

Reports on Scientific Meeting

The Hong Kong Society of Dermatology and Venereology Annual Scientific Meeting 2012

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Organiser: The Hong Kong Society of Dermatology and Venereology

Skin barrier and treatment strategies in atopic dermatitis

Speaker: Dr. Yoke-chin Giam
Senior Consultant, National Skin Centre, Singapore

Atopic eczema was very common worldwide. The prevalence of atopic eczema in Asia had been estimated to be around 15-20%. Recent advances in atopic eczema included learning more on the primary abnormalities in the skin barrier, immune dysfunction affecting the skin as a barrier and *Staphylococcus aureus*.

Atopic eczema was known to be associated with filaggrin gene mutation. Phenotypically, this gene expressed as ichthyosis and palmar hyperlinearity which we could find in patients with atopic eczema. This mutation would lead to increased colonization of staphylococcus, pH changes, breakdown of skin barrier and dehydration of skin. It had been found that Th2 cytokines in the dermis would lead to breakdown

of filaggrin and therefore giving the potential of those uninvolved skin to develop atopic eczema. It was also noted that staphylococcus could produce super toxins in the skin. Thymostomatin lymphoprotein found in the skin of atopic eczema patients was associated with increased susceptibility of skin to severe infection. In addition, protease inhibitors produced by *Staphylococcus aureus* and house dust mite could act at a high pH environment to break the skin barrier.

Studies have shown that pro-active treatment can repair the defective skin barrier and restore its maximum protective capability. This involved the use of emollients which contained natural moisturizing factors, lipids, glycerin and disaccharides.

Learning points:

Recent studies showed that atopic eczema was related to filaggrin gene mutation causing a defective skin barrier, immune dysfunction and *Staphylococcus aureus* infection. Pro-active treatment to repair skin barrier was important in the management of atopic eczema.

Lentigo maligna and solar lentigo on dermoscopy

Speaker: Prof. Masaru Tanaka

Tokyo Women's Medical University Medical Center East, Japan

Although a diagnosis of advanced lentigo maligna might be easy at clinical examination, it would be difficult at an early stage. Dermoscopy would help in the early diagnosis of pigmented skin lesions, including differentiation of lentigo maligna from solar lentigo.

Facial pigmented skin lesions show pseudonetwork on dermoscopy. Pseudonetwork is broader than usual pigment network and divided into typical and atypical pseudonetwork. Typical pseudonetwork is relatively homogenous pigmentation with regular distribution of hypopigmented round structures which correspond to hair follicles. Miescher's naevus and solar lentigo usually shows typical pseudonetwork.

Atypical pseudonetwork consists of four characteristic features: asymmetric pigmented follicular openings, rhomboidal structures, annular granular structures and gray pseudonetwork. The first two features are quite specific to lentigo maligna. The latter two features are often seen with lentigo maligna, but also observed with lichen planus-like keratosis, regression of solar lentigo or seborrhoeic keratosis, with more homogeneous distribution. Daily clinical use of dermoscopy is essential to know the variation.

Learning points:

Dermoscopy would help early diagnosis of lentigo maligna which should show atypical pseudonetwork.

Basic surgical techniques in facial oncologic surgery

Speaker: Dr. Sau-yan Wong

Prince of Wales Hospital, Hong Kong

After excision of skin lesion, local flap is indicated if the wound is too tight to close, too thick for skin graft or when there is distortion of anatomical landmarks. Local flap can help to share out tension and to recruit laxity in another direction. Local flap can be in the form of random flap e.g. advancement, transpositional, rhomboid, V-Y plasty, Z-plasty and lateral cheek or in the form of axial flap e.g. nasolabial.

The incision must be parallel to the Langer's line and the incision should not be circular in shape to avoid pin cushioning. Correct orientation of incision so as not to transgress aesthetic unit is important. There should be no tension at the margin. For elliptical incision, the length to breadth ratio should be 4:1. In experienced hands, local flap can yield excellent cosmetic outcome.

Learning points:

Local flap of face serves to share out tension and is indicated if the wound is too tight to close.

