The Hong Kong Society of Dermatology & Venereology Annual Scientific Meeting

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What's new in paediatric dermatology

Speaker: Dr. Albert Yan
Chief of Pediatric Dermatology, Children's Hospital of Philadelphia, USA

A number of important, interesting articles pertaining to paediatric dermatology were published in 2013 to 2014. Some of them were related to infections; like swimmer's nodules on limbs due to an outbreak of atypical mycobacterial infection in school swimming pools. The risk factors include atopy and immunocompromised state. Other topics included (1) a winter outbreak of atypical hand, foot and mouth disease caused by *Coxsackie A6 virus* in Western countries, with a more severe presentation of fever, illness, large blisters and post-illness onychomadesis; (2) staphylococcal scalded skin syndrome not caused by methicillin-resistant *Staphylococcus aureus* (MRSA) which has a high rate of clindamycin resistance and therefore both oxacillin and clindamycin were suggested as treatment.

Genetic dermatology was also discussed with examples of *RASA-1* gene mutation related capillary malformation-arteriovascular malformation (CM-AVM) syndrome and Parkes-Weber syndrome. Capillary malformation-arteriovascular malformation presents with small 1 to 3 cm macules surrounded by blanched halos and could be associated with intracranial AVM. *HRAS* and *KRAS* gene mutations were also found in various naevi like naevus sebaceous, epidermal naevus and naevus spilus. *RAS* mutations were also found to be associated with raised FGF23 levels leading to hypophosphataemia-related rickets.

Various vascular entities were also covered. Congenital haemangioma was typically classified into rapidly involuting congenital haemangioma (RICH) and non-involuting congenital haemangioma (NICH), but an intermediate form of partially involuting congenital haemangioma (PICH) has gained more recognition in which the vascular lesions show some involution in first few years then become static. Reports of biker-glove segmental infantile haemangioma, which is more prone to ulceration, were also shown.

Learning points:

Recent representative paediatric dermatology articles were reviewed.

Monitored anaesthesia care in the clinic

Speaker: Dr. John Low
Specialist in Anaesthesiology, Private Practice, Hong Kong

Monitored anaesthesia care (MAC) in office-based clinic has the advantages of money saving and minimising hospital anxiety of patients, especially children, while remaining safe and efficient with proper assessments, equipment and monitoring. The anaesthetic drugs of choice include inhalational anaesthetics which are excellent for children but require complex equipment; and intravenous drugs with short half-life in terms of minutes like propofol which has a very rapid onset and recovery time, and a stable pharmacokinetics that can be achieved with bolus followed by infusion. Other essential equipment include monitoring devices, AMBU bag and oxygen, airway kits, medications for treatment of major complications like anaphylaxis and sometimes fire extinguisher for the possible fire hazards with electrosurgical units. Patient positioning device like soft elastic belt is also necessary to minimise risks to patients.

The workflow of a procedure under anaesthesia in a clinic setting starts off with screening questionnaire, fasting instructions and consent form before the procedure; followed by assessment of home readiness of patients after the procedure by post-anaesthesia discharge scoring system. Finally, patients are discharged safely with written instructions such as refraining from machinery operation etc.

Learning points:

Monitored anaesthesia care supervised by specialist anaesthetists in clinics is getting popular due to its advantage of reducing anxiety in paediatric patients undergoing procedures requiring anaesthesia.

Update on diagnosis and treatment of paediatric acne

Speaker: Dr. Albert Yan
Chief, Section of Pediatric Dermatology, Children's Hospital of Philadelphia, USA

Acne is a skin problem noted in different age group of patients, including neonatal period (0-6 weeks), infantile (0-1 year), mid-childhood (1-7 years), pre-adolescent (7-11 years) and adolescent period (12-19 years).

For mid-childhood onset acne, bone age and endocrine workup should be done, especially for those from three to seven years old. This group of patients should be evaluated more closely.

For severe acne, isotretinoin is a treatment option. A high dose "high and dry" isotretinoin protocol was suggested in some studies. The side effect of hyperostoses appears to be dose and duration dependent. Retinoid-related premature epiphyseal closure is a very rare event. There is conflicting data concerning the association of isotretinoin and inflammatory bowel disease.

Learning points:

Paediatric patients with acne may need further workup with close evaluation.

