Hong Kong J. Dermatol. Venereol. (2017) **25**, 193-201

Reports on Scientific Meetings

Hong Kong Dermatology Symposium 2017

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Date: 21-22 October 2017
Venue: Kai Chong Tong, Postgraduate Education Centre, Prince of Wales Hospital, Hong Kong
Organiser: Hong Kong Dermatology Foundation; CUHK

Phototherapy and combination therapies for vitiligo

Speaker: Cheng-che E. Lan
Department of Dermatology, Kaohsiung Medical University, Kaohsiung, Taiwan

NBUVB has a peak emission wavelength of 311-313 nm. It promotes immune modulation and stimulates melanocyte migration. Many studies have demonstrated its treatment efficacy for adult and children with vitiligo. It was also shown to be superior to both topical and oral PUVA phototherapy. NB-UVB has not been linked to carcinogenesis of the skin.

Excimer laser/light has a monochromatic wavelength of 308 nm at UVB region with high irradiance. It promotes T cell apoptosis and pigment cell differentiation due to its high irradiance. Many reports have documented the clinical efficacy in treating vitiligo. Repigmentation could be achieved even in patients with prior poor response to NBUVB. However, several recent meta-analyses found similar efficacy between excimer light, laser and NBUVB. Concerning the treatment protocol of phototherapy, there are areas of debate such as whether there should be induction of erythema or suberythema, twice or thrice weekly treatment. To optimise phototherapy, combination treatment with systemic steroid or immunosuppressants, anti-oxidants, topical calcineurin inhibitors, vitamin D analogues, afamelanotide can be considered.

In general, treatment may be stopped if there is no repigmentation after a three-month trial, and after six months if there is unsatisfactory repigmentation (<25%).

Learning points:

NBUVB, excimer laser/light are all effective in treating vitiligo. Combination therapies may further optimise the treatment response.

Vitiligo, update on treatment

Speaker: Elsa Chu
Social Hygiene Service, Department of Health, Hong Kong

The aims of treatment of vitiligo are to minimise disease progression, attain repigmentation and achieve a cosmetically pleasing result. Medical therapy with topical corticosteroids (CS) is the most effective choice of topical therapy. The therapeutic effect may be improved if used in combined with UVA phototherapy or topical vitamin D3 analogues. Systemic CS can stop disease progression and induce repigmentation when used in early disease. Topical calcineurin inhibitors (CI), either as monotherapy or used in combination with phototherapy, are as effective as topical CS but have a safer side effect profile. It is also effective for patients who have failed topical CS. Oxidative stress has been implicated in the pathogenesis but the role of antioxidant supplement has yet to be defined. Studies on use of biologics showed conflicting results.

Studies have found that NBUVB is superior to PUVA in producing disease stability and repigmentation. However PUVA may yield quicker results. Use of hand-held NB-UVB unit at home is an effective and convenient choice but safety is a potential issue. Monochromatic excimer laser is a FDA-approved treatment for vitiligo. It has superior repigmentation rates to NBUVB when used in combination with topical CI or CS.

Surgical therapies, either by tissue grafting or cellular grafting, can be considered in patients with stable disease who have failed medical treatments. Depigmentation can be considered as the last resort in suitable patients.

Learning points:

The activity and the extent of the disease, availability of treatment modalities and their safety profiles are factors to be considered when choosing the treatment.

Looking under the dermoscope

Speaker: Henry HF Ho
Consultant Dermatologist, Social Hygiene Service, Center for Health Protection, Department of Health, Hong Kong

Although dermoscopy is useful in the diagnosis of pigmented lesions, it should be borne in mind that there is no single diagnostic dermoscopic criterion. There are numerous dermoscopic appearances and combinations among the individual diseases. Inspection with naked eye and palpation with fingers remain essential steps before the formulation of a differential diagnosis. Dermoscopic features subsequently help to reflect and re-formulate the differential diagnoses thereafter.

Learning points:

No single dermoscopic criterion by itself is diagnostic.

