

## 9th Asian Dermatological Congress 2013

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### Other indications of fractional resurfacing

Speaker: Dr. Marisa Pongprutthipan  
 Faculty of Medicine, Chulalongkorn University, Thailand

Lasers can be divided into ablative, sub-ablative and non-ablative. The effects of fractional laser include: ablative/coagulative effect, skin tightening and thermal effect to increase collagen production. Fractional resurfacing is known to be effective in rejuvenation, melasma and the treatment of acne scars. Other indications of fractional resurfacing include: alopecia areata (formation of new hair follicles); keloid; idiopathic guttate hypomelanosis; vitiligo (by using a combination of fractional carbon dioxide and 0.1% tacrolimus ointment) and lichen amyloidosis.

### Ablative and non-ablative fractional resurfacing

Speaker: Dr. Cameron Rokhsar  
 Albert Einstein College of Medicine, United States

Fractional resurfacing may be used in the management of melasma, striae/stretch marks, acne scars, pearly penile papule, syringoma, burn scar, verrucous epidermal naevus and skin tightening. In 20-30% of the patients with melasma, fractional resurfacing may not be effective or may even cause an exacerbation. Treatment effects may also be temporary. When compared with traditional carbon dioxide laser, fractional laser is associated with a lower incidence of infection, rapid healing and less scarring. Prolonged erythema or delayed hypopigmentation are not seen.

#### Learning points:

Fractional laser is beneficial in the treatment of various dermatological conditions. When compared to traditional laser, healing is faster and complications are less likely to occur.

#### Learning points:

Apart from rejuvenation, treatment of melasma and acne scars, fractional laser is also beneficial for other dermatological conditions such as pigmentary disorders.

## Focus ultrasound for skin tightening

Speaker: Dr. Chi-keung Yeung

Department of Medicine, Queen Mary Hospital,  
The University of Hong Kong, Hong Kong

Transcutaneous intense focused ultrasound is a technology for non-invasive skin tightening. It is capable of producing precise micro-thermal lesions at consistent depths within different layers of cutaneous tissues. The safety profile of a transcutaneous focused ultrasound device for the treatment of facial skin laxity in Asians was discussed. Patients received one to three full-face treatments with transcutaneous focused ultrasound device (Ulthera system, Inc, Mesa, AZ). Three transducers (7 MHz, 3.0 mm focal depth; 7.0 MHz, 4.5 mm focal depth; 4.0 MHz, 4.5 mm focal depth) were used to deliver a single pass of microthermal coagulation zones without any topical anaesthetic. Forty-nine Chinese patients (skin type III-V with a mean age of 53.3 years) completed a total of 68 treatment sessions. In the majority of patients, transient erythema and oedema were observed. Localised bruising was observed in up to 25% of the treatment sessions. Two cases of postinflammatory hyperpigmentation were seen on the forehead at one month post-treatment. The degree of pain during treatment was recorded as severe in 54.4% of the treatment sessions.

### **Learning points:**

In Asians, transcutaneous intense focused ultrasound appears to be safe for non-invasive facial skin tightening. Side-effects were mild and transient. Pain control should be optimised during treatments. No serious permanent or delayed side-effects were noted up to six months post treatment.

## Skin tightening using polar micro-needle radiofrequency in Asians

Speaker: Dr. Taro Kono

Tokai University, Kanagawa, Japan

Recently, a minimally invasive radiofrequency device employing a bipolar micro-needle electrode system has been investigated. The objective of this study was to investigate the efficacy and safety of using bipolar micro-needle radiofrequency for skin tightening in Asians.

Twenty-two Asian patients participated in this study. Each patient received one treatment with a bipolar radiofrequency device (e-prime™, Syneron Medical Ltd. Yokneva Illit, Israel). All patients were given local anaesthesia prior to treatment. Patients were examined a week and three months after the treatment session. A Canfield VISIA® system was used to objectively evaluate each patient.

All patients tolerated the treatment. Immediate pinpoint bleeding was observed in all patients and ecchymosis was observed in three patients which disappeared within two weeks. Hypopigmentation, hyperpigmentation or scars was not observed in any patients. Mild to moderate improvement was seen in every patient.

### **Learning points:**

A bipolar micro-needle radiofrequency is effective at least up to 12 months for skin tightening with minimal complications in Asians.

## **Laser hair removal: permanent or not?**

Speaker: Dr. Seok-koh Woo  
JMO Dermatology, Korea

The principle of laser hair removal is selective photothermolysis of the chromophoric melanin of the hair follicle. Both intense pulsed light and lasers have been used for hair removal but according to the speaker's experience, laser is much more effective in permanent hair removal, especially for Asians due to the contrast of dark hairs and fair coloured skin.

