

The Hong Kong Society of Dermatology and Venereology Annual Scientific Meeting 2010

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Learning points:

A standard cleanser can reduce the sebum level in the face while skin hydration is maintained.

Sebum measurement

Speaker: Dr. Mimi M Chang
Medical Officer, Department of Medicine and Therapeutics, The Chinese University of Hong Kong, Hong Kong

Sebum is secreted by sebaceous gland via holocrine secretion. It contains free fatty acid, wax and sterol esters, triglycerides and squalene. The sebaceous glands are distributed mainly at scalp, face, upper back and chest. The secretion of sebum is influenced by androgen and is increased at the time of puberty. There is also diurnal and seasonal variation. The sebum may increase in the morning and in summer time. Some postulate that increased glycaemic load may also increase the sebum secretion. The sebum production rate is around 1 mg/10 cm²/3 hours and increase in production is more commonly found in acne patients. The speaker has conducted a study involving 19 patients. A standard skin cleanser was applied twice daily. The sebum, skin hydration and Cardiff Acne Disability index were assessed before and 4 weeks after. There was a significant reduction in sebum level over the forehead and right cheek and the skin hydration was maintained. However, no significant difference in the acne related quality of life was noted before and after treatment.

Relationship of systemic inflammation to arterial stiffness in patients with psoriasis

Speaker: Dr. Chi-keung Yeung
Associate consultant, Division of Dermatology, Department of Medicine, The University of Hong Kong, Hong Kong

The world-wide prevalence of psoriasis is around 1-2% and the corresponding figure in Hong Kong is about 0.3%. Psoriasis is a chronic, immune-mediated inflammatory disease. It is found to be associated with increased risks of cardiovascular disease (CVS) such as myocardial infarction, coronary calcification and stroke. This increased in CVS risk is not explained by traditional CVS risk factors and may be due to increased artery stiffness. Patients with psoriasis have chronic inflammation that induces atherogenesis which may increase artery stiffness. The speaker conducted a study enrolling 52 psoriasis patients and 50 normal subjects. Baseline demographics, high sensitivity C-reactive protein (hsCRP) and psoriasis area severity index (PASI) were studied. The artery stiffness was assessed by brachial-ankle pulse wave velocity (baPWV). The psoriatic patients had higher body mass indexes, higher hsCRP level and higher baPWV compared to controls. In psoriatic patients, baPWV and PASI were

positively correlated with hsCRP. Further analysis demonstrated that baPWV was independently correlated with the diagnosis of psoriasis and hsCRP. In conclusion, psoriasis is associated with increased arterial stiffness which correlates with active inflammation measured by hsCRP. Effective control of inflammation may reduce CVS risk in psoriatic patients.

Learning points:

Psoriasis is associated with raised arterial stiffness which correlates with active inflammation seen in the disease.

Use of non-ablative fractional resurfacing in Asian acne scar patients

Speaker: Dr. Nicola PY Chan

Honorary clinical assistant professor, Division of Dermatology, Department of Medicine, The University of Hong Kong, Hong Kong

Atrophic acne scar can be managed by different methods including surgery, augmentation and resurfacing. For resurfacing, it can be achieved by chemical peeling, dermabrasion and laser. Ablative or non-ablative fractional laser is one of the mainstays in treating acne scar. The concept of "fractional photothermolysis" involves delivering laser energy to the skin which induces microscopic volumes of thermal injury and coagulation deep down to the reticular dermis, known as "microscopic thermal zone". As only a fraction of skin is treated at any one time, viable cells from the surrounding untreated areas migrate and allow rapid healing of the coagulated tissues with extrusion of the microscopic epidermal necrotic debris. The technique has a lower down time and better safety profile compared to traditional ablative laser therapies. The speaker conducted a retrospective study by using non-ablative fractional resurfacing (NAFR) in Asian patients suffering from acne scar. NAFR could improve

the skin texture, acne scar, enlarged pore and overall pigmentation irregularity. Moreover, by adjusting the number of passes and the total density per treatment session, post-inflammatory hyperpigmentation (PIH) and erythema could also be reduced. NAFR is overall a safe and effective modality in treating acne scars in Asian patients.

Learning points:

Non-ablative fractional resurfacing is a safe and effective method in treating acne scars and adverse effects like PIH and erythema can be reduced by adjusting the number of passes and total density per treatment session.

