

CUHK Dermatology Symposium & Social Hygiene Symposium 2008

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 Kong & Social Hygiene Service,
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Pruritus in elderly

Speaker: Dr. Robin Chee-wei Su
 Medical and Health Officer, Social Hygiene Service,
 Centre for Health Protection, Department of Health,
 Hong Kong SAR

The most common dermatological diagnoses in the elderly include pruritus, xerosis, dermatitis, skin infection, seborrhoeic keratosis, skin premalignancies and malignancies. Pruritus is the most common dermatologic problem in the elderly, while xerosis is the close second and the most common cause of pruritus in elderly.

Dry skin results from abnormalities in stratum corneum that occurs intrinsically with aging. Reduction in stratum corneum lipid in the elderly causes excessive water loss and it is provoked by cold dry weather in winter or air conditioning. Treatment of dry skin includes reducing frequency and duration of bathing, avoiding hot water, frequent and liberal use of emollients and maintaining proper humidity with the use of a humidifier.

In patients with pruritus, a thorough history, systemic review and physical examination is

necessary to determine the cause of pruritus. It may be associated with dermatologic or systemic disease, or it can be psychogenic in origin. Initial evaluation should include presence or absence of rash and duration and location of the itchiness. Physical examination should include skin assessment, and assessment for organomegaly, lymphadenopathy and evaluation of thyroid status. Laboratory examination is directed according to the signs and symptoms elicited. Screening tests may include complete blood picture, liver and renal function tests, glucose, thyroid function tests, chest radiography and other appropriate cancer screening. Periodic re-evaluation is recommended as up to 10% of patients develop systemic disease despite negative initial workup.

The goal of pruritus therapy is to optimize treatment efficacy by tailoring treatment to underlying aetiology. Since xerosis is the most common cause of pruritus in the elderly, prevention and treatment of xerosis is very important in the management of pruritus in elderly.

Learning points:

Pruritus is the most common dermatologic problem in the elderly and is most commonly caused by xerosis. A thorough history, systemic review and physical examination are necessary to determine the cause of pruritus in elderly, which may be dermatologic, systemic or psychogenic in origin. The goal of pruritus therapy is to optimize treatment efficacy by tailoring treatment to underlying aetiology.

Common skin infections in elderly

Speaker: Dr. Kwok-hung Yeung
Medical and Health Officer, Social Hygiene Service,
Centre for Health Protection, Department of Health,
Hong Kong SAR

Aging of the skin is a gradual process of progressive degeneration in organ functioning and reserve which makes the elderly more prone to infectious diseases. Common co-morbidities in the elderly like diabetes, peripheral vascular disease, decline in socio-economic status and dementia also contribute to the increased incidence of these infectious diseases.

The speaker discussed briefly some common and important infections and their management in the elderly, including viral infection, bacterial infection, fungal infection and arthropod infestation. The common presentations, epidemiology and management of herpes zoster, cellulitis, necrotizing fasciitis, onychomycosis, tinea pedis, scabies and myiasis like *Chrysomya bezziana* were discussed. Because clinical presentation in the elderly may initially be non-specific and often less florid with fewer symptoms than in younger persons, the speaker thus concluded that a high index of suspicion is required to reach the definite diagnosis in elderly.

Learning points:

Skin and soft tissue infections are quite common in elderly people. A number of special conditions and circumstances need to be considered in the diagnosis including viral, bacterial and fungal infections, and arthropod infestation. A high index of suspicion is required to make a definitive diagnosis in the elderly due to the less florid and non-specific presentations in this population.

