香港防癌會
THE HONG KONG ANTI-CANCER SOCIETY

Topic: **Skin cancers - surgical treatment**

Speaker: **Dr. Lam Lai Kun,** Specialist in Plastic Surgery

Date: 29 May 2010

Skin and subcutaneous lesions

- **Skin problems common**
- **15% of surgical OPD referrals**
- **Patients' worries**
  - **unknown nature**
  - **malignancy**
  - **appearance**

Skin lesions

- **Diagnosis sometimes obvious**
- **History and physical exam follow**
- **Regional exam and systemic review as indicated**
- **The lesion may represent an occult systemic problem**

Symptoms

- **Onset**
- **Progression**
- **Pain**
- **Discharge/bleeding**

Signs

- **Site,size,shape,colour**
- **Consistency,surface,border**
- **Tenderness,temperature**
- **Pulsatility,emptying**
- **Skin or deep fixation**
- **Transillumination**

Skin structure

- **Epidermis**

3-5 cells thick

impermeable stratum corneum

- **Dermis**

0.8 - 2.5 mm thick

fibrous and tough

- **Hypodermis**

Indistinct loose fibrofatty layer

Contains adenxal structures

- **Subcutaneous fat**

<u>Epidermis</u>

- **3 to 5 layers of cells**
- **The stratum corneum lies on top**
- **The basal layer has regenerative function**
- **Cells : keratinocytes, Langerhans cells, melanocytes and Merkel cells**

<u>Dermis</u>

- **Much thicker**
- **Papillary dermis and reticular dermis**
- **Fibrous elements : collagen and elastic fibres**
- **Amorphous background: mucopolysaccharides**
- **Cells: fibroblasts**
- **Others: blood vessels, nerves, muscle cells (hair), fat cells**

<u>Skin cancers</u>

- **Epidermis**
- **Appendages**
- **Sarcomas**
- **Lymphomas/leukaemias**
- **Metastatic tumours**

<u>Common skin cancers</u>

- **Basal cell carcinoma**
- **Squamous cell carcinoma**
- **Melanoma**
- **Metastatic tumour**

Uncommon skin cancers

- **Merkel cell carcinoma**
- **Skin appendageal carcinoma**
- **Lymphoma**
- **Sarcomas**

- **DFSP**
- **MFH**
- **angiosarcoma**
- **leiomyosarcoma**
- **malignant nerve sheath tumour**

ETIOLOGY

Genetic

Environmental

Histological typing

- **Melanocytic**
- **epidermal**
- **adnaexal**
  - **eccrine**
  - **apocrine**
  - **sebaceous**
  - **hair follicle**
- **Paget's disease**
- **cutaneous lymphoproliferative**
- **vascular**
- **cutaneous fibrohistiocystic**
- **nerve tissue**
- **muscle**

GENETIC

Dysplastic naevus syndrome

Basal cell naevus syndrome

Xeroderma pigmentosa

Torre syndrome

Albinism

Epidermodysplasia verruciformis

ENVIRONMENTAL

Ultraviolet (290-320 nm)

X-ray

other EM waves

tar

arsenic

virus (human papillomavirus)

chronic unstable scar

immunosuppression/immunodeficiency

DIAGNOSIS

clinical features
biopsy (incisional vs excisional)
histological surprises
extensive tumours need workups

TREATMENT

1. **Electrodessication / laser / curettage /cryotherapy**
   for superficial small lesions
   no histological confirmation of free margins
   wound healing by second intention

2. **Excision with primary closure/skin grafts/flaps**
   histology for free margins wounds closed and
   primary healing

3. **Radiotherapy**
   effective for BCC and SCC
   adjunct treatment for some others
   multiple sessions
   long term RT complications

4. **Chemotherapy**
   poor response
   5 FU cream for actinic keratosis

5. **Immunotherapy**
   active and passive
   specific and non-specific
   experimental

6. **Retinoid/tretinoid**
   oral/local applications
   treatment of premalignant conditions