New advances in cosmetic dermatological procedures

Speaker: Prof. Henry HL Chan
Honorary Professor, Division of Dermatology, Department of Medicine, The University of Hong Kong, Hong Kong

Mesotherapy and platelet rich plasma (PRP) therapy have been introduced as skin rejuvenation procedures for the treatment of photoageing recently. Mesotherapy was initially used for pain relief. It involved the injection of nutritional substances into the dermis e.g. vasodilator, hyaluronic acid. However, it was uncertain whether the benefit was due to the material injected or actually to the needle injury. One study showed that injection of hyaluronic acid into the dermis improved the appearance of the skin and also showed ultrasonic changes in the skin. However, there were no controls in the study to determine whether the benefit was due to the needle injury alone or the nutritional substances injected. Another study was done in 2013 on 53 patients who received injections of saline solution or hyaluronic acid into the skin. There was some improvement, though not impressive. The effect of hyaluronic acid lasted longer (three months) than saline (one month). Another study on 10 patients conducted by injection of multivitamin or hyaluronic acid over four sessions every four months showed no significant histological or clinical changes. Side effects of mesotherapy include: blindness (phosphatidylcholine for mesotherapy on lipolysis), scar, thyrotoxicosis, granulation, granuloma annulare, ulcer and atypical mycobacterial infection. In conclusion, no evidence was found for mesotherapy in skin rejuvenation. Besides, the role of mesotherapy in fat removal is controversial.

Platelet rich plasma therapy involves autologous platelet-rich plasma (rich in growth factors) transfusion. One study of 10 patients on the use of PRP in the treatment of infra-orbital dark circles and perioral wrinkles showed some improvement with colour but other aspects (e.g. hydration content, wrinkle) were not improved. There is some evidence for the use of PRP in wound healing (e.g. leg ulcer). One study on PRP showed enhanced wound healing after ablative carbon dioxide laser but evidence of its use directly in skin rejuvenation was limited.

Learning points:

Basic principles and good evidence for mesotherapy and PRP on skin rejuvenation are still lacking in the literature.

Severe cutaneous adverse reactions (SCARs): a step forward – from treatment to prevention

Speaker: Dr. Johnny Chan
Clinical Assistant Professor, Department of Medicine, Queen Mary Hospital, Hong Kong

Adverse drug reactions are common and account for 0.36-15.1% of hospitalised patients. Adverse drug reactions vary with the drug used, pharmaco-genetic traits and concomitant conditions (e.g. HIV, malignancy). Stevens-Johnson syndrome / toxic epidermal necrolysis (SJS/TEN), drug reaction with eosinophilia and systemic symptoms and acute generalised exanthematous pustulosis are collectively categorised as SCARs.

Dr. Chan focused his talk on SJS/TEN. A local study was carried out in Queen Mary Hospital on SJS/TEN over a ten-year period. Among the 31 cases, the commonest culprit agents were aromatic anti-convulsants, followed by allopurinol, beta-lactam, cotrimoxazole, NSAID and traditional Chinese medicine. The mortality rate was 16.1% and the causes of death were sepsis, acute renal failure and acute myocardial infarction. Patients developed complications including liver derangement, renal derangement,

airway obstruction, etc. The management of SJS/TEN includes: stopping all the unnecessary medications, transfer to burns unit or ICU for close monitoring, wound management, treatment of infection and systemic therapy e.g. intravenous immunoglobulin, pulse methylprednisolone, cyclosporine, cyclophosphamide. Dr. Chan also talked on the use of etanercept for the management of TEN in a recent case series of 10 patients.

Dr. Chan highlighted the advances in the treatment and prevention of SJS/TEN. The identified associations of *HLA-B**15:02, *HLA-B**57:01 and *HLA-B**58:01 alleles with carbamazepine-, abacavir- and allopurinol-induced SCARs can help to prove whether genetic tests are efficient and cost-effective for clinical use. On the other hand, the identification of granulysin, a cytolytic protein that is highly expressed in the blister cells in SJS/TEN, may lead to a new molecular target for treatment in the future.

Learning points:

The future direction for the management of SJS/TEN includes: using a reagent with anti-granulysin property, validation of the role of anti-TNFα, immunosuppressants and prevention.

