Cutaneous Malignancy

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Plastic surgon

Epidemiology

- Most common human cancer
- 600,000 to 800,000 cases per year in U.S.
- Male:Female 2-3:1
- 80% arise in head and neck
- SCCa over 60 years old
- BCCa over 40 years old

Etiology

- Ultraviolet radiation
- ethnicity
- ionizing radiation exposure
- chemical exposure - arsenic
- burns, scarring
- immunosuppression

Syndromes

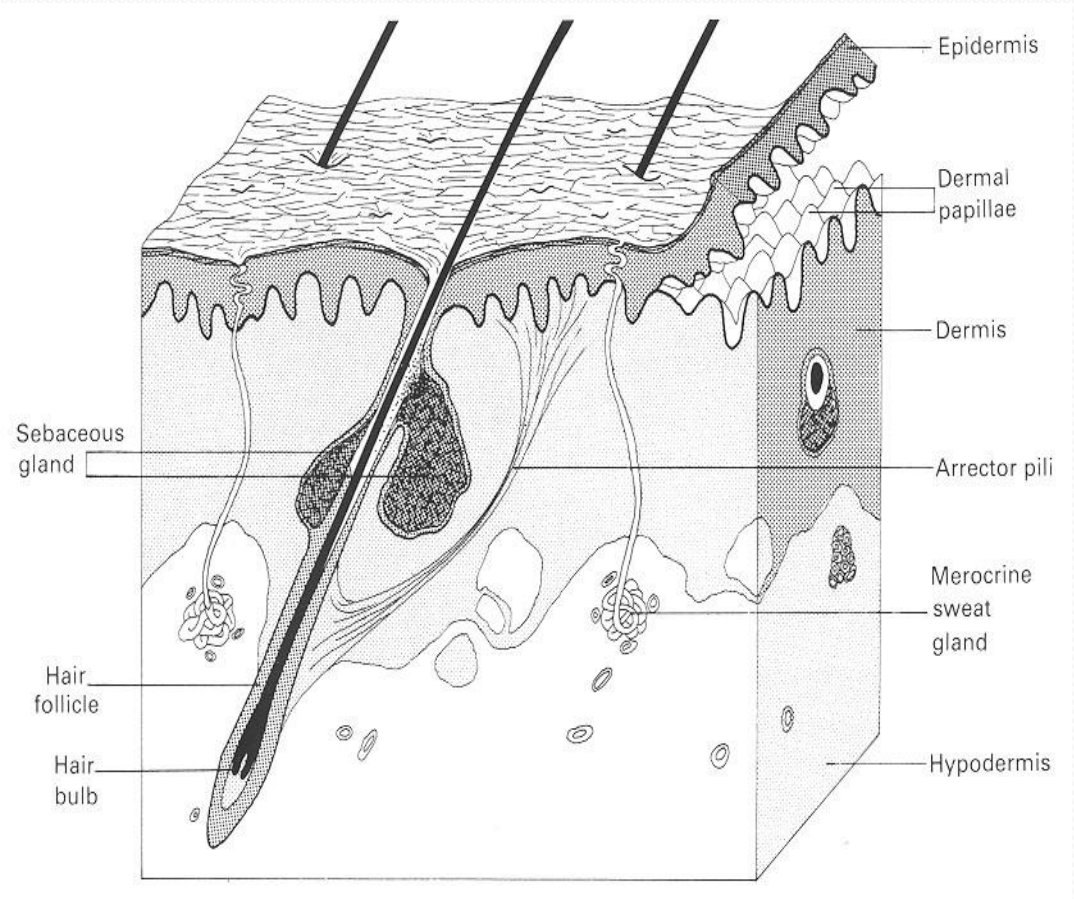
- Xeroderma pigmentosum
- nevoid basal cell syndrome
- albinism
- epidermodysplastic verrucoformis
- epidermolysis bullosa dystrophica
- dyskeratosis congenital