EPIDERMIS

- **Squamous cell carcinoma**
- **Basal cell carcinoma**
- **Malignant melanoma**
- **Merkel cell carcinoma**

Squamous cell carcinoma (SCC)

- **Mostly as a result of excessive sunlight (UV) exposure, may develop from an actinic keratosis**
- **Other causes : carcinogens (RT, arsenic or chromium compounds, soot, tar), chronic non-healing wounds, or unstable scars.**
- **Congenital diseases : xeroderma pigmentosa (XP) and albinism(ALB)**
- **Immunosuppression : diseases or therapy**
- **Irregular ulcer with everted edge or exophytic growth**
- **Evidence of sun-damage skin lesions**
- **Metastasize by lymphatic and haematogenous route**
- **Px: wide excision +/- reconstruction, radiotherapy**
  block dissection for LN metastases

Basal cell carcinoma (BCC)

- **Due to excessive sunlight (UV) exposure**
- **On the face/ scalp/ neck/ dorsum of hands/ forearms**
- **Also in patients : XP, ALB, naevoid basal cell carcinoma syndrome and sebaceous naevus**
- **multiple lesions are common**
- **Originate from basal epidermal cells (?pilosebaceous unit), slow growing**
- **Seldom spread to regional LN or by blood**
- **Clinical types: pigmented, nodular(-ulcerative), superficial, cystic, morphea (sclerosing)**
- **Typical ulcer with rolled edge, 'cystic lesion' with pearly white edge and telangiectasia**
- **Most lesions are well localized**
- **Px: excision with small margins (2-3 mm) or superficial radiotherapy are very effective. Other forms of destruction --cryotherapy, cauterization or electro-dessication should used with much caution**
- **Beware of lesions: post-op or RT recurrence, at medial canthus, peri-alar or preauricular region, the morphea type**

Melanoma

- **Malignant tumour of melanocytes (mesodermal), which is normally located in the basal layer of the epidermis**
- **Cutaneous ones induced by sunlight (UV)**
- **Other sites: mucous lining, choroid of the eye, meninges, and in soft tissues (amelanotic melanoma)**
- **Metastasize to LN and by blood**
- **Most are darkly pigmented lesions**
- **Recent onset or change in pigmentation of pre-existing lesion, irregular appearance**
- **Increase in size, bleeding, lost of hair**
- **Satellite or in-transit lesions**
- **Regional and distant LNs**

•Four clinical types:

–lentigo maligna melanoma (least aggressive)

–superficial spreading

–nodular (most aggressive)

–acral lentiginous melanoma

•<u>Breslow scale (thickness)</u>

(mm)	5 yr surv(%)
–<0.76	98
–0.76 - 1.50	90
–1.51 - 4.0	70
–>4.0	<50

•<u>Clark's level of invasion</u>

–level I above BM

–level II papillary dermis

–level III pap/ret dermis

–level IV reticular dermis

–level V subcutaneous fat

•*Breslow* scale of thickness) is considered more important indicator for prognosis than *Clark's* level of invasion

•1 mm is the cutoff point, lesions thinner than it have excellent prognosis

•Surgery is the only treatment method for potential cure

•Excision margin:

Thickness (mm)	Margin (cm)
–<1	1
–1.0 - 1.5	1.5
–1.5 - 4.0	3
–>4	3

•Block dissection for LNs if no systemic metastases

•?role of elective block dissection (1.5-4 mm)

•Hyperthermia and isolated limb perfusion for in-transit metastases in specialized centre

•Systemic chemotherapy not useful

•Immunotherapy experimental

<u>Management</u>

•Observation or reassurance

•Excision or destruction

•Excisional biopsy

•Incisional biopsy +/- definitive Px

- **Wide excision +/- reconstruction**
- **Radiotherapy**

Actinic keratosis

- **Sun-damaged skin, UV, in exposed parts**
- **Dry, scaly or crusty top and erythematous base**
- **Early lesions are flat, roughened or scaly papules which could just be palpable**
- **Hyperkeratosis and acanthosis, pre-malignant**
- **Px=excision if single; if multiple --- excision,currettage,cryosurgery, 5 FU creams**