Radiotherapy in Extramammary Paget's Disease

Speaker: Dr. Wing-kay Yeung

Department of Clinical Oncology, Prince of Wales Hospital, Hong Kong

Extramammary Paget's Disease (EMPD) is a rare skin disease which is characterized by intraepithelial malignant cells. EMPD may extend beyond the visible margin. Perineum or external genitalia are the most common sites being involved. Some patients may have underlying malignancy.

In general, the primary treatment option of EMPD is surgical excision. However, in difficult sites like perineum or external genitalia, surgery may involve some sacrifice of normal anatomy and major reconstruction procedure especially in those with extensive disease. This will lead to some patient's hesitation about the surgical treatment. Radiotherapy is an alternative treatment for EMPD, especially in those with extensive disease involving functionally important sites. Radiotherapy for EMPD in perineum and external genitalia is an effective choice of treatment and is favored by patients. The tools of radiotherapy in this site include external electron beam and mould brachytherapy.

Mould brachytherapy refers to the short distance radiation delivered via a mould. It is short-ranged with sharp fall off such that it can spare the surrounding normal tissue. It also allows close proximity to the tumor and hence increase the cure rate. A local study included six EMPD patients was reported. Mould brachytherapy was offered to these patients. All cases showed completed remission and two out six showed local recurrence. Short term adverse effects included radiation dermatitis and urinary symptoms, while long term adverse effects included pigmentary change and subcutaneous fibrosis. There was no urinary symptom in long term.

Learning points:

Mould brachytherapy can be used in patient with EMPD which has extensive and irregular contour.

Antimicrobial susceptibility of *Neisseria gonorrhoeae* in Hong Kong

Speaker: Dr. Janice Lo

Head and Consultant Medical Microbiologist, Virology Division, Public Health Laboratory Services Branch, Hong Kong

Neisseria gonorrhoeae continues to be an important agent of sexually transmitted infections worldwide. The current standard recommended treatment is mainly extended-spectrum cephalosporins. However, cases of decreased susceptibility and treatment failure of *N. gonorrhoeae* with extended-spectrum cephalosporins, especially the oral agents, are increasingly being reported. Intramuscular ceftriaxone is now the first line treatment option in Hong Kong, replacing the oral cephalosporins. Comprehensive surveillance on antimicrobial susceptibility, monitoring of the epidemiology and resistance mechanism, and exploration of the practical use of alternative agents, are necessary to ensure effective treatment of *Neisseria gonorrhoeae* infection.

Learning points:

Cases of decreased susceptibility and treatment failure of *Neisseria gonorrhoeae* with extended-spectrum cephalosporins, especially the oral agents are being reported. Surveillance on decrease susceptibility and treatment failure of *N. gonorrhoeae* is necessary.

New advances and practical insights in atopic dermatitis treatment

Speaker: Dr. Mauro Barbareschi

Department of Dermatology, The University of Milan, Italy

Atopic dermatitis is a common disease among children. To prevent flare up of the condition, it is important to maintain skin barrier function. Many different agents can be used to restore the skin barrier function.

Atopiclair is used as a non steroidal anti-inflammatory agent for the treatment of variable skin allergic conditions including contact dermatitis and atopic dermatitis. It contains three main constituents namely glycyrrhetic acid, telmesteine and Vitis vinifera extracts. Other components include allantoin, alpha-bisabolol, capryloyl glycine, hyaluronic acid, shea butter and tocopheryl acetate.

The hypothesis is that the anti-pruritic effect of Atopiclair is related to telmesteine. It is an N-carboxy-4-thiazolidine carboxylic acid which can inhibit metalloproteases MMP2 and MMP9, which are mediators over-expressed in atopic dermatitis. Glycyrrhetic acid inhibits complement pathway and Vitis vinifera extracts inhibits interleukin-8 which is also over-expressed in atopic dermatitis. Atopiclair was also shown to inhibit the release of leukocyte collagenases and elastases, which lead to the increased proliferation of keratinocytes and the synthesis and release of pro-inflammatory cytokines.

Multiple studies including six randomized controlled trials showed the effectiveness of Atopiclair in the management of atopic dermatitis.

Learning points:

Skin barrier function is important for control of atopic dermatitis. Atopiclair is effective in the management of atopic dermatitis.

