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Reports on Scientific Meetings

Hong Kong Dermatology Symposium 2018

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Antibiotic resistance in dermatology

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

The discovery of antibiotics has caused revolutionary change in the treatment of bacterial infections. The widespread use of antibiotics in clinical settings has contributed to the emergence of resistance and is a global concern. In dermatology, *Staphylococcus aureus, Group A Streptococcus (GAS),* and *Proprionibacterium acnes* (*P. acnes*) are the main bacteria involved.

Community associated methicillin resistant Staphylococcus aureus (CA-MRSA) is now a concern spreading in the community which mostly causes skin and soft tissue infections. CA-MRSA carries a specific genetic make up for its antibiotic resistance pattern (SCCmec IV and V) and virulence factors (Panton-Valentine Leucocidin). Relative to hospital-associated MRSA, CA-MRSA is more susceptible to non-beta lactams (e.g. co-trimoxazole, minocycline or clindamycin) and they are the drugs of choice for treating CA-MRSA.

Resistance of GAS to macrolides has increased significantly over the past few years. Such resistance is likely to be related to overuse, although GAS remains universally susceptible to penicillins and other beta lactams. As oral and topical antibiotics have been used for treatment of acne for a long time, increasing resistance of *P. acnes* to macrolide-clindamycin is also a concern. Combined therapy has been suggested to slow the emergence of antibiotic resistance.

Learning points:

Antibiotic resistance is emerging in many clinical settings including dermatology. Wise and appropriate use of antibiotics is the key to delaying antibiotic resistance.

What dermatologists need to know about psoriatic arthritis

Speaker: Priscilla CH Wong
Department of Medicine & Therapeutics, The Chinese University of Hong Kong, Hong Kong

The prevalence of psoriasis is estimated to be around 2% of the population. It is a chronic disease that can affect both the skin and the joints. Referral to a rheumatologist for treatment is recommended if psoriatic arthritis (PsA) is suspected. Psoriatic arthritis is a heterogenous, multifaceted inflammatory arthritis and includes peripheral arthritis, spondylitis, dactylitis, enthesitis, nail disease as well as extra-articular features common to the spondyloarthropathies. Differential diagnoses include osteoarthritis, gout, calcium pyrophosphate deposition disease, fibromyalgia.

Early diagnosis and treatment are essential to halt the progress in order to prevent functional disability and improve quality of life and dermatologists can play a crucial role in this aspect.

Several screening questionnaires have been validated in English and other languages. There is no specific serum laboratory test for PsA. Rheumatoid factor negativity is part of the classification criteria (CASPAR) for PsA. HLA-B27 confers susceptibility to axial spondyloarthropathies while anti-Cyclic Citrullinated Peptide (anti-CCP) antibody positivity ranges from 0.9% to 15% in PsA patients. Radiography (X-ray), ultrasonography, magnetic resonance imaging (MRI) have their own advantages and limitations depending on the target to be screened. Up to 57% of patients develop deforming erosive arthritis on X-ray. One study suggested that USG and MRI are more sensitive to inflammatory and destructive changes than X-ray and clinical examination. The CASPAR criteria, with a sensitivity of 91% and specificity 99%, is a validated diagnostic tool for PsA.

Methotrexate is the preferred drug for initial treatment of PsA. Anti-TNF, anti-IL12/23, anti-IL17 inhibitors are approved for PsA treatment. Anti-IL23 and target synthetic Disease Modifying Anti-Rheumatic Drugs (DMARDs) are being studied.

Learning points:

Early diagnosis and treatment are essential to halt the progression of PsA in order to prevent functional disability. Remaining vigilant and maintaining a good liaison with our rheumatology colleagues remain the key to successful management.

Atopic dermatitis: pearls in management

Speaker: Yee-man Wat
Social Hygiene Service, Centre for Health Protection, Hong Kong

Atopic dermatitis (AD) is due to the interplay between barrier defect causing increased permeability, disruption in microbiome and shift in adaptive immunity towards the Th2 immune response. Barrier dysfunction leads to the increase in release of inflammatory cytokines and immunomodulatory proteins and leakiness to antigens. Researchers are looking at whether regular use of moisturisers at the early stages of life can reduce sensitisation and halt the progression to other allergic co-morbidities.