Skin

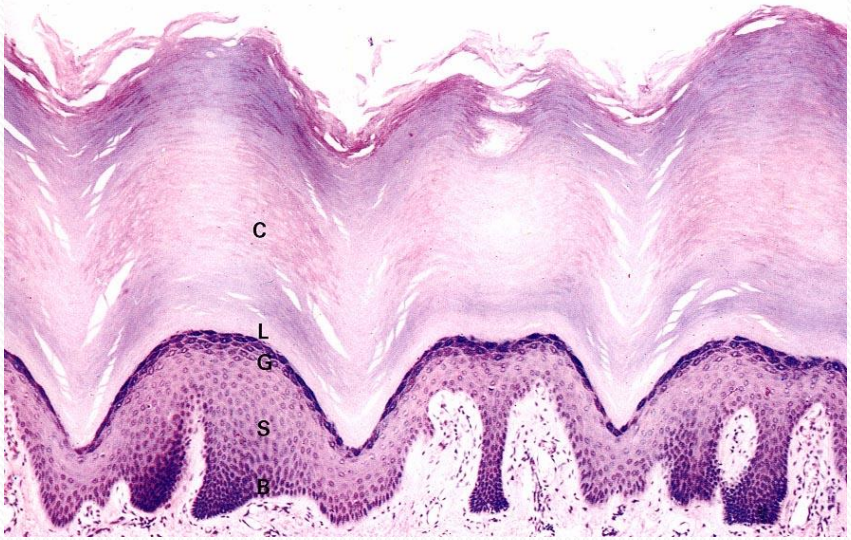
- Largest organ
- major functions
  - protection
  - sensation
  - thermoregulation
  - metabolic