Clinical and financial burdens of psoriasis in Hong Kong

Speaker: Dr. Steven KF Loo

Medical and Health Officer, Social Hygiene Service, Centre for Health Protection, Department of Health, Hong Kong

Psoriasis is chronic inflammatory disease that poses significant physical, psychological, social and even occupational impact in patients' life. Although psoriasis is not a life threatening condition, patients' suffer in physical and psychological disability is as much as those with other chronic illnesses. The speaker found that 34% psoriasis patients were significantly impaired in their quality of life by using SF-36 and dermatology life quality index (DLQI) assessment. Concerning the occupation impact, since psoriasis was a kind of stigmatization, around 19% patients gave up their jobs. This was especially significant in the group of patients with more severe psoriasis (psoriasis area severity index >20). They also had more anxiety and depression. For the financial impact, the cost analysis could be divided into three aspects including (1) direct cost which was the money paid directly by the government in treating the

psoriasis; (2) indirect cost which was indirect financial loss such as sick leaves, reduced productivity due to the psoriasis and (3) intangible cost which could not even be measured. Psoriasis patients, especially for the severe cases, showed significantly increase in attendance to accident and emergency department, general outpatient clinics and specialty outpatient clinics. Only 26% of patients and 6% of patients satisfied and very satisfied with their treatment, respectively. Eighty four percent of patients thought they should have more aggressive treatment. In summary, psoriasis patients experienced significantly reduction in their quality of life in both physical and mental component that was compatible to other chronic disease such heart failure, rheumatoid arthritis and depression.

Learning points:

Psoriasis can reduce the quality of life of the patient and poses a significant financial burden to both patients and the society.

Viral exanthemata in children

Speaker: Dr. Chi-wai Leung
Consultant, Infectious Disease Centre, Princess Margaret Hospital, Hong Kong

Exanthem is a term often used to describe a rash associated with a systemic illness, the word exanthema comes from Latin, meaning "breaking out" or "blossoming out". Rashes in children are commonly caused by systemic viral infections and are frequently associated with fever. An eruption occurring on the oral mucosa usually represents the same pathological process as the rash. Most viral exanthemata or exanthems are more prominent in areas exposed to the sun. The speaker presented two different approaches to the classification of viral rashes, one by morphology (e.g. macular, papular, maculopapular, vesicular,

papulovesicular, petechial, etc) or skin rash distribution pattern (e.g. morbilliform, scarlatiniform, etc). Conditions such as erythema infectiosum, roseola infantum, measles, rubella, hand, foot and mouth disease, herpes simplex, varicella, infectious mononucleosis and dengue fever were discussed in terms of their manifestation, diagnosis, treatment and prevention.

Learning points:

Rashes in children are commonly caused by systemic viral infections and are frequently associated with fever. There are two common approaches to the classification of viral rashes, either by morphology or skin rash distribution pattern.

Infection control in dermatology practice

Speaker: Dr. Vincent CH Cheng
Consultant, Department of Microbiology, Queen Mary Hospital, Hong Kong

The outbreak of severe acute respiratory syndrome (SARS) in 2003 alerted all healthcare workers to comply with infection control in both the in-patient and out-patient settings. Standard transmission-based precautions have been promoted in the hospitals and have been applied in the dermatology clinics in recent years. Standard precautions include the practice of hand hygiene, safe handling of sharp objects, appropriate use of gloves, gowns, masks, goggles and face shields in case of exposure to blood, body fluids and secretions from patients with suspected or confirmed infections. Transmission-based precautions are additional measures against pathogens which are spread by contact, droplets and air.

Common pathogens including community associated methicillin resistant *Staphylococcus*

aureus and influenza virus can survive on the hands for a short period of time and frequent use of alcohol-based hand rub, especially before touching our mucous membranes can prevent self-inoculation of these pathogens.

Similarly, pathogens like *Chlamydia trachomatis* and *Neisseria gonorrhoeae* can also survive on dry inanimate surfaces for 1-3 days, and human papillomavirus can survive in the environment for up to 7 days. Thus, application of directly observed hand hygiene among such patients and regular cleaning of the clinic are crucial in reducing the risk of environmental contamination by such pathogens. According to the speaker, hand hygiene practice involving the use of alcohol-based hand rub remains the cornerstone of infection control, in which a 3 log reduction of microbial load can be achieved by 15 seconds of hand rubbing.

