICHAEL OLENIUS, GABRIELLA SELLMAN, MAGNUS TENGVAR

BREAST ENHANCEMENT WITH STABILIZED HYALURONIC ACID-BASED GEL OF NON-ANIMAL ORIGIN; 6-MONTH FOLLOW-UP OF 30 PATIENTS

Background: Hyaluronic acid-based gel of non-animal origin (NASHA™-based gel) is well established for aesthetic facial procedures. A recently developed formulation (Macrolane™ VRF30) is emerging as an option for breast enhancement. The present study was performed to evaluate safety and efficacy in a larger population of patients in Sweden and France.

Method: Women with small breasts (cup size A or B) were recruited for this open-label, non-comparative study. NASHA-based gel was administered via subglandular injection. Safety and efficacy assessments included adverse event (AE) reporting, magnetic resonance imaging (MRI), patient satisfaction and the Global Esthetic Improvement Scale (GEIS).

Results - Preliminary data: Thirty women (mean age 40 years) was included in Sweden. Enrolment is still ongoing in France, aiming to include approximately 45 patients in France. This abstract will only include data from the Swedish patients, during the first 6 month follow-up.

The mean volume of NASHA-based gel injected was 99.3 ml per breast, excluding touch-up. Data regarding GEIS and subject satisfaction will be reported as well as volume remaining in the breasts assessed by MRI imaging and AEs/SAEs reported in the study. This will be included in an updated abstract in due time before the congress.

Conclusion: NASHA-based gel is a promising option for patients seeking breast enhancement. The study is still ongoing and further data regarding long-term follow up and data from the French patients is awaited with interest.

O. REBROVA; I. VOLCZEK; E. VOLCZEK

STUDY OF ERYTHROPOIETIN EFFECT ON EXPRESSION OF NEUROTROPHIC BDNF AND NGF FACTORS

Background: The regulation of expression of neurotrophins and their receptors in the brain is currently considered as one of the most promising ways to affect some pathological CNS conditions which result in neurons' degeneration and death.

At the same time, some of the known to date compounds that are capable of regulating the neurotrophins' expression in the brain, such as antidepressants, possess certain negative adverse effects. Such undesirable effects restrict clinical use of the above compounds.

In this case study we investigated the activity of Erythropoietin N1 and Erythropoietin N2 on regulation of the BDNF (brain-derived neurotrophic factor) and NGF (nerve growth factor) neurotrophic factors expression both in vitro and in vivo. The Erythropoietin N1 is a chemically modified form of human recombinant Erythropoietin. The Erythropoietin N2 is an enriched medicinal form of human recombinant Erythropoietin with a brand name "Erythrostim".

Method: In vitro we have carried out the evaluation of Erythropoietin N1 and Erythropoietin N2 ability to regulate the expression of the most studied neurotrophins BDNF and NGF in cultured rat cortex astrocytes. In vivo males of Vistar line rats were used for experiments. Study drugs were applied once in dose of 10000 units per 1kg of animal's weight intraperitoneally and intranasally in the volume of 100 µl. The equivalent volume of saline was intraperitoneally and intranasally applied to the control rats. Each group contained 4 animals. In an hour after the drug introduction the rats were killed by the CO₂ asphyxia; immediately after that the brain sections were excised (front cortex and hippocampus).

Real-time quantitative reverse transcription-PCR (polymerase chain reaction of the reverse transcription products) was used to test the ability of Erythropoietin N1 and Erythropoietin N2 to impact BDNF and NGF expression at mRNA genes level in rat's hippocampus and cerebral hemisphere cortex.

Results: In vitro it has been shown that in cultured rat neuroglial cortex cells the drug at a 3 nM concentration caused statistically significant (2 - 5-fold) stimulation of both BDNF and NGF expression after 1 and 4 hours from drug injection, as compared to control non-stimulated cells. The highest stimulation of the BDNF neurotrophic factor expression was found 4 hours after Erythropoietin N1 injection and it reached 340% compared to the control.