Skin structure

- Epidermis
- dermis
- hypodermis
- epidermal appen



Skin Histology

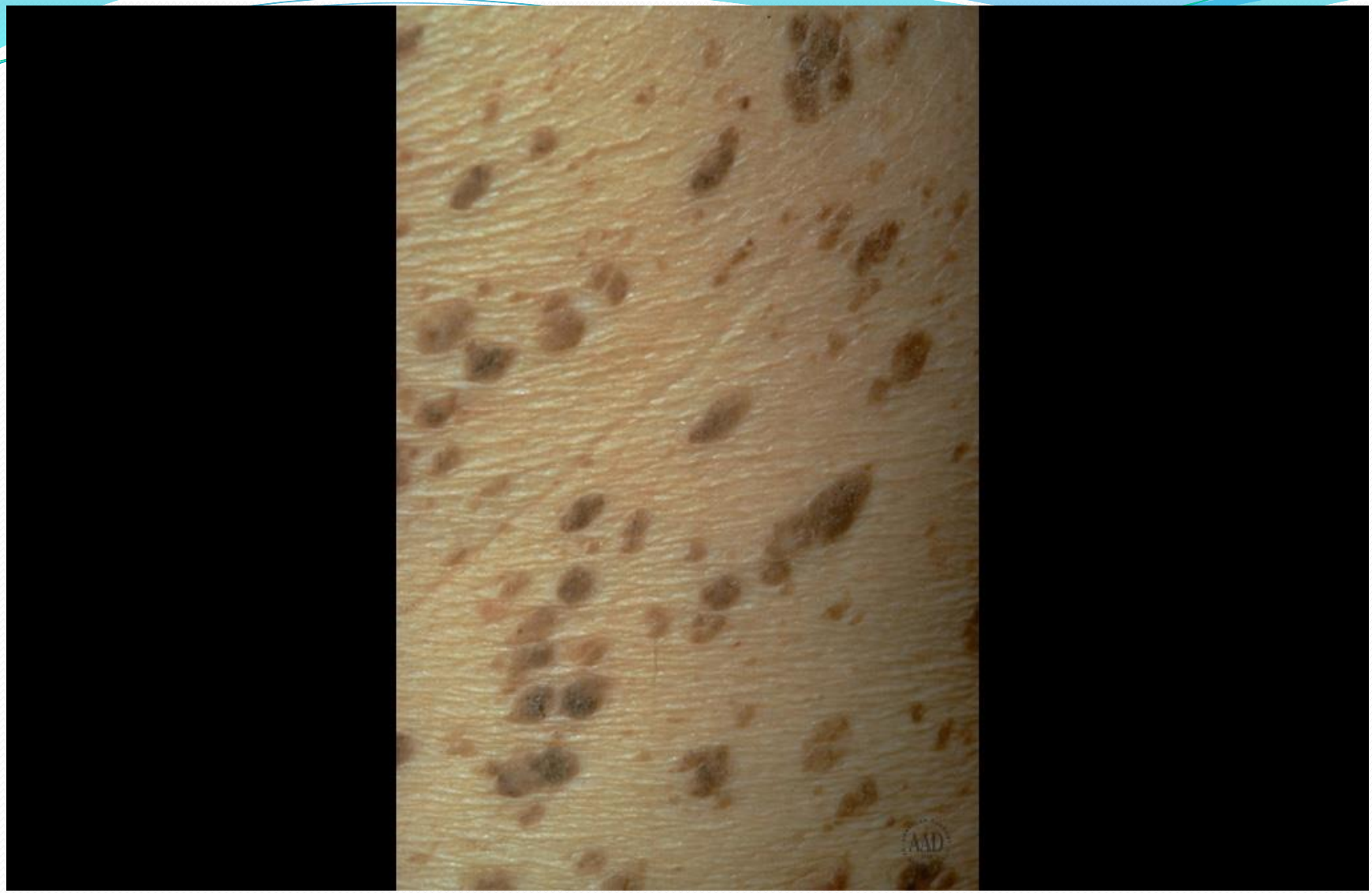


- Stratum corneum
- stratum lucidum
- stratum granulosum
- stratum spinosum
- stratum basale

Benign Tumors Derived from Superficial Epidermis

Seborrheic Keratosis

- More common in the elderly
- Often pigmented
- Variable size
- “Barnacle-like” appearance
- Usually asymptomatic


AAD

Epidermal Nevus

Nevus Comedonicus

Acrochordon (Skin tags)

- Occur in approximately 25% of males and females
- Occur in the axilla, neck and inguinal region
- Increase with age beginning the 20s up into the 50s
- Few to multiple


AAD

Benign Tumors Derived from the Epidermal Appendages

Epidermoid Cyst

Epidermoid Cyst

- Common, affecting young and middle age adults
- Usually seen on the head, neck and trunk
- Often can identifiy a punctum
- Cyst contains keratin
- Treatment:surgical excision

Sebaceous Hyperplasia

- Found on the face
- Singular to multiple in number
- Usually 2-3mm up to 6mm with umbilication
- Often begin to appear in the 30s and increase with age

Nevus Sebaceous of Jadassohn

Syringomas

- Sweat duct tumors
- More common in females
- May first appear in adolescence, but more often in the third decade
- Found around eyelids and are skin colored to yellow in appearance