The following eight points are important for achieving permanent hair removal. Selection of the proper wavelength is the main requirement. Laser systems preferred by the speaker include 755 nm Alexandrite, 810 nm pulsed diode and 1064 nm Nd:Yag lasers. Proper pulse duration e.g. 30 to 70 ms is probably ideal for maximum outcome without side-effects. Proper fluence is defined as the maximum fluence without serious side-effects. It depends on hair coarseness, hair density, current skin colour and history of sun exposure also plays an important role. Proper spot size (the larger the better), proper epidermal cooling, proper coverage, proper follow-up time and proper management of side-effects are also key factors in attaining the goal of permanent hair removal.

### **Learning points:**

Laser hair removal can be done with intense pulsed light or lasers, but from the experience of the speaker, lasers produce the best results for Asians.

## **Laser for treatment of venous diseases**

Speaker: Dr. Girish Munavalli  
Dermatology, Laser & Vein Specialists of the Carolinas Charlotte, NC, United States

Telangiectasia, reticular veins and varicose veins are the visible signs of chronic venous disease. In the United States, Asians often have more severe venous disease than Caucasians at a younger age, while a significant portion of Caucasians with venous disease have a positive family history.

Treatment options of varicose veins include sclerotherapy, ambulatory phlebectomy, endovenous ablation, vein-stripping and laser treatment. Indications for laser treatment include superficial fine vessels, previous side-effects from sclerotherapy, telangiectasia matting, a history of poor response to sclerotherapy, allergy to sclerotherapy agents, needle phobia and reluctance to undergo bandaging after sclerotherapy.

Laser treatment modalities include the 532 nm pulsed dye laser which is good for small vessels, and the high power 1064 nm pulsed dye laser which is good for deeper reticular veins. Factors which make laser treatment difficult in venous disease include veins with a large diameter and thick walls, multiple depths, influence of hydrostatic pressure and wide variation in oxygenation. The clinical endpoint in laser treatment of venous diseases is heat-induced vessel damage causing fibrosis. The corresponding visual end point is complete darkening of the targeted vessels.

### **Learning points:**

Stripping and sclerotherapy are the traditional treatments for venous disease, and laser treatment can be an option for those who fail or are unable to tolerate sclerotherapy, telangiectasia or reticular veins that are too small for sclerotherapy.

## What's new on photoprotection?

Speaker: Dr. Henry W Lim

Department of Dermatology, Henry Ford Hospital,  
Detroit, Michigan, United States

Photoprotection includes seeking shade, wearing protective clothing and wide-brimmed hats, and applying broad spectrum (SPF $\geq$ 30) sunscreens. Studies have shown that regular use of sunscreens prevents the development of photoageing and skin cancers (the incidence rates of squamous cell carcinoma are significantly decreased by 38% and that of basal cell carcinoma are decreased by 25%, although the decrease was not significant. Melanoma may also be prevented by sunscreens.

However, there have been safety concerns over the sunscreen ingredients such as oxybenzone (possible endocrine disruptor), retinyl palmitate (photocarcinogenic potential), nanoparticles (potential absorption) and antioxidants (lack of biological effects). Studies have shown that there are no safety concerns on nanoparticles in sunscreens for intact skin but that caution is needed when it is used on inflamed skin. Furthermore, the anti-inflammatory effects of some ultraviolet light (UV) filters have been noted. Review of data showed that UV filters have anti-inflammatory properties in the mouse model but its significance in humans needs further study.

It was concluded that based on currently available data, the beneficial effects of sunscreen far outweigh any of the potential concerns raised. Oral and injectable photoprotective agents are in the early stages of development. These include available alpha-melanocyte stimulating hormone analogues (Afamelanotide) which increases tolerance to artificial light and melanin content for erythropoietic photoporphyria and solar urticaria.

### Learning points:

There have been safety concerns over the ingredients in sunscreens. Based on currently available data, the beneficial effects of sunscreen far outweigh any of the potential concerns.

## Cosmeceuticals: fact or fiction

Speaker: Dr. Tamara Griffiths

Dermatology Centre, Salford Royal NHS Trust,  
United Kingdom

There has been a continual search for topical agents that reverse the signs of ageing. With scientific advances, cosmetic agents available over the counter have become more sophisticated, demonstrating increasing clinical efficacy. The term "cosmeceuticals" refer to preparations which are sold as cosmetics but have or are claimed to have an active effect on skin function, thus demonstrating the properties of a drug.

There are two aspects of ageing: intrinsic-ageing (passage of time) and photo-ageing (cumulative sun exposure). The signs and parameters of cutaneous ageing include chromophore concentration and distribution – colour contrast, which plays a major role in the perception of age, health and beauty. Appearance is determined by the interaction of visible light with surface topography, melanin, haemoglobin concentration and distribution, collagen quality, density and distribution. Topical "anti-ageing" creams act by targeting the above aspects as well as having a preventative role.