Nosocomial scabies

Speaker: Professor Mamie Hui
Associate Professor, Department of Microbiology, The
Chinese University of Hong Kong, Hong Kong

Scabies is a common ectoparasitic infestation caused by *Sarcoptes Scabiei*, which burrows through the epidermis and lays its eggs. Transmission is through skin-to-skin contact, affecting sexual partners or those with close contact. In recent years, nosocomial scabies is being increasingly recognized. The potential contributory factors for nosocomial spread are: delayed diagnosis due to atypical presentation, prolonged duration of incubation of 4 to 6 weeks, lack of clinical suspicion and diagnostic support, overcrowded wards and nursing homes, lack of nursing and other supportive manpower. Early recognition of the disease is of utmost importance in preventing the disease from spreading. This is achieved through education of the health care worker, high index of suspicion, readily available tests and availability of anti-scabetic agents. Treatments of scabies include topical benzyl benzoate, lindane, malathion, permethrin or oral ivermectin. Family members and close contacts should also be treated irrespective of the symptoms to prevent reinfestation.

In the event of a nosocomial outbreak, apart from timely management of the source patient, tracing and empirical treatment of contacts, strict infection control measures, monitoring of the outcome of treatment, and restriction on the number of exposed staffs are important means to interrupt the outbreak. Treatment response should be monitored and retreatment may be applied whenever necessary.

Learning points:

Early recognition of the disease is of utmost importance in preventing the disease from spreading. This is achieved through health care worker education, maintaining a high index of suspicion and readily available tests. Apart from management of the source patient, tracing of contacts and empirical treatment of them, strict infection control measures and restriction on the number of exposed staffs are important means to interrupt the outbreak.

Prevention and management of pressure ulcers

Speaker: Mr. Tak-ki Chung

Nurse Specialist, Department of Medicine and Geriatrics, Shatin Hospital, Hong Kong SAR

Pressure ulcer remains a significant problem even though they are largely preventable. There are 3 major contributing factors for pressure ulcers, namely pressure, friction and shearing force. To minimize the damage of pressure ulcers, management should be directed at relieving pressure, reducing the duration of applied pressure and optimizing the skin's ability to tolerate pressure. Positioning and turning have been considered a reliable and cheap technique in reducing pressure, but the optimum frequency of turning has not been established.

Because of the risk of colonization with bacteria, adequate cleansing and debridement of pressure ulcers are required to prevent infection. Sharp debridement is a rapid way of removing devitalized tissue. To optimize pressure ulcer management, continuous quality improvement and education programs should be promoted to all levels of health care providers, to patients and their care providers to enhance quality wound care.

Learning points:

Pressure ulcers are largely preventable. The 3 major contributing factors include pressure, friction and shearing force. Relieving pressure and reducing the duration of applied pressure is necessary to minimize the pressure ulcer. Positioning and turning remains a reliable and cheap technique in reducing pressure ulcers.

Genetic predisposition to psoriasis

Speaker: Professor Nelson LS Tang

Professor, Department of Chemical Pathology, The Chinese University of Hong Kong, Hong Kong SAR

Psoriasis is a common inflammatory dermatosis affecting up to 2% of the general population. A strong role of genetic predisposition in its aetiology has been confirmed by recent linkage studies and twin studies. It is commonly recognized that familial disease inherited in a Mendelian fashion only accounts for a minority of patients with common disease, whereas the remaining cases that are labeled as sporadic cases, are under influence of both environmental and other genetic risk factors.

Recently, the completion of the international HapMap project provided huge amount of population genetic data that not only facilitated but also revolutionized genetic study of common diseases. The second breakthrough happened in 2007 when a large-scale genome-wide association study involving 14000 patients of seven diseases was published (Wellcome Trust Case Control Consortium 2007). Hundreds of thousands of genetic variations were analyzed in each patient and the distributions were compared to that of 4000 controls. Although psoriasis was not included in this project, a new era of genetics of psoriasis is expected because psoriasis was targeted by other similar project.

Learning points:

Psoriasis is a common inflammatory dermatosis and a strong role of genetic predisposition in its etiology has been confirmed. The completion of the international HapMap project revolutionized genetic study of common diseases and a new era of genetics of psoriasis is expected because psoriasis was targeted by other similar project.

Use of biologics in psoriasis

Speaker: Dr. Cham-fai Lai

Specialist in Dermatology & Venereology, Private Practice, Hong Kong SAR

Biologic agents are proteins that can be extracted or produced by recombinant DNA technology from living materials and possess pharmaceutical activities. Biologic agents work by targeting activated T-cells and cytokines that are essential for the inflammatory cascade and they have become more commonly used in treatment of psoriasis.