Dermoscopy basics and melanocytic lesions

Speaker: Prof. Masaru Tanaka

Tokyo Women's Medical University Medical Center East, Japan

Dermoscopy plays the role of a 'stethoscope' in dermatology. Colour and structure of lesions are the two basic features in dermoscopic examination. Colours under dermoscopy vary with the depth of melanin; while structure represents anatomical shape of epidermis or characteristics of pigmented tumor cell proliferation. Malignant melanoma can be differentiated from naevus by asymmetry of colour distributions and structures, but not asymmetry of shape.

Colours of melanin under dermoscopy can appear black, dark brown, light brown, gray or blue, depending on depth of involvement. Colours representing structures other than melanin include red for haemoglobin, yellow for lipid, and white for fibrosis, calcinosis, osteosis, hyperkeratosis or cell aggregates. Under dermoscopic examination, melanocytic lesions are characterised by pigment network, aggregated globules, branched streaks, homogenous blue pigmentation and parallel pattern. Judgement on whether a lesion is benign or malignant is based on the concentric pattern in global assessment. Benign lesions usually have a concentric global feature with a globular center and reticular periphery.

Learning points:

Dermoscopy is important to dermatologists and it helps to distinguish malignant lesions from benign lesions. The asymmetry of colour distributions and structures distinguishes malignant melanoma from melanocytic naevus.

HIV treatment as prevention

Speaker: Dr Ka-hing Wong

Centre for Health Protection, Department of Health, Hong Kong

Evidence for HIV treatment as prevention for mother-to-child transmission and occupational exposure has been available since the 1990's. The mother-to-child HIV transmission rate dropped to 1% with the use of multiple antiretroviral agents, together with elective Caesarean section and no breastfeeding. In recent years, studies of highly active antiretroviral therapy (HAART) for preventing onward sexual transmission had come into place. As HAART significantly lower viral load of the infected, studies showed the risk of transmission correlated positively with the level of HIV-1 viral load. Also, decreased HIV infections were noted with increased HAART coverage. A recent published study showed 96% reduction in linked HIV transmission for sero-discordant heterosexual couples after early antiretroviral treatment. All together, treating the infected case can reduce HIV transmission.

However, the benefit of pre-exposure prophylaxis is not as conclusive, studies showed topical tenofovir or oral truvada (Tenofovir/emtricitabine) for MSM may reduce HIV transmission while some other studies failed to show benefit. One has to remember the basic safe sex modalities like condom use still remain important in preventing sexually transmitted diseases.

Learning points:

Studies suggested that antiretroviral treatment is not only effective in reducing mother-to-child and occupational HIV transmission, but also reduces onward sexual HIV transmission.

Benefit-risk of biologics in psoriasis: an evidence-based approach

Speaker: Prof. Richard Langley

Division of Clinical Dermatology & Cutaneous Science, Dalhousie University, Canada

Psoriasis is not merely a skin disease, but should be regarded as a systemic illness with significant co-morbidities. The study conducted in Germany by Augustin M et al. demonstrated disease association with hypertension, diabetes mellitus, hyperlipidaemia and ischaemic heart disease in psoriasis patients. Similar findings were observed by Tsai TF et al. in a Taiwan study. Current evidence suggests that the risk of cardiovascular events correlates with the severity of psoriasis. Patients with severe psoriasis have higher risk of cardiovascular events. With reference to the American Journal of Cardiology Editor's Consensus published in 2008, patients having moderate to severe psoriasis or mild psoriasis with cardiovascular risk factors should be informed of increased cardiovascular risk and should undergo medical evaluation.

Apart from the physical impact, psychosocial influence of psoriasis should not be underestimated. Bhatti ZU et al. reported that psoriasis has significant impact on major life events including career choice, relationships, education, moving abroad, having children, early retirement and housing.

Biologics have been increasingly used for treatment of psoriasis. It is necessary to balance risks and benefits of using biologics in psoriasis. Serious side effects of biologics include opportunistic infection, malignancy, cardiovascular diseases, infusion-related reactions, hepatobiliary diseases, autoimmune diseases, neurological disorders and haematologic reactions. However the reported risks of these serious events were very low. Since efficacies of biologics in psoriasis have been

demonstrated in different trials, use of biologics remains favourable after balancing the treatment risks and benefits.