Use of herbal medicine in dermatology in China

Speaker: Dr. Xia-min Liu
Associate Consultant, Department of Dermatology, the University of Hong Kong - Shenzhen Hospital, China

In China, 90% of patients who have skin diseases have been using traditional Chinese medicine (TCM). In China and overseas, there are increasing number of studies and reports on the use of TCM in treating various types of dermatoses. Dr. Liu shared with the audience some kinds of herbal medicine that are commonly used in her daily practice:

1. Glucosidorum tripterygii tororum: It is used in the treatment of discoid lupus erythematosus, scleroderma, eczema, psoriasis, palmoplantar pustulosis, erythema nodosum, prurigo nodularis, sarcoidosis, etc. Due to its high toxicity, patients may develop derangement in liver or renal function, bone marrow suppression, menstrual disorders and infertility.
2. Compound Glycyrrhizin: Due to its steroid-like effects, compound Glycyrrhizin has been used in the treatment of various dermatoses including psoriasis. Compound Glycyrrhizin, when combined with methotrexate or phototherapy, showed better treatment outcome in patients with psoriasis.
3. Total glucosides of paeonia: It is effective in reducing liver damage and liver fibrosis. It is therefore used as adjuvant therapy when methotrexate or retinoids are used in the treatment of psoriasis.
4. Yupingfengsan: It has been used in the treatment of chronic urticaria, angioneurotic oedema, pruritus and livedo reticularis.
5. Cooling blood compound: It has been used for treating acute guttate psoriasis.

Learning points:

There are increasing reports on the effectiveness of herbal medicine. Yet the potential side effects, e.g. derangement in liver and renal function, bone marrow suppression, menstrual disorders, heavy metal intoxication, flare-up of skin condition, should not be ignored.

Use of azathioprine in adult atopic dermatitis with pre-treatment thiopurine methyltransferase assessment

Speaker: Dr. Sze-man Wong
Medical and Health Officer, Social Hygiene Service, Department of Health, Hong Kong

Azathioprine (dose 2 mg/kg/day) was found to be an effective and well tolerated drug in controlling moderate-to-severe atopic dermatitis refractory to topical treatment. A greater disease improvement was observed with longer treatment duration (six months vs. three months). Disease improvement was maintained for at least three months after stopping treatment. Common side-effects including lymphopaenia, dyspepsia and liver enzyme elevation were observed although most were transient and reverted to normal after dose reduction. In this study, azathioprine was well tolerated. Two out of 36 patients stopped azathioprine due to neutropaenia, but both had normal thiopurine methyltransferase (TPMT) level. Only 1 out of 36 had low TPMT level and she tolerated AZA well at a lower target dose (1.5 mg/kg/day) with similar efficacy.

Learning points:

Regular blood monitoring for cell counts is still warranted despite a normal thiopurine methyltransferase level.

Dermatomyositis: 10-year retrospective review

Speaker: Dr. Shun-chin Ng
Medical and Health Officer, Social Hygiene Service, Department of Health, Hong Kong

In this study, old age (>40 years old), male gender, and co-existing cancer were associated with higher mortality in patients suffering from dermatomyositis. Nasopharyngeal carcinoma (NPC) and lung cancer were the top two cancers diagnosed in male patients while NPC, lung cancer and breast cancer were the top three cancers diagnosed in female patients. Most cancers were detected within the first year of diagnosis, but screening for at least three years is recommended.

Learning points:

Dermatomyositis is associated with malignancy in adults but rare in children. In patients with clinical indication or refractory disease, malignancy should be screened.

Complications and pitfalls in the use of fillers

Speaker: Dr. Leo Chow
Dermatologist, Private Practice, Hong Kong

Dermal filler injection is a popular aesthetic procedure in removing wrinkles and facial contouring. Dermal fillers can be divided into temporary, semi-permanent and permanent types with different durability. Hyaluronic acid (HA) gel is the most commonly used temporary filler nowadays. Similar to other medical procedures, dermal filler injection can also give rise to many complications. Early onset complications (onset within two weeks) can vary from injection site redness, swelling, bruising, to severe skin necrosis and embolism-related blindness. Late onset complications (onset after two weeks) can include lumpiness, Tyndall effect, infection and granuloma formation. Salvaging treatments can sometimes be helpful in managing the complications, for example, prompt hyalase injection can be used to alleviate HA-related vessel occlusion and embolism. In order to minimise the potential complications, a good knowledge of the facial anatomy, nature of the dermal fillers and correct filler injection techniques are necessary. Besides, the clinic should be well-equipped to handle any complications promptly and properly.