Different cosmeceutical active ingredients which may be effective at preventing, reducing or repairing the signs of ageing were reviewed.

The ideal topical product should have the following features: an active ingredient, will adequately penetrate, mechanism of action is understood and is clinically efficacious. However, it will not address the deeper changes associated with facial ageing, such as loss of volume and dynamic lines. The concept of prevention is the key: broad spectrum photoprotection with or without antioxidants and moisturiser.

### **Learning points:**

Cosmeceuticals are sold as cosmetics but claim to demonstrate the properties of a drug. Some cosmeceutical active ingredients may be effective at reducing the signs of ageing. However, independent scientific evidence is needed.

## **Vitiligo: pearls from the orient**

Speaker: Prof. Flora Xiang  
Department of Dermatology, Huashan Hospital, Fudan University, Shanghai, China

There are three main areas of research on vitiligo in Asia: genetics, stress and stem cell research. Up till now, there are a number of susceptible loci identified specifically in Asian vitiligo patients. The gene functions of these loci are mainly on autoimmunity, proliferation and apoptosis. However, the functions of nearly one-third of the identified loci are still unclear. A genome-wide study in Chinese Han population identified RNASSET2 at 6q27 as a susceptible locus. Interestingly, this RNASSET2 gene was shown to be up-regulated in melanocytes under oxidative stress, which in turn leads to a decrease in melanosomes. Stem cells, in particular, hair follicles derived neural crest stem cells (NCSC) are particularly important in

vitiligo. Researchers have found that NBUBV accelerates the maturation of the melanocyte lineage that have differentiated from NCSC *in vitro*.

### **Learning points:**

The pathogenesis of vitiligo is complex and hopefully more research would unmask the problem and lead to better management of this disease.

## **Epidermal grafting for vitiligo**

Speaker: Prof. Flora Xiang  
Department of Dermatology, Huashan Hospital, Fudan University, Shanghai, China

There have been more than 50000 patches of vitiligo treated with epidermal grafting for more than 5800 patients at the centre that the speaker was referring to. With the use of a self-designed suction machine and suction plate for the procedure and careful patient selection, the effective rate was 73.5% with best results achieved in segmental type vitiligo, followed by the focal type. However, 13.5% of patients developed new lesions afterwards. NBUBV was used to improve the postoperative repigmentation result. Cultured melanocyte transplantation was also done for patients who had not responded to grafting or who had a large area of involvement. Punch mini-grafting was used in small affected areas.

### **Learning points:**

Epidermal grafting provides an inexpensive but effective method to tackle stable vitiligo.

## Treatment of non-melanoma skin cancers: what are our options really?

Speaker: Dr. EE Melvin

Specialist Skin Clinic, Singapore

Skin cancer is a common cancer and the incidence rates of non-melanoma skin cancers (NMSC) have an increasing trend. Risk stratification is essential in the management of NMSC and includes the following aspects: site, border, size, genetics, immune status of patients and previous history of skin cancers. The following are high-risk areas: medial and lateral canthi, perioral and periorbital regions, tip and alae nasi of nose. Non melanoma skin cancers with indistinct borders are high-risk lesions. Larger lesions (>6 mm in general, >10 mm on the cheek and >20 mm on the trunk) are associated with a higher risk. Genetic predisposition such as PTCH gene mutation in Gorlin syndrome increases the risk of multiple basal cell carcinomas (BCC). Immunocompromised patients and transplant patients have an increased risk of rapid progression of NMSC. Patients with recurrent or persistent NMSC are high-risk cases.

Various modalities are available for the management of NMSC. Chemotherapy such as 5-fluorouracil (5-FU), imiquimod and photodynamic therapy (PDT) are used for low-risk tumours such as superficial BCC and Bowen's disease (93% cure rate after second PDT). Radiotherapy is used for tumours that are unsuited for surgery. Destructive methods (cryotherapy, curettage and cautery) are used for multiple superficial tumours (e.g. multiple hyperkeratotic actinic keratosis). Simple surgical excision of nodular basal cell carcinoma requires a margin of 4-5 mm and resection of uninvolved tissue. Mohs micrographic surgery involves successive excision of thin layers of tissue and allows surgeons to trace out the silent extensions of tumour by checking all the surgical margins of resected tissue. It allows a complete removal of the tumour with minimal resection of uninvolved tissue.

### Learning points:

Treatment options for low-risk NMSC are curettage and cautery, radiotherapy and excision. Treatment options for high-risk NMSC are Mohs micrographic surgery and surgery followed by radiotherapy.