Learning points:

Low risk of serious adverse events with high treatment efficacy of biologics favours their use in psoriasis when conventional treatments fail.

A study conducted by Zaghoul SS et al. showed that patient characteristics which affect medication adherence included sex, marital status, employment status, medication payment, smoking and alcohol consumption. This study also illustrated first time use, adverse effects, treatment regimen and type of therapy were characteristics of therapeutic agents that govern drug compliance. Agents with the best balance of efficacy, safety and convenience can maximize chance of successful outcome through optimizing drug adherence.

Psychological impact of psoriasis patients

Speaker: Prof. John Koo

Department of Dermatology, San Francisco Medical Center, University of California, USA

Psoriasis has been shown to have significant impact on psychological well-being and quality of life. The psychological impact is comparable to many medical conditions, including diabetes mellitus, post-myocardial infarction, untreated systemic cancer, and major depressive episode. The speaker conducted a study on assessment of patient with psoriasis using the Psychological and General Well Being (PGWB) index. PGWB is a validated psychometric instrument for assessment of psychological well-being in patients with skin diseases and other medical conditions. This study assessed the pre-treatment and monthly PGWB index for six months following initiation of treatment for psoriasis. PGWB of psoriasis patients was shown to have improvement to a similar degree as patients having asymptomatic hypertension during six months after initiation of treatment. This might be the first prospective and interventional study to illustrate the positive impact on psychological well-being of patients with psoriasis after use of effective therapy.

Learning points:

Psoriasis has significant negative impact on patients' psychological well-being and quality of life. Efficacious treatment can greatly improve the psychosocial status of patients.

The psoriasis challenge: are we meeting the needs of our patients

Speaker: Dr. Wayne Gulliver

Memorial University of Newfoundland, Canada

Psoriasis is a common immune mediated inflammatory disorder with worldwide prevalence from 0.1%-3%. Recent advance on the use of biologics in treating chronic plaque psoriasis has transformed the achievable goal of therapeutic outcome to DLQI of 0-1 and PASI improvement between 90-100%. Ustekinumab is recommended as a possible systemic treatment for adults with moderate to severe plaque psoriasis affecting their quality of life, if their psoriasis has not improved with other treatments including cyclosporine, methotrexate and phototherapy such as PUVA, or if they have side-effects with these treatment in the past, or there are medical reasons why they

should not be given them, for example underlying renal impairment, uncontrolled hypertension, chronic alcoholism. Serious adverse events such as non-melanoma skin cancer, major adverse cardiovascular events (MACE) e.g. myocardial infarction, stroke or cardiovascular death remains controversial.

Learning points:

It is now possible for dermatologists to offer psoriasis patients long term therapy which is both safe and effective. It is mandatory to rule out possible latent pulmonary tuberculosis e.g. baseline CXR and quantiferon test before starting biologics with close monitoring.

Update on acne treatment: an Australian perspective

Speaker: Dr. Stephen Shumack
The University of Sydney, Australia

Acne is a chronic disease. It is characterized by prolonged relapsing/remitting course and it poses significant psychosocial impact on patients. Hence early aggressive treatment and maintenance therapy is advocated.

General measures of acne management include smoking cessation as nicotine increases sebum production. Greasy products, excessive light exposure and vigorous skin care should be avoided. Low glycaemic diet was also found to be beneficial.

Specific treatment depends on the severity of the disease. For comedonal acne, topical retinoids is the mainstay of treatment. Chemical peel and comedone extraction may be helpful.

For pustular acne, topical benzoyl peroxide (BPO) and antibiotic can be added. For severe cases, systemic agents like oral antibiotics or hormonal therapy should be initiated. As for nodulocystic disease, oral retinoids should be considered. Intralesional steroid injections can also help resolution of cystic lesions. Maintenance with topical retinoids is essential to prevent relapse.

In order to reduce the problem of resistance emergence of *Propionibacterium acne* (*P. acne*), several measures should be taken. Continuous use of antibiotics should be limited to 6-12 weeks. Moreover, oral and topical antibiotics should not be used concurrently without BPO. Also, it is advisable to use topical antibiotics with topical BPO or retinoids.

Learning points:

Acne is a chronic disease and early aggressive treatment is advisable. Antibiotic use should be cautious to prevent resistance emergence of *P. acne*.