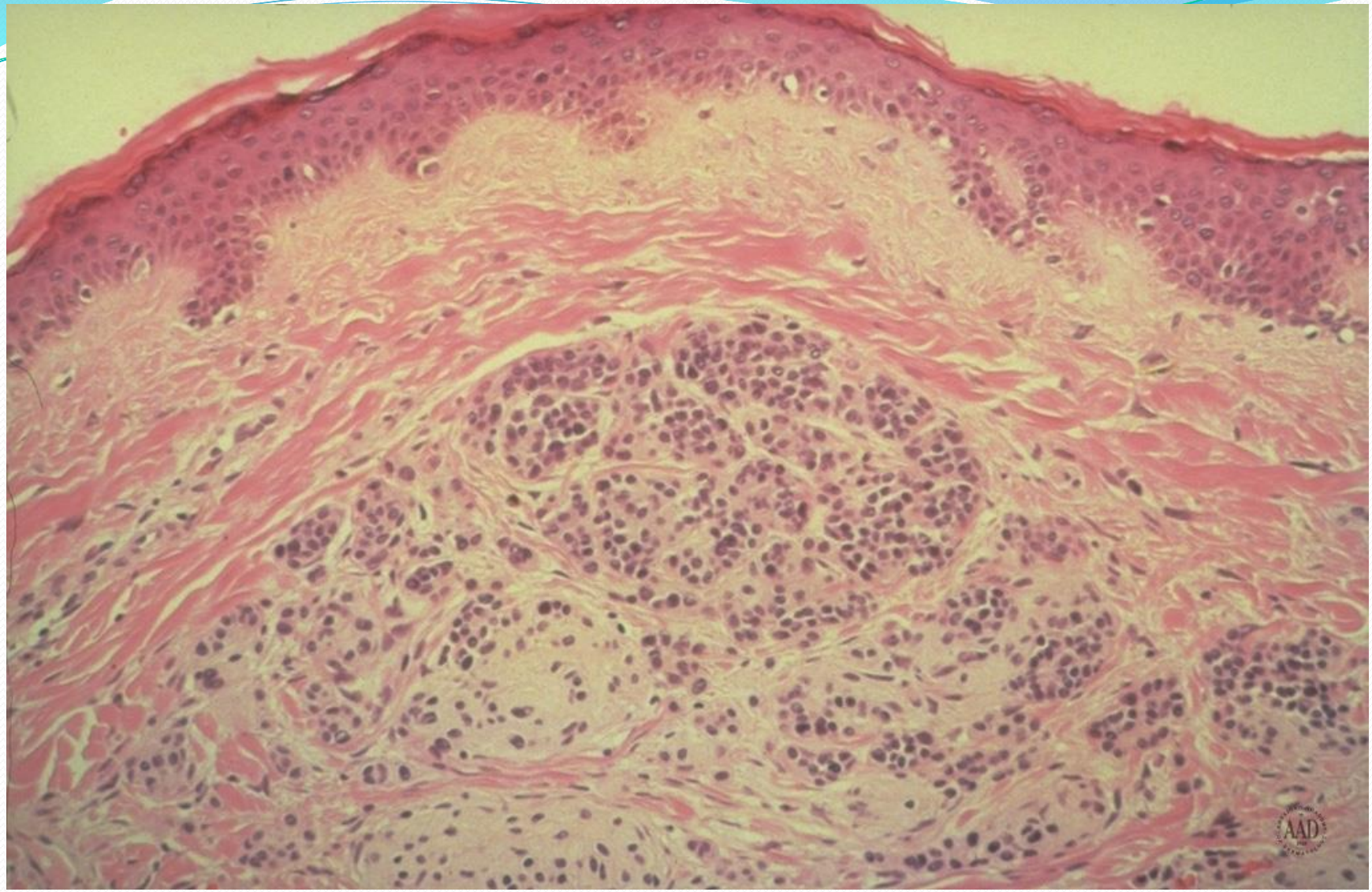
Eccrine Poroma

- Tumor arising from the eccrine duct epithelium
- Often on the soles and palms
- Tend to be moist, red and exophytic

Benign Melanocytic Tumors

Nevus

A benign cluster of melanocytic cells arising as a result of proliferation of melanocytes at the dermo-epidermal junction. These may all remain in contact with the basal layer (the junctional nevus) or may become dettached from the basal layer and lie free in the dermis (the compound and intradermal nevus).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Halo Nevus

Spitz Nevus

- A compound nevus seen most commonly in children and with lesser frequency in adults
- They appear suddenly and the color is caused by increased vascularity
- Its pathological features can be difficult to distinguish from malignant melanoma

Blue Nevus

- An area of blue-black dermal pigmentation produced by an aberrant collection of pigment producing melanocytes
- The brown pigment absorbs the longer wavelength of light and scatters blue light (Tyndall effect)
- Extend into the deep dermis, often occur on extremities and the dorsum of the hand

Benign Tumors Derived from Mesodermal Tissue

Dermatofibroma

- Can occur on any part of the body, most common on the lower extremities, to a lesser degree on the upper extremities and trunk
- May be single or multiple
- Usually pink or brown
- Commonly 6mm or less
- Hard consistency


AAD

Keloid

- An exaggerated reparative fibroblastic response to injury of the skin
- Genetic tendency
- Most commonly found on the ears, neck and trunk

