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Skin Cancers in Hong Kong

Speaker: Dr. S. Y. Cheng

Common skin cancers include non-melanoma skin cancer, such as basal cell carcinoma (BCC) and squamous cell carcinoma (SCC), and malignant melanoma (MM). Although the incidence of skin cancers is much lower in Chinese compared with Caucasian population, there is observable increasing number of newly diagnosed skin cancer in Social Hygiene Service.

Aetiology

The aetiology of skin cancers can be divided into host and environmental factors. Skin type, age, immunity and genetic factors are the major determinants of host factor, whereas exposure to ultraviolet light, carcinogenic compounds, chronic inflammatory and human papilloma virus (HPV) infection and radiation injury are the important environmental factors.

Ultraviolet light

Ultraviolet (UV) radiation is usually classified according to its wavelength. UVA (320-400 nm) causes indirect DNA and lipid damage via an oxidative stress-mediated mechanism. UVB (290-320 nm) directly damages DNA and forms dipyrimidine dimers in which incorrect repair leads to mutation. The degree of UV damage depends on patient's skin type, age of exposure, chronic cumulative exposure and intense intermittent exposure. It is thought that chronic cumulative UV exposure is related to non-melanoma skin cancers and childhood intense intermittent UV exposure is related to melanoma.

Genetic

Apart from skin type that depends on genetic factors, oncogene and tumuor suppressor gene are genetically related to the occurrence of skin cancer. Oncogene, such as 'ras' gene, is responsible to transform a normal cell to malignant cell. Tumour suppressor gene is responsible to negatively regulate the growth or promote cell death. It is the presence of oncogene and deleted or mutated tumour suppressor gene that may cause skin cancer.

The role of primary care physicians

Early and accurate detection and hence early treatment of skin cancers can significantly reduce mortality and morbidity, in particular melanoma as the 5-year survival rate depends on the depth of tumour invasion. Therefore, apart from primary health education, the role of primary care physicians is very important in detecting early skin cancers. Primary prevention can be achieved by promoting the use of sunscreen and avoiding excessive sun exposure. Early detection means higher chance of complete cure.

Apart from familiar with clinical appearance of common skin cancers, organized and consistent approach through history taking and careful examination are also important in early detection of skin cancers.

History taking

It is important to note the duration, development, changes, rate of growth, symptoms and prior history of therapy of the skin tumour. Apart from the tumour itself, personal and family history of skin cancer, relevant dermatologic and medical conditions, exposure history of carcinogens and excessive sunlight such as occupation and hobbies are also important.

Physical examination

In examination, a total cutaneous examination under good lighting, preferably natural light, to show the colour tones, vasculature and translucency is a

"must". It is a good practice to palpate the lesion to assess the texture and extent of invasion to the underlying structures. In case of hyperkeratotic and crusted lesion, it is better to moisten the hyperkeratotic surface or remove the crusted surface to allow direct visualization of the underlying skin tumour for any subtle changes or extension.

Premalignant skin lesions

Actinic keratosis, actinic cheilitis, Bowen's disease and arsenic keratosis are the common premalignant skin conditions that should be familiar in examination.

Actinic keratosis

Actinic keratosis is a premalignant disorder, well known precursor of SCC, of epidermis on solar-damaged skin such as face, ear, dorsum of hand in elderly patient. It is characterized by well-defined minute pink or red papule with adherent yellow scales. Usually, other signs of solar damage may be found.

Actinic cheilitis

Actinic cheilitis is a premalignant cutaneous disorder affecting the lower lips in fair-skinned individual who works out-door. Dryness and scaling of the lower lip is the initial presentation before leukoplakia, it may complicate with SCC with papule or nodule formation.

Bowen's disease

Bowen's disease is an intraepidermal carcinoma of the skin that may occasionally proceed to SCC. It is a solitary slow growing well-defined erythematous scaling plaque over the dorsum of hand, lower limbs and face. Multiple lesions may occur in chronic arsenicism.

Arsenicism

Arsenic has been used as a tonic in the management of asthma, psoriasis and syphilis in the past. It is also found in the well water in Taiwan and in Chinese herbs. Chronic ingestion results in premalignant cutaneous lesion, skin cancers and internal malignancies such as carcinoma of lung, liver, bladder and kidney. The common cutaneous finding are arsenic keratosis, pigmentary changes, Mee's line, alopecia, acrodermatosis and thromboangiitis. Arsenic keratosis is characterized by multiple hard punctuate corn-like papules over the friction area such as palm and sole.