In vivo for Erythropoietin N1 and Erythropoietin N2 it was proved that in 1 hour after intraperitoneal application of 10000 units per 1 kg of the rat's weight, no alteration of either BDNF, or NGF factors expression in hippocampus was detected, however for Erythropoietin N1 and Erythropoietin N2 it was proved that in the dose of 10000 units per 1 kg of the weight the statistically significant expression stimulation of both BDNF and NGF factors takes place 2-3 times as in the rat's hippocampus, so the cerebral hemisphere cortex, at intranasal application.

For the hippocampus being especially important at neurodegenerative diseases, a significant enhancement of both BDNF and NGF factors expression was noted only at intranasal introduction.

Conclusion: Taking into consideration that BDNF demonstrates high neuroprotective and neurotrophic activities, it's possible to develop a pharmaceutical capable to exhibit its activity in aged patients like an anti-age and geroprotective method and to stimulate neurotrophic BDNF and NGF factors expression at the intranasal introduction.

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Steady skin dyschromias are considered to be an obvious cosmetic defect, where hyper- and depigment spots are the most essential reason and stimulant of serious mental disorders, supporting skin dyschromias. Nervous stresses also possess a provocative effect. Disorders caused by an increased attention of a surrounding to a patient's cosmetic defect might be very significant. As usual an intention to dispose that defect makes a patient appeal to a medical institution. That's why one of the main conditions for a patient to overcome a mental state of disadaptation should be an elimination of a skin color inequality. As a result a carrying out therapy is directed to that. Unfortunately at first the patient's condition doesn't get better, even it worsens a cosmetic effect, as due to a large amount of spots contrast enhancement, as strengthening of grayness during perifollicular repigmentation. Therefore this effect doesn't influence a patient's psychoemotional condition in a positive way. In this case the patient's intention to dispose a cosmetic defect as soon as possible is considered to be clear. Medical arrangements cannot satisfy this desire. So, the only way solution might be a cosmetic correction. That appears to be an important moment in the medical and preventive regard. Dermopigmentation can be considered as one of the methods of patients' rehabilitation with a stable local skin dyschromias with an opportunity to achieve an effect of a visual skin correction, unavailable for other technologies of modern aesthetic medicine.

ATHANASIA VARVARESOU, MD - GREECE

EFFICACY EVALUATION AND CYTOTOXIC PROFILE OF A SKIN-DEPIGMENTATING COSMETIC PRODUCT

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Alfa-Arbutin, a pure biosynthetic hydroquinone glycoside and kojic acid are well known for their tyrosinase inhibitory activity and therefore are the active ingredients of the most commercially available skin-whitening cosmetic products.

Since, kojic acid possesses labile oxidative properties, its dipalmitate ester form has been recently introduced in cosmetic industry. Kojic dipalmitate is a more stable derivative, which is hydrolysed by means of esterases located in skin cells producing an in situ liberation of kojic acid.

The tyrosinase inhibitory activities of extracts of the peel of Citrus fruit (Citrus unshiu) have been also reported and mainly attributed to 3',4',5,6,7,8-hexamethoxyflavone (nobiletin).

Diacetylboldine a synthetic compound was found to regulate the tyrosinase activity and reduce melanogenesis. The regulation of tyrosinase activity is based on the calcium influx, which modulates the melanin response to UV radiation and membrane receptiveness to catecholamine mediators, α -adrenergic agonists and the stabilization of the inactive form of tyrosinase, controlled by the intracellular calcium concentration. The depigmentating efficacy test of a cream containing Alpha-Arbutin, Kojic Dipalmitate, Diacetylboldine and Citrus unshiu peel extract was carried out in 20 volunteers by means of Spectrophotometric Intracutaneous Analysis (SIASCOPE) and clinical evaluation of the intensity of colour of the hyper-pigmented area. A decrease in the concentration of melanin and in the colour intensity of hyper-pigmented area were observed after 60 days treatment. The cream proved not to be cytotoxic/irritating, since an IC50 of 4.3 mg/ml has been determined in MTT assay on keratinocyte cell cultures. In conclusion, the combination of the special properties of the above ingredients could assist the cosmetic formulators to prepare effective skin-whitening and safe products.