Genodermatoses with pigmentary problems

Speaker: Chun-bing Chan
Chang Gung Memorial Hospital, Taipei, Taiwan

The genodermatoses with pigmentary problems are uncommon with diverse phenotypes. These diseases include oculocutaneous albinism, Chediak-Higashi syndrome, Hermansky-Pudlak syndrome, Griscelli syndrome, hypomelanosis of Ito, incontinentia pigmenti, Piebaldism, and Waardenburg syndrome. They can be associated with other systemic problems. The DNA analysis and genome-wide association studies are important in the interpretation of the mechanism of skin pigmentation. The understanding of the genetic basis of vitiligo, an autoimmune disease, is also essential in knowing the biological behaviour of vitiligo.

Learning points:

The DNA analysis and genome-wide association studies are important in the interpretation of the mechanism of genodermatoses with pigmentary problems.

Scarring alopecia made easier

Speaker: Mimi M Chang
Prince of Wales Hospital, Department of Medicine, Hong Kong

Scarring alopecia comprises of a group of inflammatory diseases affecting the hair follicles. It is regarded as trichological emergency, for which delay in diagnosis means irreversible hair loss. Its diagnosis and management is also challenging to a certain degree. Management entails detailed history-taking, clinical examination including photographic evaluation under good lighting, dermoscopy, and hair pull test plus scalp biopsy. The scalp biopsy is ideally done from an active area. The specimen should be sent for histopathology where both horizontal and vertical sections are performed, and direct immunofluorescence to visualise any immune complex deposition at the dermoepidermal junction. Accurate diagnosis and disease prognostication often requires meticulous clinico-pathological correlation.

While the diseases under the category of scarring alopecia group are heterogeneous, they can be appreciated and managed according to the type of inflammatory infiltrate – broadly speaking the lymphocytic or neutrophilic group. Those that fall under the former category often require steroid or immunosuppressive drugs for control of disease activity. In the latter group, anti-microbial agents (in cases with a positive culture study), systemic retinoid or biologics are often employed. Secondary causes should be adequately dealt with.

A number of entities were discussed including discoid lupus erythematosus, lichen planopilaris, pseudopalade of Brocq, central centrifugal cicatricial alopecia, dissecting cellulitis of scalp and erosive pustular dermatitis.

Learning points:

Scarring alopecia is heterogeneous, diagnostically challenging condition and requires prompt attention. Good clinico-pathological correlation is needed for management and prognostication.

Non-cosmetic dermatologic use of botulinum neurotoxin

Speaker: Carrie KL Yuen
Private Practice, Hong Kong

Botulinum toxin is a neurotoxin produced by *Clostridium botulinum*, and has been used widely for cosmetic and non-comestic indications for several years. The mechanism of toxin relates to the blocking of acetylcholine release in the neuromuscular and neuroglandular junction, and hence interruption of signal transmission. This leads to temporary paralysis of target muscle groups or inhibition of eccrine sweat gland activity.

In this regard, conditions with hyperhidrosis (axillary hyperhidrosis, palmar hyperhidrosis, chromhidrosis, bromhidrosis, granulosa rubra nasi), pruritic dermatoses (pompholyx, lichen simplex chronicus), acantholytic dermatoses (Hailey-Hailey disease, Darier's disease), inflammatory dermatosis (hidradenitis suppurativa, inverse psoriasis, scarring), aquagenic keratoderma and eccrine hidrocystoma can all be managed with Botulinum toxin injection. The procedure is safe and effective with minimal side effects. Many are off-label use and further randomised double-blinded trials are required.

Learning points:

Off-label use of Botulinum toxin is regarded as safe and effective therapy for conditions due to or complicated by hyperactivity of eccrine sweat glands.

The role of laboratory investigations in SCAR management

Speaker: Wen-hung Chung
Taipei Chang Gung Memorial Hospital, Taiwan

Severe cutaneous adverse reactions (SCAR) to drugs including Stevens-Johnson syndrome (SJS) and toxic epidermal necrolysis (TEN) are life-threatening immunologically-mediated diseases. The clinical approach for patients with suspected drug hypersensitivity reaction includes consideration of clinical diagnosis and differential diagnoses, identification and withdrawal of the offending drugs, suggestion of alternative medications, severity evaluation and management of complications. Advances in laboratory investigations for the management of SCAR were discussed. Firstly, the algorithm of drug causality assessment for epidermal necrolysis (ALDEN) can be used to estimate the probability of a drug causing an adverse drug reaction. Criterion of ALDEN includes induction interval, drug elimination half-life, rechallenge, dechallenge, and notoriety. Secondly, granulysin is a key mediator for disseminated keratinocyte death in SJS and TEN. The serum level of granulysin can serve a marker for early diagnosis of SJS and TEN. Lastly, in-vitro assessments such as drug-lymphocyte activation test can help to identify the major causative drugs responsible for SCAR and determine potential cross-reactivity with other structurally similar medications.