Malignant skin tumours

Malignant skin tumours can derive from various structures from the skin; commonest skin cancers are BCC, SCC and MM, other uncommon malignant skin tumours include mycosis fungoides, angiosarcoma, Kaposi's sarcoma and dermatofibrosarcoma protuberans.

Malignant melanoma

MM is an invasive neoplastic disorder of melanocytes that has the tendency to invade vertically and horizontally. Broadly, there are four types of MM according to its clinical features and growth phase. In Caucasian, superficial spreading type is the commonest followed by nodular type, lentigo maligna and acral lentiginous melanoma. The number of acquired melanocytic naevi, dysplastic naevi, congenital naevi, personal or family history of MM and immuno-suppression are the risk factors of MM. ABCDE rule is applied in assessing pigmented lesion (Table 1), whereas ABCDEF rule will be used in assessing subungual melanoma (Table 2). In general, five year survival depends on Breslow thickness. The depth of invasion

Table 1. Malignant melanoma – ABCDE rule

A	**A**symmetry
B	Irregular **b**oarder
C	**C**olour variation
D	**D**iameter greater than 6 mm
E	**E**levation irregularity

Table 2. Subungual melanoma – ABCDEF rule

A	**A**sian, age
B	**B**rown to black pigmented band of width greater than 3 mm and variegated borders
C	**C**hange in morphology
D	**D**igit most commonly involved
E	**E**xtension of pigment onto the proximal and/or lateral nailfold (Hutchison's sign)
F	**F**amily or personal history of dysplastic naevus or melanoma

is measured from granular cell layer to the deepest tumour cells in the dermis.

Basal cell carcinoma

BCC is a locally invasive but rarely metastasizing cutaneous malignant skin tumour derived from basal cell of lower epidermis. It usually presents as a slow growing papule, which bleeds and scabs but never heals over the head and neck region in an elderly. It is divided into four types, namely nodular, pigmented, superficial and morphoeic BCC. In all types, if left untreated, it will cause substantial morbidity by local invasion, in particular if the lesion is near the region of ear, eye, nose and genital area.

Squamous cell carcinoma

SCC is a malignant cutaneous skin tumour arising from keratinocytes, which may eventually metastasize. It usually presents with a solitary warty nodule or plaque that gradually enlarges to form exophytic ulcer. It is commonly found in the area of severe photodamage, radiation injury, chronic heat injury and chronic inflammatory skin disease such as discoid lupus erythematous and hypertrophic lichen planus. Metastasis to regional lymph node, bone, lung and brain is more common in large and deeply invaded and histologically high grade SCC.

Local epidemiology

The speaker conducted a local retrospective 10-year survey on non-melanoma skin cancer (NMSC) in Social Hygiene Service of Hong Kong. A total of 482 NMSC, of which 379 BCC and 103 SCC, were identified. The mean age at the diagnosis of BCC and SCC was 68.9 and 74.4 years old respectively. There was an observable increasing trend in the number of histological proven NMSC in Chinese patient attending Social Hygiene Service from 1990 to 1999. A few unique features of NMSC had been observed in local Chinese population compared with Caucasian. The incidence of pre-malignant skin lesion and the recurrence were less common in local Chinese patient. Pigmented BCC which accounted for 60% of total BCC in the survey was more prevalent in local Chinese population compared with Caucasian who had more nodular BCC.

Learning points:

Skin cancers can be prevented by protective behaviours such as sun avoidance, protective clothing and regular use of sunscreen. The morbidity and mortality of skin cancers can be alleviated by early detection with high index of suspicious. In case of doubt, histological examination is warranted, in particular around the eyes. Lastly, but not the least, pigmented BCC should be included as a differential diagnosis of pigmented skin lesion in Chinese.

Common Dermatoses Among HIV Patients in Hong Kong

Speaker: Dr. T. Y. Ho

HIV-infected patient is more susceptible to mucocutaneous problems because of the altered immune responses, immunocompromised state and secondary to drug therapy. Knowledge on various dermatoses among HIV-infected patient not only helps the diagnosis and management of skin disorders but also alerts the attending physician to look for a possible case of undiagnosed HIV infection. As the prevalence of various dermatoses can be affected by factors such as ethnicity, weather, social behaviour, economy, indigenous organisms and the availability of highly active antiretroviral therapy (HAART), knowledge on the local data is particularly important.