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JEAN-POL WARZEE, BELGIUM

UROGENITAL HEALTH: TWO SPECIFIC ORAL PROBIOTIC STRAINS

SANTÉ UROGÉNITALE : DEUX LIGNÉES DE PROBIOTIQUES ORAUX SPÉCIFIQUES

Uro-genital infections, not caused by sexual transmission, afflict an estimated one billion people each year. The size of this problem, the increased prevalence of multi-drug resistant pathogens, the negative impact on the patient quality of life (1) and on socio-economical level (2) make it imperative that alternative remedies be found (3). The most frequent pathogens responsible for bacterial vaginosis, urinary tract infection and yeast infections are respectively *Gardnerella vaginalis* (4), *Escherichia coli* (5) and *Candida albicans*. This may be explained in part by the fact that pathogens ascend from the rectum to the vagina then the bladder, the intestine being the main source of infecting organisms. The loss of lactobacilli appears to be the major factor in the cascade of changes leading to bacterial vaginosis or recurrent genitourinary infection (6). The primary aim is to restore the vaginal lactobacilli microflora such that the indigenous lactobacilli recover, or the patient retains some degree of acidic pH and protection against infection (7).

Certain strains of Lactobacilli appear to inhabit the human gut as well as the urogenital tract and may be able to pass from the gut to the vagina, the most likely route being through the perineum. The fact that the normal vaginal microflora also colonize from an intestinal origin means that microbial ascension per se is a natural process that can actually help protect the host. Only a relatively few microbial strains appear to be able to colonize the vaginal area (8). Extensive studies of various lactobacilli strains led to the selection of two strains chosen for their complementary effect: Lactobacilli rhamnosus GR-1 and reuteri RC-14 represent the first probiotics combination taken orally to reduce vaginal colonization by pathogenic bacteria and yeast (9). In

terms of probiotics, very few lactobacilli are able to kill or inhibit adhesion of yeast to vaginal cells or devices, although strains *L. rhamnosus* GR-1 and *L. reuteri* RC-14 do have some such activity (10,11). Oral administration of GR-1 and RC-14 has been correlated in pre-menopausal women with healthy vaginal flora. Daily oral intake of GR-1 and RC-14 resulted in some asymptomatic bacterial vaginosis patients reverting to a normal lactobacilli dominated vaginal flora. (11,12) The mode of action might comprise: increased ascension of probiotics and / or indigenous lactobacilli from the rectal skin to the vagina, reduced ascension of pathogens from the rectal skin to the vagina, enhancement of the intestinal mucosal immunity which affects vaginal immunity rendering the environment less receptive to bacterial vaginosis organisms. (3) The simultaneous use of GR-1 and RC-14 during antibiotic treatment may have a role to play in reducing the risk of urogenital infection especially if the indigenous vaginal lactobacilli have been depleted. In postmenopausal women urogenital infections also remain problematic. The use of estrogen replacement therapy has been shown to lower these infection rates, corresponding to increasing colonization by lactobacilli. Oral probiotics GR-1 and RC-14 also lead to significant improvements in the post-menopausal vaginal flora. (13). The use of HRTs being today under criticism, use of probiotics may be the only way to restore a nonpathogen-dominated flora in women not using HRTs (14). Daily oral intake of scientific selected probiotics could provide a natural, safe and effective means to stabilize the fluctuating vaginal flora and thereby lower the risk of infections in healthy women as well as those prone to urogenital disease. (11). In terms of urogenital health and oral administration, only GR-1 and RC-14 strains have today supportive data (3). The urogenital use of lactobacilli have been the major reason for expanding earlier definition of "probiotics" from the intestine to: "live micro-organisms which when administered in adequate amounts confer a health benefit on the host" (15). It also means that if a product and its strains have not been proven to confer a health benefit in peer reviewed, published studies, the term probiotics does not apply. *Lactobacillus Crispatus* being one of the most commonly isolated organism in a healthy vaginal microflora (16), a new *Crispatus* strain CTV-05is currently in development (17).