Learning points:

The algorithm of drug causality assessment for epidermal necrolysis (ALDEN) can be used to estimate the probability of a drug causing an adverse drug reaction. The serum level of granulysin can serve a marker for early diagnosis of SJS and TEN. Drug-lymphocyte activation test can help to identify the major causative drugs responsible for SCAR.

Emerging infectious diseases with cutaneous manifestations: our local focus

Speaker: Tony KC Ng
Department of Microbiology, The Chinese University of Hong Kong, Hong Kong

Due to the effect of global warming and international travel, mosquito-borne infections are becoming more common. These include Dengue fever, chikungungya, and Zika virus infections. In children, cases of atypical hand-foot-mouth disease and scarlet fever have also increased. Lastly, due to the effect of increase in antibiotic use, Community Acquired Methicillin Resistant Staphylococcal aureus (CA-MRSA) infection has occurred, and is now a reportable illness. The clinical presentations, investigations, and treatments of the above infections were discussed.

Learning points:

Global warming, international travel and use of antibiotics have changed the spectrum of infectious diseases occurring in Hong Kong. Relevant history taking is essential to accurately diagnose infectious diseases.

Drug induced liver toxicity

Speaker: Angeline OS Lo
Department of Medicine & Therapeutics, The Chinese University of Hong Kong, Hong Kong

Drug-induced liver injury (DILI) is mostly an idiosyncratic reaction leading to abnormalities in liver function. A high index of suspicion and good history taking are key to diagnosis. In patients with dermatological conditions like psoriasis, pemphigus or other autoimmune skin diseases, immunosuppressants such as methotrexate or azathioprine may be indicated. The potential liver toxicity of these drugs warrants attention and monitoring during treatment. For long-term methotrexate treatment in psoriasis, guidelines from American Academy of Dermatology recommend that liver biopsy should be based upon the presence of risk factors of hepatotoxicity, such as obesity, hyperlipidaemia, diabetes mellitus, viral hepatitis, inherited liver disease, heavy alcohol consumption, persistent abnormal liver tests, and absence of folate supplementation during treatment. Liver biopsy should also be considered after a cumulative dose of 3.5-4 g of methotrexate. The hepatotoxicity of azathioprine may present as liver function impairment and cholestatic injury which are usually reversible after stopping azathioprine. In addition, before commencing immunosuppressants, the risk of chronic hepatitis B reactivation should be evaluated and antiviral prophylaxis should be prescribed accordingly. Finally, liver involvement is the most common visceral manifestation in patients with severe cutaneous adverse reaction (SCAR). Liver function impairment and severity of clotting derangement should be monitored cautiously in case of acute liver failure and subsequent need for liver transplantation.

Learning points:

The potential hepatotoxicity of immunosuppressants warrants attention and monitoring during treatment. Before commencing the use of immunosuppressant, the risk of chronic hepatitis B reactivation should be evaluated and antiviral prophylaxis should be prescribed accordingly.

Skin problems of returned travellers

Speaker: Martin CS Wong
School of Public Health, The Chinese University of Hong Kong, Hong Kong

Skin problems of returned travellers are mostly due to infection, in which cosmopolitan infections (e.g. dermatophytosis, scabies) are more common than tropical infections. The presentation and treatment of various conditions (e.g. cutaneous larva migrans, myiasis, tungiasis, leishmaniasis, scabies, dermatophytosis, dog bites and arthropod bites) were thoroughly discussed. Pre-travel consultation is advised in order to minimise risks during travelling. Avoidance of high risk situations (e.g. contact with sand, soil, animals, and insects), use of repellents/protective clothing and prophylactic antibiotics are important. When necessary, patients can be referred to the Travel Health Service, Department of Health for management.