Commonest dermatoses among HIV patients in Hong Kong

The speaker conducted a cross-sectional survey among HIV patients in the year 2000 at the Kowloon Bay Integrated Treatment Centre. All recruited subjects, 186 HIV-infected patient, was assessed by a single dermatologist during the study period. Mucosal surface and genital area was not included for practicability. One hundred and seventy five patients (94%) had suffered from one or more cutaneous disorders, with a total of 538 skin disorders identified after HIV infection was diagnosed. The ten commonest dermatoses in descending order were tinea pedis, eczema,

onychomycosis, seborrhoeic dermatitis, drug reaction, herpes zoster, pruritic papular eruption, cheilitis, melanonychia and common wart. In physical examination at the time of screening, 160 (86%) subjects had one or more cutaneous disorder, with a total of 370 skin disorders identified. The top five disorders were tinea pedis, onychomycosis, eczema, seborrhoeic dermatitis, lipodystrophy and folliculitis.

Fungal infection

About half of the subjects suffered from cutaneous fungal infection at the time of screening, foot was involved in the majority of cases.

Tinea pedis

As in the general population, Trichophyton rubrum followed by Trichophyton mentagrophytes was the commonest causative organism of tinea pedis in the study. The clinical patterns of tinea pedis such as interdigital, moccasin, vesicular and acute ulcerative type are not differ from general population. The diagnosis mainly relies on clinical features, skin scrapping for fungal microscopy and culture.

Tinea unguium

There are four types of fungal nail infection, namely distal and lateral subungual onychomycosis (DLSO), proximal subungual onychomycosis (PSO), superficial white onychomycosis (SWO) and total dystrophic onychomycosis (TDO). In contrary to the previous observations, DLSO was the commonest form that account for 90% of total fungal nail infection in the study. In this survey, PSO was not the predominant type of fungal nail infection in AIDS patients. This can be explained by the availability of highly active antiretroviral therapy (HAART), so that less and less HIV-infected patient are severely immunocompromised if they comply with treatment. Once again, Trichophyton rubrum was the fungus most commonly isolated. Tinea cruris, tinea corporis and tinea versicolor were other types of dermatophyte infection that were identified during the study.

Lipodystrophy

Lipodystrophy, a newly recognized side effect from HAART. It is characterized by atrophy of subcutaneous fat over cheek and limbs; hypertrophy of fat in viscera, dorsocervical area and breast, particularly in women. It is also associated with metabolic disturbances such as hyperlipidaemia and insulin resistance. The underlying pathogenesis is unknown.

Cutaneous drug eruption

Two reasons account for high incidence of drug eruption among HIV-infected patient, namely the large number of medication use and altered immune response. Forty-one (22%) of the study subjects had experienced one or more drug eruptions. The most frequently incriminated drugs were septrin, antiretroviral drugs (ART), penicillin, erythromycin, cephalosporin and anti-tuberculosis drugs. The management of allergic drug reactions to ART is somewhat different from non-HIV subject, as the number of alternative ART is limited and there is a concern of drug resistance. In mild to moderate cases of drug reactions to ART, the offending drug, in particular efavirenz and nevirapine, is often continued under close observation together with symptomatic relief. Many a times, this will be followed by resolution of the drug rash.

Itchy "Red-bumps"

Itchy erythematous papules or pustules over the trunk or face in an HIV-infected patient can pose a diagnostic problem, as it is often difficult to differentiate between common folliculitis such as bacterial folliculitis and pityrosporum folliculitis to HIV-associated dermatoses such as HIV-associated eosinophilic folliculitis and pruritic papular eruption of HIV. Sometimes, clinical features with the help of skin biopsies are needed.

HIV-associated eosinophilic folliculitis

HIV-associated eosinophilic folliculitis is characterized histologically by eosinophilic inflammation around the hair follicles. Peripheral eosinophilia, raised serum immunoglobulin E level and low CD4 cells are associated findings.

Pruritic papular eruption of HIV

It is still unclear whether pruritic papular eruption of HIV is a distinct disease entity or not, as there is no pathognomonic histology and the clinical features are heterogeneous which may present with maculopapular, papular or urticarial eruption.

Herpes zoster

There is a seven to ten-fold increase of herpes zoster in HIV-infected individuals. In the study, 58 (31%) had suffered from herpes zoster either after HIV infection was diagnosed or within five years prior to a positive HIV test. Multiple episodes in a single subject were not uncommon, but dissemination was not observed. Although it is too early to adopt routine HIV screening in patient with herpes zoster, it is advisable to offer HIV screening to any sexually active patient suffered from recurrent herpes zoster.