Learning points:

Hand hygiene practice involving the use of alcohol-based hand rub remains the cornerstone of infection control, in which a 3 log reduction of microbial load can be achieved by 15 seconds of hand rubbing.

Update on the diagnosis of superficial fungal infection

Speaker: Dr. Tin-sik Cheng

Medical and Health Officer, Social Hygiene Service, Department of Health, Hong Kong

Superficial fungal infections can mimic a lot of conditions clinically, thus laboratory tests are sometimes required to aid in diagnosis. Conventional laboratory tests such as direct examination and culture are morphology based and have shortcomings such as low sensitivity and long turnaround times. Recent advances in molecular biological techniques have led to the application of techniques such as polymerase

chain reactions, restriction fragment length polymorphism and DNA sequencing in the diagnosis of superficial fungal infections. A variety of candidate genes can be targeted in these techniques, e.g. chitin synthase 1 gene, 18S ribosomal DNA, DNA topoisomerase II gene. The detection of changes in the internal transcribed spacer region of ribosomal DNA have been found to be most suitable for the identification of dermatophytes. Molecular diagnostic tests in medical mycology also allow the identification of many dermatophytes down to the species level. Molecular biology-based techniques are available for the detection of candida infection but they are usually applied in the setting of systemic diseases. The relative high cost of molecular based diagnostic tests in superficial fungal infections render them impractical outside research setting; however, with the development of commercial kits, we foresee a greater role for molecular diagnosis in superficial fungal infections.

Learning points:

The application of molecular based diagnostic techniques in superficial fungal infections results in higher test sensitivity and shorter turnaround times. Nonetheless, the relative high cost limits their use outside research setting.

Community-acquired MRSA skin and soft tissue infections

Speaker: Dr. Pak-leung Ho

Associate professor, Department of Microbiology, The University of Hong Kong, Hong Kong

Staphylococcus aureus (*S. aureus*) is the commonest cause of community-acquired skin and soft tissue infection (CA-SSTI). SSTI caused by community-associated methicillin-resistant *S. aureus* (CA-MRSA) poses a clinical challenge because of their increasing incidence and uncertainty about optimal medical

management. CA-MRSA is defined by laboratory documentation of infection by a Panton-Valentine-Leucocidin (PVL) positive MRSA strain. The exact trend of the incidence of CA-MRSA associated SSTI cannot be ascertained as most SSTI are treated by primary care practitioners outside of the hospital setting and CA-MRSA only became a notifiable disease in Hong Kong in 2007. The number of reported cases has increased steadily from 173 cases in 2007, 282 cases in 2008 to 368 cases in 2009. Underreporting is likely as less than 4% of the notified cases were reported by private practitioners. The speaker recommended swabbing for culture when SSTI is not responding to first line antibiotics, occurring in atypical body sites with atypical clinical course, in recurrent SSTI and when tissue involvement is extensive.

According to Centre for Health Protection, 98% of the reported CA-MRSA cases represented SSTI, the majority of them (98%) were abscesses, with small numbers of serious infections including necrotizing fasciitis, septicaemia and metastatic infective foci. For abscesses, incision and drainage is still the first line of treatment, and many patients with uncomplicated SSTI will respond with this approach alone. The role of antibiotic treatment for adequately drained uncomplicated abscess remains unclear. Three recent prospective overseas studies supported the contention that failure rates for placebo were not higher than antibiotics for adequately drained abscess. However, antibiotics might prevent new abscesses formation one month later. CA-MRSA is resistant to cloxacillin and cephalexin that are commonly used to treat SSTI. Cotrimoxazole, minocycline and doxycycline are found to be active against >99% of CA-MRSA in Hong Kong.

Learning points

The incidence of CA-SSTI caused by CA-MRSA is increasing in Hong Kong over recent years. The speaker recommended swabbing for culture in atypical presentations of SSTI. The first line treatment for SSTI caused by CA-MRSA is adequate incision and drainage. Cotrimoxazole, minocycline and doxycycline are found to be active against >99% of CA-MRSA in Hong Kong.