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NOTES

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Fax: +1 510 782 2287
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Solta Medical is a global leader in the medical aesthetics market providing innovative, safe, and effective anti-aging solutions for patients that enhance and expand the practice of medical aesthetics for physicians. The company offers products to address aging skin under the industry's two premier brands: Thermage® and Fraxel®. Thermage is an innovative, non-invasive radiofrequency procedure for tightening and contouring skin. As the leader in fractional laser technology, Fraxel delivers minimally invasive clinical solutions to resurface aging and sun damaged skin. Thermage and Fraxel are the perfect complement for any aesthetic practice.

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When someone asks us what our job is, our answer is always this simple: our job is to please our customers.

With 8 hours spent on working hard, and another 8 hours reserved for sleeping, we still have the last 8 hours to set aside for our loved ones and family in completing a 24 hour day. In other words, the majority of the day can be spent for resting and quality time with those who you care even after you spent one third of the day sweating at your work. Thus, in a similar fashion, we feel that it is our job to provide happiness to our customers in the same way it is for people to care for their family members. We work hard to make as many people happy, to encourage them, to make them smile, to unwind and to inspire them.

The job itself should make us happy as well; it shouldn't be all about duress or rigor. We detest making **people** work despicably against their will. Instead, we believe the job should be produced from an individual's own discussion, discourse, confirmation, and proposition.

We want to be professional when we are on-duty. We believe it is important to achieve goals and results in a punctual manner while avoiding overtime work. We are earnest, so we feel that hardship sometimes follows. If working is all about maneuvering and tactics, and if one believes that job is boring and that patience is what it takes, we will wind up having 6 billions of people spending eight hours feeling pressured. This will lead them to spend next eight hours complaining and venting frustration, which can further disrupt the cycle as the day progresses.

Imagine what you would feel if your customers sincerely thank you for what you have done for them, thinking of their happiness. There should be no stress or exhaustion from work. Visualize how you would be spending the rest of the day if you received a lot of gratitude from them. We strongly believe that this process would create a chain reaction of euphoria that would ultimately be conducive to the growth and prosperity of our company.

When someone helps you when you face sorrow, isolation, setbacks, desperation and betrayal, you may feel grateful to that individual, and may even become that person's devotee. When you are feeling the most happiest, wouldn't you want to share the pleasant emotions to others? We imagine that people enjoy sharing jubilant stories when they feel blessed.

In conclusion, we strongly believe in our company goals and values that continuing to make other people happy is the fastest way for our firm to grow.

VITAL ESTHETIQUE**Booth G1**

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**WOSAAM****Booth D9**

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The World Society of Anti-Aging Medicine (WOSAAM) has been created and now located in Paris.
 WOSAAM, a non-profit organization, is a medical and scientific society.
 The main goal of the society is to promote anti-aging medicine through research and educational events among physicians and for the general public.
 The society is predominantly formed by and for physicians. It is the belief of the society's Board of Directors that the best way for anti-aging medicine to advance is to be promoted through medical doctors competent in administering safe and scientific anti-aging therapeutics.
 It is the World Society's goals to have representatives or delegates in the various countries and regions of the world.
 If you are interested in becoming the World Society of Anti-Aging medicine's representative in your country, the membership is free and you can ask for a form at the WOSAAM booth, or online at www.wosaam.org

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for attending
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**Merci de votre
participation à
l'AMWC 2010 !**

¡Gracias por Su participación!

**Grazie per il Suo
partecipazione
nella convenzione!**

**Danke für Ihre Teilnahme
am Kongreß!**