Learning points:

Despite the facts that Kaposi's sarcoma, proximal subungual onychomycosis and HIV-associated eosinophilic folliculitis are highly associated with HIV infection, the commonest dermatoses among HIV-infected patient in Hong Kong were dermatophytoses. The clinical pattern and causative organism of dermatophytoses do not differ from general population. Trichophyton rubrum is still the commonest aetiological agent.

Differential Diagnoses of Acneiform Eruptions

Speaker: Dr. K. H. Mak

One of the commonest complaints in dermatology is "pimple". There are quite a number of differential diagnoses for acneiform eruptions other than acne vulgaris. Acneiform eruptions refer to the presence of one or more of the classical features of acne vulgaris, namely comedones, papules, pustules and nodular cysts. Acne-like disorders can be due to a wide variety of diseases such as infections and drug reactions. Therefore, history and physical examination are important to help narrowing down the list of differential diagnoses. Occasionally, one needs to perform a skin biopsy in order to get a firm diagnosis.

Acne vulgaris is one of the commonest entities seen in dermatology. It usually affects adolescents and young adults. However, it is not rare to appear first at late twenties in some patients. Hormonal factors, *Propionibacterium acnes*, follicular hyperkeratinization and sebum secretion are all contributing factors in the pathogenesis. Other factors include genetic factor, exposure to substances such as oil, crude tar, chlorinated hydrocarbons (chloracne), comedongenic cosmetics (acne cosmetica) and physical factors such as repetitive occlusion, friction and pressure (acne mechanica). The classic features of acne include papulopustules, comedones (open and closed), scarring, and infrequently nodules and cysts in case of severe disease (acne conglobata). The main concern in acne is the possibility of scarring and it can be disfiguring in cases of acne conglobata and acne fulminans. Treatment can be topical or systemic, consisting of anti-inflammatory or comedolytic agents such as antibiotics and retinoids.

Similar to acne vulgaris, rosacea presents with papulopustules on the face. In addition, patients usually have facial flushing and telangiectasia. It is more common in women in third and fourth decades. Men, however, are affected more commonly with sebaceous and connective tissue hyperplasia of the nose (rhinophyma). Associated eye findings may be present. The disease is likely related to vasomotor instability and therefore, temperature change, sunlight, hot or spicy foods, alcohol or hot beverages can exacerbate the condition. Biopsy is usually not required for making the diagnosis. Treatments primarily include sunscreens, topical antibiotics such as metronidazole and oral tetracyclines.

Iatrogenic acneiform drug eruptions can happen in patients taking steroid, androgens, oral contraceptives, isoniazid, lithium, phenytoin, bromides or iodides. The eruption is seen as monomorphic papulopustules located predominantly on the trunk and extremities. It can also happen anywhere of the skin after prolonged application of topical steroid. The eruption usually resolves after discontinuation of the drug. Chronic use of potent topical steroids on the face can also give rise to a condition similar to rosacea.

Perioral dermatitis is seen mainly in young females. It presents as micropapulopustules and micropapulovesicles on erythematous base. The lesions predominantly locate around the mouth, characteristically sparing the vermilion border of the lip. It may also affect the perinasal and periorbital areas (periorificial dermatitis). Biopsy is rarely necessary. The

aetiology is unknown and the suggested causative agents include topical or inhaled corticosteroids, moisturizers, fluorinated compounds and contact irritants or allergens. Therapies include cessation of halogenated topical steroids, and initiation of topical antibiotic such as metronidazole or oral tetracyclines.

Infectious folliculitis is an infection of the upper portion of the hair follicle, characterized by a follicular papule, pustule, erosion or crust. The commonest causative agent is Staphylococcus aureus. It commonly infects the beard area (sycosis barbae), trunk and buttock. Gram-negative folliculitis can complicate patients with acne vulgaris on prolonged antibiotics and present as sudden deterioration of the acne. Fungal infection can also give rise to folliculitis such as tinea barbae and candidial folliculitis. The latter is not uncommonly seen on the back of hospitalized patients who are feverish and bedbound. Pityrosporum folliculitis is caused by a host reaction to the yeast *Pityrosporum ovale*, a normal human skin commensal. It appears as pruritic follicular papulopustules primarily on the trunk and upper extremities. Hot-tub folliculitis is caused by *Pseudomonas aeruginosa*. It happens in healthy individuals after aqueous exposure in hot tubs or physiotherapy pools. It presents as multiple follicular pustules on the trunk and is self-limiting.