Novel anti-acne therapy

Speaker: Dr. Maria J Rueda
Dermatologist, St Louis Hospital, Paris, France

Combination therapy for treatment of acne allows targeting different pathophysiological factors. A new fixed-dose combination agent, adapalene 0.1% plus benzoyl peroxide (BPO) 2.5% gel, was introduced recently. This formulation provides the recommended retinoid plus antimicrobial combination without including an antibiotic and the associated risk for bacterial resistance. This once-daily formulation offers a logical approach to the management of mild to moderate acne patients, either alone, or in association with oral antibiotics in more severe patients. Studies have shown a statistically significant reduction of total lesions count, inflammatory lesions and non-inflammatory lesions in patients with mild to moderate acne.

The frequency of adverse events for adapalene plus BPO is comparable to that observed with adapalene monotherapy. In a 12-month evaluation in 452 subjects with acne, the combination had a good safety profile with no unexpected events emerging. In severe inflammatory acne patients, adapalene plus BPO could also be combined with oral antibiotics and this combination demonstrated greater efficacy than oral antibiotics alone. At 12 weeks of treatment, there was a mean

reduction of 72% of inflammatory lesions in the former versus 48% in the latter.

Learning points:

The combination therapy, adapalene 0.1% plus benzoyl peroxide 2.5% gel, has been shown to be efficient, safe and well tolerated in mild to moderate acne patients when used alone. In patients with severe acne, it can be used in combination with oral antibiotics.

How to take a good clinical picture

Speaker: Dr. Samson SY Wong

Clinical assistant professor, Department of Microbiology, The University of Hong Kong, Hong Kong

Clinical photography serves 2 major purposes, documentation and education. As a means of documentation, clinical picture can be used in the follow up of patients or can serve as evidence in medico-legal or forensic settings. For these reasons, the photograph must be captured with sufficient details and attention to details, such as backgrounds, scales, perspectives, distortions, and colour casts.

Digital photos offers substantial advantages in archiving, transmission, sharing, and presentation; but they also raise many other questions, which include, amongst others, the authenticity of the digital images, digital manipulation (post-processing), image formats and compression. It is important to consider the issues of confidentiality and consent of the subjects. Doctors should bear in mind that shading of patient's eyes in clinical photos is not equal to anonymity and storage of photos in computer should be password protected.

Practically, the two most important accessories for a successful clinical photograph are probably a dedicated macro lens and a good camera.

Learning points:

Clinical photography serves purposes of documentation and education. It is important to consider the issues of confidentiality and consent of the subjects.

Diagnosing onychomycosis

Speaker: Dr. Nai-ming Luk

Senior Medical and Health Officer, Social Hygiene Service, Department of Health, Hong Kong

There are various ways to diagnose onychomycosis, namely, microscopy, culture, nail plate biopsy, calcoflour white stain and polymerase chain reaction (PCR). Among these, fungal culture is still regarded as the gold standard for diagnosis. Nevertheless, its sensitivity is usually low, ranging from 10 to 50%. It is of urgent need to look for more sensitive and specific methods to confirm onychomycosis so that timely treatment could be implemented. The clinical application of PCR is discussed, based on a local study.

Learning points:

The clinical application of polymerase chain reaction would probably help clinicians in timely diagnosis of onychomycosis.

Hair and nail disorders

Speaker: Dr. William YM Tang

Honorary clinical associate professor, Division of Dermatology, Department of Medicine & Therapeutics, The Chinese University of Hong Kong, Hong Kong

Nail dystrophy is commonly seen in daily practice. The definition of dystrophy means abnormal development caused by poor nutrition. But it is loosely used to describe nails which are discoloured, rough, with irregular surface and variable thickness. The three common nail disorders include onycholysis, brittle nails and onychomycosis.

The speaker and two other co-investigators carried out a local survey on clinical characteristics and outcome of patients undergoing single nail avulsion from January 2002 to November 2008. Records of 32 out of 33 patients who received surgical nail avulsion were reviewed and analysed. The average age was 53.9 years old. Nail thickening was the most significant feature (69.7%), followed by nail plate discolouration (60.9%), deformity (33.3%), onycholysis (15.2%) and mild pain (27.2%). Pre-operative nail clipping for microscopy and fungal cultures were performed. The nail specimens obtained from nail avulsion were sent for histopathology and mycological studies. It was found in this local survey that nail avulsion was more superior to routine nail clipping in terms of detection of fungi and clinical cure rate.

The speaker also shared with the audience three interesting cases on hair and nail disorders.

Case 1: androgenetic alopecia in a 70 years old lady, who presented with thinning of hair over the vertex of scalp.