Microbiome refers to the microorganisms that live on or inside another organism. It helps the development of the innate and adaptive immunity. The World Allergy Organisation guideline panel recommends probiotics for pregnant women, women during breast feeding, and infants at high risk for developing allergy. The panels also recommend use of prebiotics in high risk infants.

Newer and more targeted treatment modalities are available and are under research. Dupulimumab, a monoclonal antibody, inhibits interleukin 4 and 13 which are involved in the Th2 response in atopic dermatitis. Crisaborole, a phosphodiesterase-4-inhibitor, degrades cyclic adenosine monophosphate (cAMP), leading to down-regulation of pro-inflammatory cytokines IL-4, IL-31 and prostaglandin E2.

Learning points:

Current advocates on early and aggressive barrier repair, correction in dysbiosis and newer agents targeting specific inflammatory cytokines are bringing new hope to patients with atopic dermatitis.

Low level light/laser therapy in dermatology

Speaker: Nai-ming Luk
The Hong Kong Dermatology Foundation

Low level light/laser therapy (LLLT) for dermatological conditions has gained popularity recently. The mechanism of LLLT is thought to be via photobiomodulation. Non-ionising radiation, red or near infra-red radiation is generated by low level laser or light emitting diode. They are absorbed by cytochrome C oxidase in the mitochondria which leads to increased release of adenosine triphosphate (ATP), nitric oxide and reactive oxygen species. With vasodilation and increased nuclear transcription, this mediates biological effects such as anti-inflammation, immunomodulation, anti-apoptosis, promotion of wound healing and tissue regeneration. The process does not involve thermal or ablative processes.

Important parameters in LLLT treatment include appropriate wavelength of electromagnetic radiation, the irradiance of the light source and the total fluence used. Trials for treating various dermatological conditions have been carried out. These include herpes labialis, ophthalmic herpes zoster, psoriasis, chronic venous ulcer, radiation dermatitis, male pattern baldness and wrinkles. The efficacy of LLLT is very variable. The exact mechanism of action needs further clarification. However, no serious adverse effects have been reported. In conclusion, LLLT is a safe treatment.

Learning points:

Low level light/laser therapy (LLLT) can be used as an adjuvant therapy for various dermatological conditions.

Cutaneous manifestations of child abuse

Speaker: Erica KY Yau
Dermatologist, Private Practice, Hong Kong

Physical child abuse is most commonly discovered through detection of dermatological injury. It could be challenging to differentiate physical abuse from certain dermatological disease e.g. Henoch-Schonlein purpura, Mongolian spot, bullous impetigo etc. However, it is crucial to identify and investigate any suspicious cases of child abuse.

A comprehensive history should be taken. Ideally, the child should be interviewed separately and a basic understanding of the usual locations, patterns and appearance of physical maltreatment in relation to a child's developmental stage is important. If the alleged injury is not consistent with the child's developmental stage or capability, child abuse suspicion should be raised.

Learning points:

It is important to remain vigilant for child abuse. As it is our duty to protect children from any form of maltreatment, the appropriate authorities should be informed immediately if child abuse is suspected.

Management of acne scars

Speaker: Steven KF Loo
Dermatologist, Private Practice, Hong Kong

There is a high prevalence of acne vulgaris in adolescents, often causing a significant psychosocial impact. The impact could be profound especially in cases with severe acne scars and the quality of life could be greatly affected.

There are three types of acne scars. They are atrophic, hypertrophic and keloidal types. Atrophic scars are further classified into icepick scar, box scar and rolling scar. These different types of scars can be hyperpigmented, hypopigmented or erythematous.

Multiple treatment modalities for different acne scars are available. It ranges from simple topical pharmaceuticals, energy-based devices (e.g. resurfacing, vascular and collagen remodeling devices) to subcision surgery and filler injections.

Learning points:

Different modalities are available for the management of different acne scars. Treatment should be customised in order to provide the optimal result.