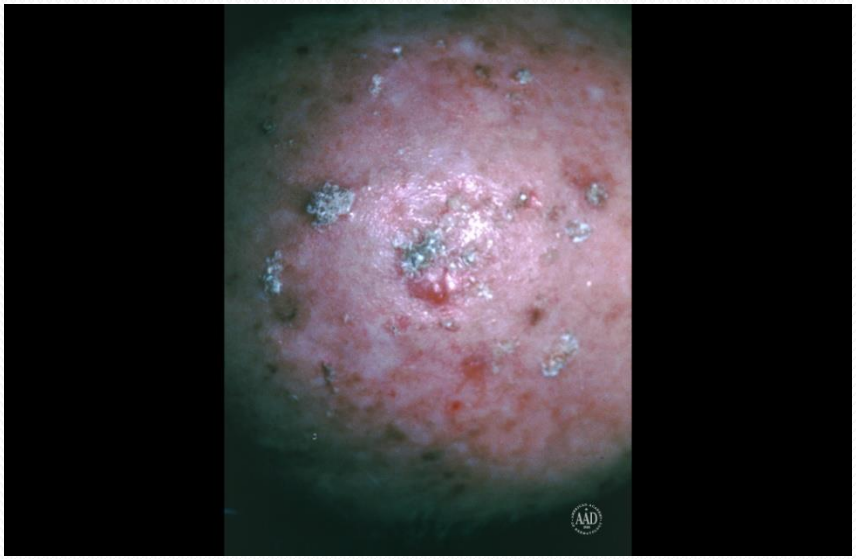
Pyogenic Granuloma

- A vasular nodule that develops rapidly, with a glistening moist surface
- Often may appear at a site of recent trauma
- Composed of proliferating capillaries in a loose stroma
- Bleeds easily