Case 2: A gentleman with pseudofolliculitis barbae. The condition can be improved by laser.

Case 3: A gentleman with lichen planus of nails, as confirmed by nail biopsy.

Learning points:

Nail avulsion gives a much higher yield in the detection of fungi than nail clipping. For patients with single nail onychomycosis who do not respond to medical therapy, nail avulsion offers a higher cure rate clinically.

Management of chlamydia and non-gonococcal urethritis

Speaker: Dr. Marcus Chen

Clinical associate professor, Melbourne School of Population Health, The University of Melbourne, Australia

Non-gonococcal urethritis (NGU) includes infection with sexually-transmitted pathogens such as *Chlamydia trachomatis*, *Mycoplasma genitalium*, herpes simplex virus, adenovirus and *trichomonas vaginalis*.

Chlamydia trachomatis urethritis: In male, up to 90% is symptomatic. 70% of female partners of Chlamydia-infected men are Chlamydia positive. The complications in female include pelvic inflammatory disease, infertility, ectopic pregnancy and chronic pelvic pain. All female partners should be treated. Diagnosis of *Chlamydia trachomatis* urethritis is made by nucleic acid amplification test (NAAT). Doxycycline 100 mg bd for one week or an azithromycin 1 g dose show similar efficacy.

Mycoplasma genitalium urethritis: PCR test is not available commercially. 45% of female partners of *Mycoplasma genitalium* infected men are infected. The treatment failure rate for doxycycline is 35% and that of azithromycin is 16%. If there is treatment failure, moxifloxacin 400 mg daily for 10 days is highly effective.

Herpes urethritis: caused by herpes simplex virus. Genital ulcers and vesicles are usually absent. The clinical symptoms are marked dysuria and meatitis.

Adenoviral urethritis: Clinical presentation includes mucoid discharge and dysuria. Concurrent conjunctivitis and meatitis may be present.

Trichomonal NGU: Diagnosis is by urine PCR. The sensitivities of wet mount preparation and culture for *Trichomonas vaginalis* are low. The suggested treatment is a single dose of metronidazole 2 g.

Ureaplasma associated NGU: The role of *Ureaplasma sp.* in NGU is still controversial.

Learning points:

Treatment for NGU should be tailored to the results of investigation. Appropriate testing and treatment of the sexual partners of men with NGU should be considered.

Cutaneous manifestations in HIV infection

Speaker: Dr. Ian CT Tse

Senior Medical and Health Officer, Special Preventive Programme, Centre for Health Protection, Department of Health, Hong Kong

Skin disease is a problem in almost all human immunodeficiency virus (HIV) positive persons. The skin diseases are often more severe and atypical in presentation. The CD4 count partly determines the types of skin disease.

The speakers discussed following skin disorders: skin infections, drug eruption secondary to anti-retroviral agent, syphilis, inflammatory conditions and acute retroviral syndrome. Moreover, he outlined some of the more specific dermatoses seen in HIV-positive persons: acute

retroviral syndrome, Kaposi's sarcoma, penicilliosis, HIV-associated eosinophilic folliculitis and lipodystrophy.

Kaposi's sarcoma: It is the most common HIV-related malignancy, predominantly presented in "men who have sex with men" (MSM) patients. It is caused by human herpesvirus type 8 (HHV-8). Clinically it presents as macules, papules, plaques and nodules. The diagnosis is confirmed by histology.

HIV-associated eosinophilic folliculitis: It is a common pruritic condition that occurs in the upper torso of HIV-infected individual. The pathogenesis is unknown. There are multiple sterile erythematous papules, papulo-pustules, urticarial papules over the face, neck, upper limbs or trunk. The CD4 count is often smaller than 250/mm³. There is peripheral eosinophilia in 25-50% of patients. Histology shows perifollicular and perivascular infiltrate with varying numbers of eosinophils.

Lipodystrophy: It is caused by the use of anti-retroviral drug. The condition can be improved by switching the anti-retroviral drug or by fillers augmentation.

Penicilliosis: It is a dimorphic fungus which may be found in culture from skin, bone marrow aspirate, lymph node or blood. Umbilicated lesion is the most common presentation in penicilliosis. Treatment includes amphotericin B and life-long antifungal prophylaxis.

Learning points:

Skin problem is common in HIV patients. The skin diseases are more atypical and severe in presentation.