Keratoacanthoma

- **Dome or nodular-shaped, flesh-coloured**
- **Central crater filled with a keratin plug**
- **Natural history of rapid growth for a few weeks, then static for a few months followed by involution**
- **Px=Excisional biospy,??observation?RT**
- **?aborted form of SCC ?viral origin**

Melanocytic naevi

- **Junctional**
- **Intradermal**
- **Compound**
- **Congenital (giant/hairy)**
- **Dysplastic**
- **Others (Blue, Spitz, halo etc.)**
- **Moles are very common and are benign**
- **Risk of malignant change is very small except in:**
  - **Dysplastic naevus esp with family/personal history**
  - **'Bathing trunk' (very big) congenital naevi**
  - **>50, >2mm size**
- **DDx:melanoma, BCC, seborrheic keratosis**
- ***When in doubt, do a biopsy***
- ***Location of the naevus cells***
- **Junctional: in child, flat, darkly pigmented**
- **Intradermal: in older adult, dome-shape, flesh-coloured**
- **Compound: in younger adult, raised, variable pigmentation**
- **Congenital: big, hairy, dark, raised, thick**

Dysplastic naevi

- **Uncommon in Asians, usu multiple, occ solitary**
- **Two major groups:**

–**Sporadic- Caucasians, fair skin, poorly tanned, excessive sunlight exposures with freckles etc.**
–**Familial-Dysplastic naevus syndrome, run in families, uncommon, ? Upto 400x lifetime risk of malignant change, ? Chromosome 1p or 9**
- **Irregular border and speckled pigmentations**

Dermatofibroma
- **Firm skin nodule, 0.5 to 3 cm**
- **History of trauma or insect bite**
- **Deep reddish-brown**
- **?histiocytic origin**
- **Fibrosis +vascularity+iron pigmentation**
- **DDx: dermatofibrosarcoma protuberans**

Dermatofibrosarcoma protuberans
- **Indurated plaque with irregular nodules**
- **Skin-coloured, border not well defined**
- **?Fibroblastic origin ? Malignant variant of DF**
- **Infiltrative histologically with cords/nests of cells invading into adjacent soft tissue**
- **Prone to local recurrence, seldom metastasize**
- **Need ≥ 3 cm excision margin**

Cutaneous horns
- **Descriptive term, any protuberant horny skin growth**
- **Usually conical projection of keratinized material**
- **Pathologically, may be actinic keratosis (with or without underlying SCC), seborrheic keratosis, SCC**

Pre-malignant skin conditions
- **Bowen's disease, Paget's disease**
- **Xeroderma pigmentosa, albinism**
- **Chronic unstable scar or destruction of skin**
  - **Chronic radiation dermatitis**
  - **Burn scar/ chronic osteomyelitis**
  - **Actinic keratosis**
  - **Arsenical dermatitis**
  - **Tar dermatitis**

Bowen's disease
- **Dysplastic cells confine to basal lamina**
- **Thickened, reddish-brown, scaly patch with irregular border**
- **In penis = erythroplasia of Queyrat with velvety-red plaque like appearance**
- **Px: excision**

APPENDAGES

- **Hair follicles**
- **Sweat glands**
- **Neuroreceptor cells**

SARCOMAS

- **Dermatofibrosarcoma protuberance**
- **Angiosarcoma**
- **Malignant fibrous histiocytoma**
- **Kaposi sarcoma**

METASTATIC TUMOURS

- **Lung, intestine, aerodigestive tract**
- **Breast, ovary, uterus**
- **Pancreas, kidney, bladder, prostate**
- **Heptocellular carcinoma**
- **Sarcoma, salivary gland, thyroid**
- **Melanoma**
- **Neuroblastoma**