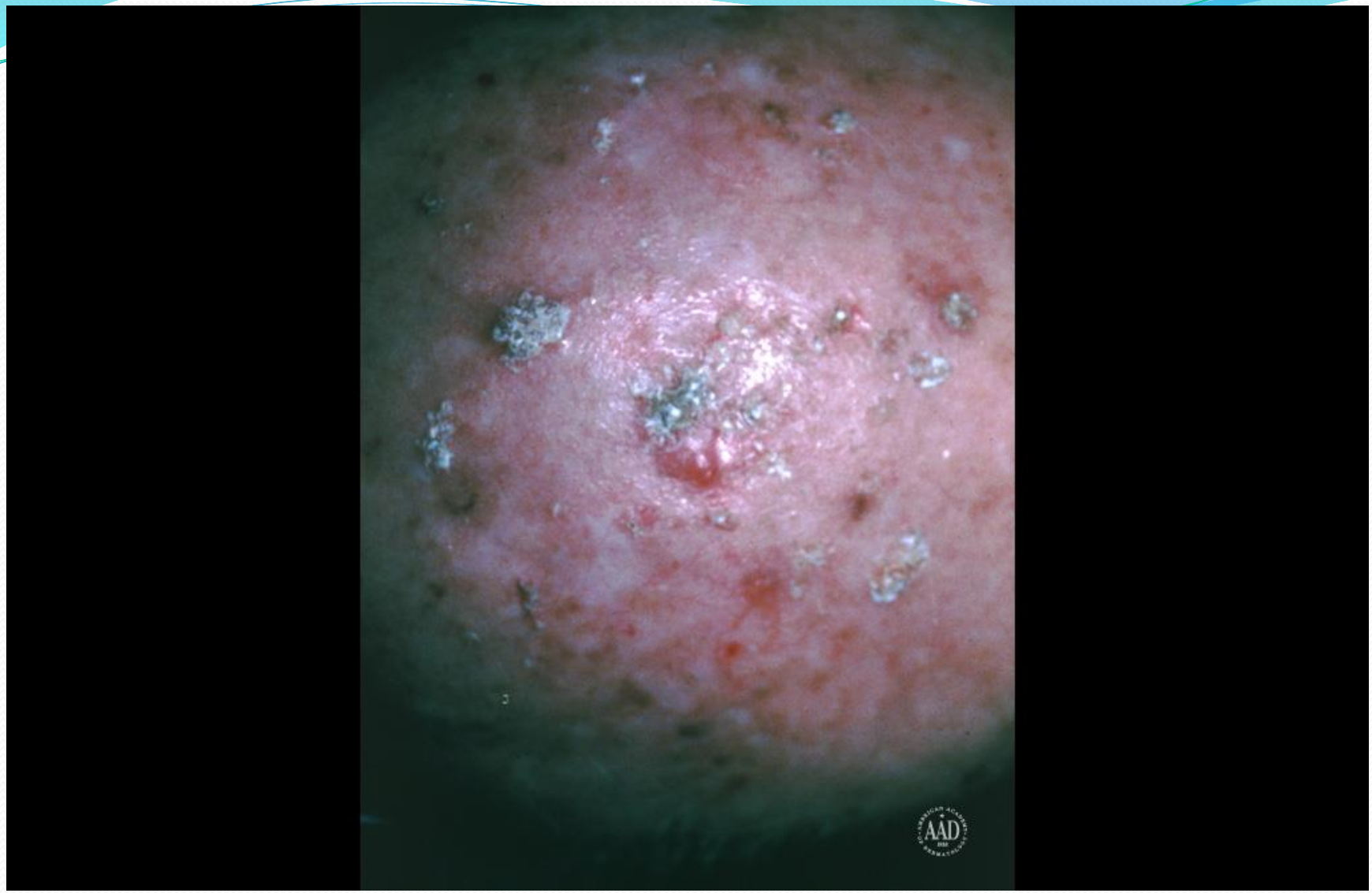
Lipoma

Premalignant Tumors

Actinic Keratosis



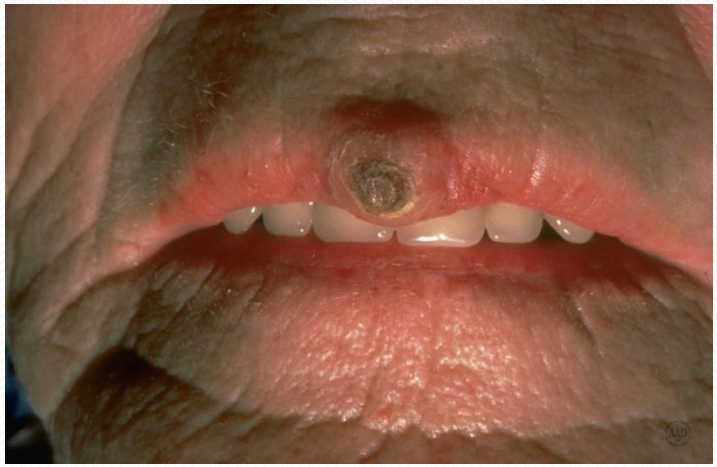
- Hyperkeratotic lesions occurring in sun exposed adult skin
- May exist in a premalignant state for years
- Often begin as an area of increased vascularity with the surface becoming rough
- May progress to squamous cell carcinoma

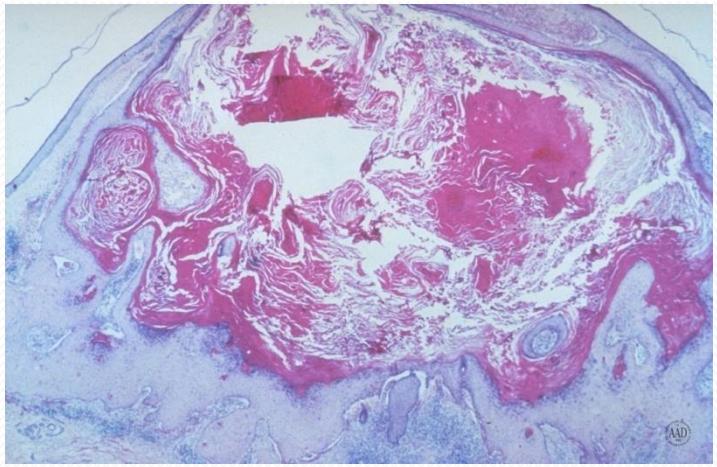


Squamous Cell Carcinoma in situ (Bowen's Disease)

- A persistent, progressive, nonelevated, red, scaly or crusted plaque
- An intraepidermal proliferation on exposed and nonexposed areas of the body
- Often mistaken for eczema or psoriasis

Keratoacanthoma





- Rapidly evolving tumor, often in the matter of weeks, possibly of viral origin
- Composed of keratinizing squamous cells
- More common in fair skinned, elderly people
- May resolve spontaneously over a period of 2 to 12 months

Epidermal Malignancies

Basal Cell Carcinoma

- Most common form of skin cancer
- Usually appears on sun damaged skin
- Pearly appearance with superficial telangiectasias
- Rarely metastasizes
- Derived from basal cell layer of the epidermis