The speaker discussed several FDA approved biological agents like efalizumab, alefacept (which is not available in Hong Kong), etanercept, infliximab and adalimumab. The efficacy, mechanisms, monitoring measures and possible adverse effects of these biologic agents were discussed. The speaker concluded that the treatment of psoriasis by biologic agents should be individualized, and the possible side effects and the expected efficacy should be discussed before commencement.

Learning points:

The biologics significantly reduce symptoms of psoriasis, providing rapid and sustained improvement, but it usually takes several weeks to work. The unknown safety of long-term treatment with some biologics should be addressed and these medicines probably will have to be taken for long periods of time.

Scalp psoriasis: Challenging task in management

Speaker: Dr. Ka-lam Hau

Specialist in Dermatology & Venereology, Private Practice, Hong Kong SAR

Scalp psoriasis is a frequently occurring condition affecting approximately 2% of the Western population. The scalp is the most common site of disease involved at the onset and throughout the course of psoriasis.

Treatment of psoriasis includes phototherapy, systemic and topical therapies and a combination of these treatments. Topical treatment still plays a very important role in treatment of scalp psoriasis despite the availability of systemic agents and biologics. Scalp psoriasis can be one of the most frustrating forms of psoriasis because of its inaccessibility. The most important active ingredients available for scalp psoriasis are topical corticosteroids. Vitamin D3 derivatives and coal tar are also commonly used. However, the inconvenience associated with the application of above treatments results in decreased patient compliance. The speaker presented the results of a multi-centre randomized control study regarding the use of a novel formulation of clobetasol propionate 0.05% shampoo in patients with moderate to severe scalp psoriasis, which showed a significant reduction in erythema, scaling and plaques. The speaker concluded that clobetasol propionate 0.05% shampoo is effective and can be conveniently used in patients with moderate to severe scalp psoriasis.

Learning points:

Scalp psoriasis can be one of the most frustrating forms of psoriasis because of its inaccessibility. Despite the availability of many systemic agents and biologics, topical treatment still plays a very important role in treatment of scalp psoriasis. The result of a study of clobetasol propionate 0.05% shampoo in patients with moderate to severe scalp psoriasis suggests that it is effective and can be conveniently used in these patients.

Aesthetic rhinoplasty

Speaker: Professor Terry CW Hung
Clinical Assistant Professor, Department of Otorhinolaryngology, Head and Neck Surgery, The Chinese University of Hong Kong, Hong Kong SAR

Rhinoplasty has evolved over the past several decades into an art and a science, incorporating the principles of nasal function, cartilage preservation, long-term support, and natural aesthetics. There is an ever-evolving demand on the aesthetic aspects of rhinoplasty as a result of changing perceptions of beauty. Not uncommonly, patients seek rhinoplasty to achieve a symmetric and straight nose by changing their nasal profile and nasal tip forms. To correct a deviated nose, a rhinoplastic surgeon has to perform medial and lateral osteotomies. Simple rasping may be sufficient for small humps, whereas the large humps would require osteotome for its removal. A spreader graft may sometimes need to be inserted to correct the mid-third deviation. For the under-projected and over-projected nasal tip, they can be corrected by caudal septal extension graft. Excessive alar flare can be corrected by alar base resection.

Learning points:

Each patient who seeks rhinoplasty should be addressed on an individual basis and they need to have realistic expectations before proceeding to surgery.

the use of the terms "hypertrophic response" and "keloid diathesis or disposition" because of the significant immunohistochemical and morphologic differences between the two entities and the significant heterogeneity within each type. Recent findings have shown that different molecular profiles in terms of expression of apoptosis related genes may co-exist in same patient and therefore further work is required to unravel the fundamental biological process in abnormal scarring. Of recent interest is the work from Shanghai, which describes a novel ultra-low dose cytotoxic approach to keloid scarring that may induce fibroblast apoptosis rather than necrosis. The speaker has demonstrated similar effect by using laser in his study. Finally, the speaker raised the possibility of using keratinocyte induced re-programming of keloid fibroblast in scar management and such re-programming may be possible using non-antigenic allogenic stem cell sources.