Learning Points

Skin problems of returned travellers are mostly due to infection. Pre-travel consultations and safety measures can greatly minimise the risks during travelling.

Climate change and skin diseases

Speaker: Nai-ming Luk
Hong Kong Dermatology Foundation, Hong Kong

Climate change may affect skin diseases in several ways: firstly, climate change may increase the incidence of vector-born skin infections such as Lyme disease and Dengue fever. It allows animal reservoirs or vector populations to expand and prolong the disease transmission cycle. Secondly, climate change may cause the populations of jellyfish and blue green algae to flourish. People engaged in water sports are at increased risk of being stung by jellyfish or developing contact dermatitis due to toxins released by blue green algae. Thirdly, climate change may exacerbate common heat-sensitive diseases like miliaria, rosacea and solar urticaria. Atopic dermatitis and psoriasis improve during the summer months while the effect of climate change on the onset of venous leg ulcers is still controversial. Fourthly, climate change may escalate the incidence of skin injury and subsequent opportunistic skin infections during flooding. Finally, climate change may accelerate photoaging and development of skin cancers.

It should be remembered that the influence of climate change is not confined to our health; there are also social, economic and political consequences.

Learning points:

Climate changes may increase the incidence of some vector-borne diseases, flood-related dermatoses, recreational skin diseases, photoageing and skin cancers.

The pigmentosa in dermatology

Speaker: Chi-keung Kwan
Social Hygiene Service, Department of Health, Hong Kong

Three common pigmentosa disorders covered were discussed: (1) Urticaria pigmentosa (2) Prurigo pigmentosa and (3) Xeroderma pigmentosa.

Urticaria pigmentosa is a disorder of mast cell proliferation. Besides skin, it may also involve internal and lymphoid organs. Management involves avoidance of potential factors, oral antihistamines, sodium cromoglyate, topical steroid and systemic phototherapy.

Prurigo pigmentosa (PP) is an uncommon skin disease in which the pathogenesis is not fully understood. The diagnosis relies mainly on clinical findings as its histological findings are not pathognomonic but can be used to correlate with the clinical diagnosis. Minocycline and dapsone are the main treatments

Xeroderma pigmentosum (XP) is an autosomal recessive inherited disease characterised by dry pigmented skin, premature solar skin ageing and early development of sun induced cutaneous neoplasms. There are eight different complementation groups. Treatment consists of photo-protection as well as oral calcium, vitamin D supplements and vitamin A analogues. Management may also involve multidisciplinary care with the surgeon, ophthalmologist, neurologist and clinical genetics as indicated.

Learning points:

Diagnosis of pigmentosa relies mainly on clinical findings from the history and physical examination. Multidisciplinary care and genetic counselling may be needed.

Whats' new in melanoma treatment

Speaker: Ching-kong Ho
Social Hygiene Service, Department of Health, Hong Kong

The prognosis of late stage malignant melanoma is poor. Advanced melanoma is defined as at least stage IIC with >4 mm thick and ulcerated. Ninety-five percent of melanoma have BRAF mutations which also activate the MEK pathway. Another common mutation is the c-kit mutation. The clinical response of traditional treatment of dacarbazine and high dose IL2 were poor. New treatment options included immunotherapy and targeted therapy were now available.

Check point inhibitors namely PD-1 e.g., Pembrolizumab, Nivolumab and CTLA e.g., Ipilimumab are available. They target the checkpoints at which melanoma cells evade the immune system.

Targeted therapy act on BRAF mutations e.g., vemurafenib, MEK mutation e.g., trametinib and KIT mutation e.g., imatinib.

The response to melanoma vaccine is poor due to attenuation of dendritic cell function by melanoma cells and generation of regulatory and suppressive T-cell.

Oncolytic virus therapy consists of intralesional injection of a modified herpes virus that acts against melanoma cells.

Resistance to immunotherapy and targeted therapy eventually develops. Ongoing research is needed to improve the prognosis of advanced melanoma.

Learning points:

The prognosis of advanced melanoma is poor. Prevention and early detection remain the optimum strategies.