## Cutaneous metastases from internal malignancies

Speaker: Dr. Stephen CS Hu

Kaohsiung Medical University Hospital, Taiwan

A study was done in Taiwan to evaluate the clinical characteristics and prognostic implications of cutaneous metastases from various types of internal malignancies. Clinical records from Kaohsiung Medical University Hospital over the last 20 years (1986-2006) were reviewed and haematological malignancies were excluded. One hundred and forty-one patients were identified and the primary origins of cutaneous metastases were: breast (51 patients), lung (23 patients), colorectal (16 patients), oral mucosa (10 patients) and others (51 patients). The mean age of cutaneous presentation was 60.8 years. Cutaneous metastases from cancers of the lung and gastrointestinal tract usually occurred early (<20 months), whereas metastases from the breast did not manifest until after several years. The site of cutaneous metastases were: chest (30.3%), abdomen/groin (20%), scalp (12.6%), back/buttock (10.3%), neck (9.1%), face (8.6%), upper limb (7.4%) and lower limbs (1.7%). The majority of patients (73.8%) had concomitant visceral metastases (usually involving bones, lungs and liver). Skin metastasis had a poor prognostic implication and it was even worse for patients with concomitant skin and visceral metastases. In non-breast cancers, cutaneous metastases usually occurred with widely disseminated disease and death occurred within

a few months. In breast cancers, one-third of patients with skin metastases had no evidence of visceral metastases, and represented a subset of patients with significantly better prognosis.

### **Learning points:**

Skin metastases are associated with a poor prognosis but there is evidence that skin metastases from breast cancers have a significantly better prognosis.

## **Tips in the management of androgenetic alopecia: What works and what does not?**

Speaker: Dr. Jerry Shapiro

Department of Dermatology and Skin Science, University of British Columbia, Canada

Treatments for androgenetic alopecia (AGA) approved by the Food and Drug Administration (FDA) include oral finasteride and topical minoxidil solution. Dutasteride is a dual 5- $\alpha$  reductase inhibitor that was approved by the Korean FDA for the treatment of AGA.

Topical bimatoprost solution is a prostaglandin analogue that was approved by FDA for promoting eyelash growth; clinical studies for the treatment of AGA were just finished and the result is still pending. Lasers so far have not become a significant treatment approach for AGA as there are only anecdotal or manufacturer-supported data for this. Some other popular products including herbs, biotin, caffeine, melatonin, copper complexes have been used in the past for the treatment of AGA, but there are no sufficient scientific data to support their use. Owing to its anti-androgen effect, ketoconazole shampoo may be used together with oral finasteride to achieve a more complete reduction of dihydrotestosterone, especially when there is a component of seborrhoeic dermatitis or inflammatory dermatosis.

It is important to ensure that the patient has a realistic expectation from medical therapy. The aim is to prevent further hair loss and any hair regrowth is just a bonus. Surgical hair transplantation should be considered as an adjunctive therapy when the result of medical therapy alone is not satisfactory or the patient has an advanced AGA (Norwood-Hamilton stage Va, VI & VII).

### **Learning points:**

Medical and surgical therapies are complementary in the management of AGA.

## **Guidelines on management of atopic dermatitis in Asians**

Speaker: Dr. Chi-keung Yeung

Department of Dermatology, Queen Mary Hospital, The University of Hong Kong, Hong Kong

Asia-Pacific atopic dermatitis (AD) guidelines have been developed to provide an up-to-date, concise evidence-based and experience-based recommendations for general practitioners and general dermatologists in the Asia-Pacific region for the management of paediatric and adult AD.

Emollients are crucial to successful AD treatment and should be applied two to three times per day or as frequently as required to prevent skin dryness. During active disease flares, emollient should be used in conjunction with topical anti-inflammatory agents and also as maintenance therapy. Topical corticosteroid (TCS) should be used until skin flares are under control (i.e. up to 14 days or longer). For severe flares on face and flexures, moderate potency TCS for five to seven days are used, and then switched to mild potency TCS. During maintenance therapy TCS can be applied to "hot spots" twice per week. Topical calcineurin inhibitors (TCI) can be considered for short-term intermittent treatment

where TCS is contraindicated, or it may be used for long-term treatment where adverse effects from TCS may develop from chronic use. However, TCI should not be used under occlusion as this may enhance the percutaneous absorption and increase the risk of immunosuppression. Although topical antibiotics may be appropriate for localised areas of infection, systemic antibiotics active against *Staphylococcus* for one to two weeks should be used in moderate-to-severe eczema with weeping, folliculitis and overt clinical signs of infection. Sedating antihistamines may be used in short-term and under supervision when eczema-related itch causes sleep disturbance. Also it may benefit a subset of patients with a mixture of AD

and dermographism. Phototherapy such as NBUVB has potential utility in chronic AD but the optimal dosing and treatment regimen have not been determined. It should be reserved for adults and children aged >12 years with recalcitrant AD. Finally, systemic immunosuppressive therapy should be reserved for severe refractory AD where other therapies have failed.

**Learning points:**

Use of emollient-based therapy with TCS is the mainstay treatment for AD.