Learning points:

Keloid scar management is not easy because keloids vary in their aetiology, severity and their response to treatment. The speaker has suggested the use of term "hypertrophic response" and "keloid diathesis or disposition" in scar management and highlighted the possibility of keratinocyte induced re-programming of keloid fibroblast and fibroblast apoptosis induction in scar management in future.

New concepts in the management of keloid scar

Speaker: Professor Andrew Burd
Clinical Professor, Division of Plastic, Reconstructive and Aesthetic Surgery, Department of Surgery, The Chinese University of Hong Kong, Hong Kong SAR

Keloids vary in their aetiology, severity and their response to treatment; therefore it is not surprising that the evidence for the management of keloid scars is poor because of its heterogenous pathology. In the talk, the speaker recommended

Non-gonococcal urethritis

Speaker: Professor Mamie Hui
Associate Professor, Department of Microbiology, The Chinese University of Hong Kong, Hong Kong SAR

In the clinical context of sexually transmitted disease, acute urethritis is categorized in two groups namely gonococcal urethritis, which is caused by *Neisseria gonorrhoeae*, and non-gonococcal urethritis (NGU), which is caused by "fastidious" organisms including *Chlamydia trachomatis*, *Mycoplasma hominis*, *Mycoplasma*

genitalium, *Ureaplasma urealyticum*. Gonococci can be visualized under microscopy after Gram's stain as Gram negative diplococci. Treatment can thus be started empirically after microscopic examination. On the other hand, for NGU, pathogens such as those from the family *Mycoplasmataceae* are difficult to be cultured *in vitro*, making the choice of antibiotic more difficult. Empirical treatment is often based on experience from other countries rather than from local sensitivity pattern. Recently, the advent of molecular techniques has improved our understanding of these organisms. In particular, *Mycoplasmataceae* have been advocated as potential flora of the genital tract, although the prevalence appears to be low. It is estimated that 10 to 15% of NGU patients were positive for mycoplasma and/or ureaplasma. Co-infection with several of these atypical organisms is now beginning to unwind. The commercialization of microculture techniques now also allows culturing and detection of drug resistance to doxycycline, tetracycline, ofloxacin, ciprofloxacin, azithromycin, and erythromycin in a convenient way. Employment of such techniques would allow elucidation of the prevalence and antibiotic resistance of these organisms. Surveillance for the presence of these organisms, together with antibiotic susceptibility patterns, could have an impact on empirical antimicrobial use in NGU. It will be most desirable to have effective antimicrobial therapy that can target for all potential co-infections in NGU.

Learning points:

NGU is a commonly encountered health problem. Detection of the causative agents is difficult. Nowadays, the advent of molecular techniques has improved our understanding of these organisms. Commercial availability of the microculture techniques now also allows culturing and detection of drug resistance against various antibiotics.

Human papillomavirus and cervical intraepithelial neoplasia

Speaker: Dr. Tak-hong Cheung

Consultant, Department of Obstetrics and Gynaecology, The Chinese University of Hong Kong, Hong Kong SAR

Human papillomavirus (HPV) infection is a DNA virus with less than 8000 nucleotides and over 100 types have been identified. It is tightly related to the development of cervical cancer, which is the second most common malignancy in the world. Forty types of HPV can be found in the genital tract. Sixteen of them are considered high-risk subtypes (HR-HPV) because their E6 and E7 protein can effectively block the p53 and Retinoblastoma gene function; and promote cancer development.