Learning points:

An understanding of the facial anatomy and correct injection techniques are essential for safer dermal filler injection.

Complications and pitfalls in the use of devices

Speaker: Dr. Nicola Chan
Dermatologist, Private Practice, Hong Kong

Laser, light and energy-based devices have been commonly used in dermatological and aesthetic treatments nowadays. The main indications include skin resurfacing, vascular lesions, pigment and hair removal. These devices are good therapeutic options if the physician has a good awareness of the safety precautions. The complications can be due to device malfunction, inappropriate device selection for a particular disease, suboptimal pre- and post- treatment preparation, incorrect treatment technique and poor understanding of the device properties. The types of complications can be classified according to the types of devices (e.g. lasers, intense pulsed light, radiofrequency and ultrasound treatments), types of the clinical conditions treated and clinical presentation of the complications. In general, burns, scarring, pigmentation, blistering and infection are the most commonly reported complications. In order to minimise complications, appropriate client selection, proper treatment technique and a good knowledge of the device are crucial. Informed consent, good communication skills, proper follow-up and early detection of the potential complications are other important aspects in achieving desirable clinical outcomes.

Learning points:

Burns, scarring, pigmentation, blistering and infection are the most common complications in the use of laser, light and energy-based devices. Safety precautions must be followed in minimising these complications.

A review of management of psoriatic arthritis

Speaker: Dr. Katy Leung
Senior Consultant, Department of Rheumatology & Immunology, Singapore General Hospital, Singapore

Psoriatic arthritis includes a wide range of clinical manifestations such as peripheral arthritis, predominant distal interphalangeal arthritis, dactylitis, axial disease and enthesitis. Psoriatic arthritis results in an impaired quality of life and disability. It is associated with metabolic syndrome, obesity and increased cardiovascular morbidity.

The Classification of Psoriatic Arthritis (CASPAR) criteria which has been validated in Chinese is a sensitive tool for classifying early psoriatic arthritis. The group for Research and Assessment of Psoriasis and Psoriatic Arthritis (GRAPPA) treatment recommendation for psoriatic arthritis is based on the predominant clinical manifestation of patient, namely peripheral arthritis, axial disease, dactylitis, enthesitis, skin and nail diseases. The treatment is provided according to the severity and impact of each clinical domain. The European League Against Rheumatism (EULAR) recommends that a target-orientated and strategic treatment approach should be employed. Minimal disease activity is a validated composite endpoint that allows comprehensive assessment of the joints and skin. The use of anti-TNF treatment for achieving persistent minimal disease activity is associated with improved radiological outcomes of the

patients. A treat-to-target approach in management of early psoriatic arthritis, using minimal disease activity as a therapeutic target, is associated with a better long-term outcome.

Learning points:

Psoriatic arthritis is associated with impaired quality of life and increased morbidities. Treatment of psoriatic arthritis, using minimal disease activity as a treatment target, is associated with an improved clinical outcome.

Prevalence and risk of sexually transmitted diseases in men having sex with men attending Social Hygiene Service

Speaker: Dr. Chun-kin Chung
Dermatologist, Private Practice, Hong Kong

A study was done from August 2011 to April 2012 recruiting 259 men who have sex with men (MSM) attending the Yau Ma Tei Male Social Hygiene Clinic and Wan Chai Male Social Hygiene Clinic to determine the prevalence of sexually transmitted infection (STI) and risk factors of STI. Clinical history, questionnaires (about social-demographic, sexual practice behaviour) and physical examination were obtained. Blood for HIV, syphilis, HBsAg were done. Oropharyngeal, anal, urethral swab for chlamydia (molecular test) and gonorrhoea (molecular test and culture) were also done. Swabs for genital herpes and wet mount for *trichomona vaginalis* were also performed if indicated. A high prevalence of high-risk sexual behaviour was found among the MSM population attending these two clinics. These included soft drug use before sex, multiple partners, group sex, oral sex, anal sex and inconsistent use of condom. The prevalence of STI were as follows: syphilis (19.9%), genital warts (19.5%), non-gonococcal urethritis/ non-specific genital tract infection (14.5%), chlamydia (12%), HIV (8.6%), gonorrhoea (7.7%) and genital herpes (0.45%). This study also demonstrated that STI diagnosed within the preceding six months was associated with receptive anal sex and past history of STI.