Eosinophilic pustular folliculitis is another disease of unknown etiology that usually presents as recurrent pruritic follicular papules and pustules on the face, neck, trunk, and proximal extremities. Diagnosis can be confirmed by skin biopsy. The disease has been described in immunocompromised patients with HIV and in healthy individuals (known as Ofuji disease). Patients may also demonstrate blood eosinophilia and leukocytosis. Treatment options include topical steroid, systemic corticosteroids, antihistamine, antifungal, isotretinoin and phototherapy.

Pseudofolliculitis barbae is more commonly found in black population. Because of the tight curls in beard, hair often grows back into the skin, causing an inflammatory response, a pseudofolliculitis. Staphylococcus aureus secondary infection is common.

The other rare conditions that can be mistaken as acne are lupus miliaris disseminatus faciei (granulomatous rosacea), naevus comedonicus, Favre-Racouchot syndrome, adenoma sebaceum in tuberous sclerosis, syringoma and multiple trichoepithelioma.

Learning points:
Acneiform eruptions include not only acne vulgaris but also rosacea, perioral dermatitis and various forms of folliculitis.

Papulosquamous Dermatoses

Speaker: Dr. Y. P. Fung

Papulosquamous dermatoses is a heterogeneous group of disorders whose aetiology is primarily unknown. The name of these disorders is based on a descriptive morphology of clinical lesions characterized by scaly papules and plaques. They include many common skin disorders and a few less common ones. The major entities include psoriasis, eczema, dermatophytosis, seborrhoeic dermatitis, pityriasis rosea, scabies, lichen planus and pityriasis rubra pilaris. Adverse reactions to many drugs may also produce papulosquamous eruptions. In clinical practice, diseases are however by no means obliged to respect classifying criteria, and papulosquamous diseases can present in non-papular and non-scaling forms. This is often seen in dermatoses partially treated with over-the-counter topical agents. For the same reason, tinea corporis very often presents as tinea incognito. Furthermore, secondary syphilis, guttate psoriasis and drug eruption should be carefully excluded before a diagnosis of pityriasis rosea is made. Moreover, it must be remembered that papulosquamous diseases, which are mainly inflammatory skin diseases, can be simulated by non-inflammatory skin entities. Thus, the potentially life-threatening Langerhans' cell histiocytosis may mimic diaper dermatitis while scabies infestation may mimic severe atopic eczema. It is therefore important to consider all possible dermatoses in the differential diagnosis of a papulosquamous eruption. One of the pitfalls in diagnosis of any cases of papulosquamous diseases is secondary syphilis. Borderline leprosy is as much of an imposter and its relative rarity facilitates misdiagnosis.

It must be realized that diagnosis should not only be right but also complete. Every clinical condition can be regarded as an entity in some cases, while in others as a syndromic constellation representing a sign of another underlying condition. Guided by a high index of suspicion, severe tinea corporis may suggest underlying undiagnosed diabetes mellitus, while severe seborrhoeic dermatitis may be the first presentation of HIV infection. Sporadic associations, such as co-localization of psoriasis and vitiligo, do not seem to affect treatment options but may suggest a common pathogenetic pathway, which could be targeted for in clinical research.

Given the above issues, successful diagnosis of papulosquamous and other skin diseases relies on sound knowledge and a systemic approach. There is no replacement for focused systemic history and good physical examination. An initial inspection may help to identify the type of disease process and is often helpful to direct the thought process during history taking. Important factors to consider include symptoms, time-scale, evolution, body site distribution, close up morphology and changes at specific sites such as nails and mucosae. Appropriate investigations including skin biopsy and screening tests are of value in diagnosis and identification of associated disorders.

Specialist referral should be considered when the diagnosis is uncertain, when there is a failure to respond despite adequate treatment or when specialist investigations and treatment are indicated.

Learning points:

Secondary syphilis, leprosy and Langerhans' cell histiocytosis are a few rare but important differential diagnoses to be considered in the group of papulosquamous dermatoses.

Web sites of Dermatology & Venereology in Hong Kong

The homepage of the Hong Kong Society of Dermatology & Venereology
http://www.medicine.org.hk/hksdv/

Hong Kong Dermatology & Venereology Bulletin
(Official Publication of the Hong Kong Society of Dermatology & Venereology)
http://www.medicine.org.hk/hksdv/bulletin.htm

Handbook of Dermatology & Venereology
(Published by Social Hygiene Service, Department of Health)
http://www.hkmj.org.hk/skin/

CME Online (Dermatology)
(CME Programme accredited by the Hong Kong College of Family Physicians)
http://www.medicine.org.hk/cme/

The Homepage of the Asian Dermatological Association
http://www.medicine.org.hk/ada/