Pap smear (PS) has been used extensively to screen for precancerous cervical lesions, namely cervical intraepithelial neoplasia (CIN) II/III so that they can be removed to prevent subsequent cancer development. Owing to its sensitivity, regular Pap smear albeit effectively excluding women at higher risk of carrying CIN II/III lesions, but because of its specificity, the final diagnosis in many Pap smear positive cases rely on histological confirmation by colposcopic-guided biopsy. There is no dispute that colposcopic examination is indicated in patients with significant PS abnormality. The huge patient load attributable to an estimated 4% of patients with atypical squamous cell changes of undetermined significance (ASCUS) and 2% of patients with low grade squamous intraepithelial lesion (LGSIL) poses tremendous pressure to colposcopy services. In addition, the sensitivity of colposcopic examination is only moderate, and up to a third of CIN II/III lesions may be missed during a single examination. Post-colposcopy surveillance is therefore crucial in picking up the missed lesions. The American Society of Colposcopy and Cervical Pathology has issued a consensus guideline to address how PS and colposcopy could complement each other to prevent cervical cancer in 2006. Limiting the use of PS in adolescents below the age of 20 and conservative management of CIN in young women have been emphasized to avoid over-treatment and to minimize the potential negative impact on future pregnancies.

By detecting HR-HPV, HPV testing has been shown to be more sensitive than PS in detection of women carrying a CIN II/III lesion. However, the high prevalence of HPV infection in young women has limited its application in women below the age of 30, as the specificity of such a strategy is low. A combination of HPV testing and PS has been recommended to improve the performance of the traditional PS only screening strategy. Those having negative results from both tests have minimal risk of developing a CIN II/III lesion. On the other hand, a positive HPV test and negative PS indicate substantial risk within 2 years and warrants close follow up.

Nevertheless, the cervical screening programmes can only achieve the purpose of secondary cancer prevention. Some women will still end up with surgery to have their cervical lesions removed and hence with varied degree of morbidity. As the development of cervical cancer is related to a viral infection, there is a distinct possibility that primary cervical cancer prevention can be achieved by vaccination. Virus like particles (VLP) composed of self assembled HPV L1 protein produced by molecular technologies is found to be highly immunogenic that induces high titre of antibodies against the corresponding HPV type. Vaccines composed of VLP of HPV-16 and -18 which account for 70% of cervical cancer cases worldwide, have been developed to target these two HR-HPV. Clinical studies confirmed more than 90% efficacy of these HPV vaccines against the development of CIN II/III lesions in the first 5-year follow-up after 3 doses of vaccination. Life long protection against the virus remains unknown until further clinical follow up is completed.

Learning points:

PS has no doubt contributed to a significant reduction in cervical cancer incidence worldwide. HPV vaccination in combination with PS will provide greater protection against this cancer. With widespread use of vaccination to prevent HPV-16 and -18 infections and therefore reducing the prevalence of precancerous lesions, the positive predictive value of abnormal PS is going to be lower. A new strategy for post-vaccination era cervical cancer screening is needed.

Management of syphilis in pregnancy

Speaker: Dr. King-man Ho

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

Treponema pallidum subspecies *pallidum* (*T. pallidum*) causes syphilis with a spectrum of clinical manifestations that change with the duration of the infection. Congenital syphilis is one of the most important preventable causes of infant mortality and morbidity in developing countries. Early stages of syphilis in the mother cause higher morbidity in the affected foetus. Left untreated, primary or secondary syphilis in pregnancy will affect virtually all foetuses. About half of those affected foetuses will result in prematurity or perinatal death. On the other hand, late stages of syphilis in pregnant women pose less risk to the foetuses. Those babies born to mothers with late latent syphilis have 10% risk of developing congenital syphilis. Initiation of early treatment before the 16th week of gestation will significantly reduce the risk of foetal damage.

In Hong Kong, all pregnant females who present to the public sectors for antenatal care are offered screening of syphilis by enzyme immunoassay (EIA) by the Public Health Laboratory Service Branch of the Centre for Health Protection since 2004. Syphilis occurring in pregnancy should be treated with a penicillin based regimen appropriate to the stage of infection. The United States Centers for Disease Control (CDC) recommends treatment to babies born to these women according to various clinical scenarios.

Learning points:

Congenital syphilis is one of the most important preventable causes of infant mortality and morbidity in developing countries. The morbidity depends on the stage of maternal disease. Early detection and treatment is mandatory for prevention of foetal damage.