Learning points:

The three most prevalent STIs among MSM attending sexual health clinics in Hong Kong were syphilis (19.9%), genital warts (19.5%) and non-gonococcal urethritis/non-specific genital tract infection (14.5%). Soft drug use before sex, multiple partners, group sex, oral sex, anal sex and inconsistent use of condom are high risk sexual behaviour among MSM.

Sexually transmitted infections of anus and rectum

Speaker: Dr. Li-gang Yang
Consultant Dermatologist, Sexually Transmitted Diseases Department Director, Guangdong Provincial Center for Sexually Transmitted Infections and Skin Diseases Control, China

Sexually transmitted infections (STI) of the anus and rectum which occur primarily in men who have sex with men (MSM) may also occur among women who engage in anorectal intercourse. In most cities, rectal gonorrhoea and chlamydia infections among MSM are likely to be underdiagnosed. Common anorectal STIs include rectal gonorrhoea and chlamydia infections, anorectal ulcers as well as anorectal warts. The perianal lesions caused by syphilis, herpes simplex virus and genital warts are generally resemble the corresponding lesions as they appear in the genital area, while more than 80% proctitis caused by gonorrhoea and chlamydia are asymptomatic. A good sexual history, e.g. with the use of standardised questions, is essential for making a diagnosis. Rectal gonorrhoea may have symptoms of burning sensation on defaecation, tenesmus or blood in stool. Rectal chlamydia infection may have symptoms of rectal pain, rectal discharge or

tenesmus. Nucleic acid amplification test is the test of choice for rectal chlamydia and gonococcal infection and is the most sensitive test for the diagnosis.

Clinicians should routinely ask sexually active MSM about symptoms consistent with the common sexually transmitted diseases, including urethral discharge, dysuria, genital ulcer, skin rash, and anorectal symptoms consistent with proctitis, including discharge and pain on defaecation or during anal intercourse. Clinicians should perform appropriate diagnostic testing on all symptomatic patients.

It is necessary also to be aware of the emerging diagnosis of lymphogranuloma venereum.

Learning points:

A detailed sexual history is required to guide the sample collection in anorectal STIs.

The use of human papillomavirus vaccine in females and males

Speaker: Dr. Karen Chan
Clinical Associate Professor, Department of Obstetrics and Gynaecology, The University of Hong Kong, Hong Kong

Human papillomavirus (HPV) is one of the most common sexually transmitted infections (STIs). There are more than 100 subtypes. The high risk subtypes (e.g. HPV types 16 and 18) are oncogenic. More than 95% of cervical cancer is attributed to HPV infection. The mechanism of HPV transmission includes sexual contact and non-sexual route (mother to newborn). HPV 16 and 18 cause about 70% of cervical cancer. High risk HPV subtypes also cause other cancers that affect men, such as oropharyngeal, anal and penile cancers. Low risk HPV subtypes cause warts, with 90% of anogenital warts being attributed to HPV infection. There are two HPV vaccines on the market – a bivalent vaccine targeting two high risk subtypes, HPV 16 and 18, and a quadrivalent vaccine targeting two low risk subtypes HPV 6, 11 as well as two high risk subtypes HPV 16, 18. The quadrivalent vaccine offers protection against genital warts and cervical cancer. The bivalent and quadrivalent types are prophylactic vaccines and they are most effective when given to adolescents before their sexual debut. The safety profile is excellent as shown in the large trials leading to its licensure as well as in post-marketing safety monitoring. Common side effects include injection site pain, erythema and swelling. In Australia, a national quadrivalent programme for girls was implemented in 2007. By 2010, there was a 50% decline in high grade cervical abnormalities and a nearly 90% reduction in genital warts in both females and males.

HPV-related disease causes cancer burden (HPV types 16 and 18 causing 70% of cervical cancers worldwide) and non-cancer burden (HPV types 6 and 11 responsible for approximately 90% of genital warts in both men and women). Both the bivalent and quadrivalent HPV vaccines have good safety profiles.

Learning points:

Human papillomavirus (HPV) infection is a highly transmissible virus, infecting males and females of all ages. HPV-related disease causes cancer burden (cervical cancer, oropharyngeal cancer, anal and penile cancers) and non-cancer burden (genital warts) on society.