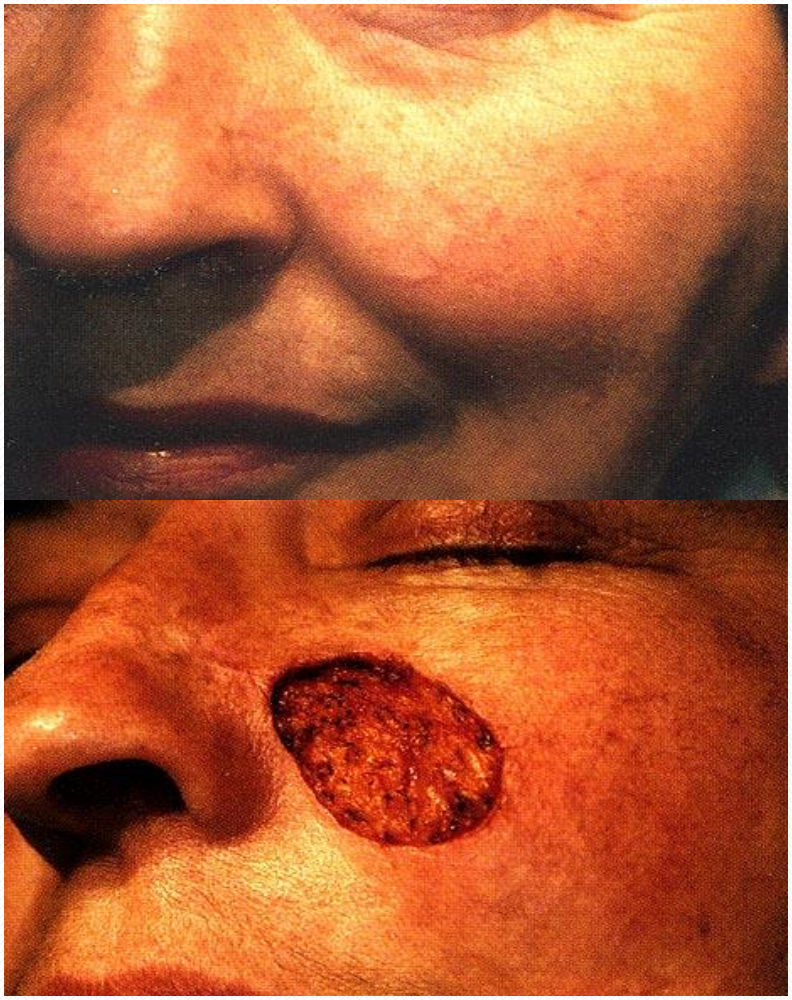
Pigmented Nodular Basal Cell Carcinoma

Sclerosing Basal Cell Carcinoma

Superficial Basal Cell

- Scaly patches
- irregular borders
- extremities, less common in head and neck

Morpheaform Basal Cell



- Indistinct margins
- flat macule
- scar-like
- aggressive behavior
- difficult to treat - Mohs' surgery

Basal Cell Biologic Behavior

- Dependent upon stroma
- locally invasive
- spread along resistant planes
- metastasis rare - 0.0028% to 0.1% (ALMOST NEVER METASTSIZE)

Basal Cell Biologic Behavior

- Embryonic fusion planes at risk for deep invasion
  - inner canthus
  - philtrum
  - chin
  - nasolabial groove
  - pre-auricular
  - retro-auricular sulcus

Treatment of BCC
Excision 0.5-1cm safety margin

- Most useful with BCCa <2 cm
- 92% to 98% cure
- advantages
  - quick and easy
- disadvantages
  - open wound
  - scarring

Treatment - Cryotherapy

- Small, well-circumscribed lesions
- -30° F to -50° F
- advantages
  - quick
  - in-office
- disadvantages
  - prolonged healing with potential for scarring
  - no margins

Squamous Cell Carcinoma

- Often in older fair skinned persons
- Hyperkeratotic and often ulcerates
- SCC is separated into two groups based on malignant potential

Squamous Cell Carcinoma

- Sun exposure
- erythematous, ulcerated, crusting
- friable
- adjacent induration
- actinic vs. *de novo*

Squamous Cell Carcinoma

Squamous Cell Histopathology

- Well, moderate and poorly differentiated
- generic
- adenoid
- bowenoid
- verrucous
- spindle cell or pleomorphic

Staging

Table 21-1. TNM Staging of Basal Cell and Squamous Cell Carcinoma of the Skin (Excluding Eyelid, Vulva, and Penis)

Primary Tumor (T)

TX	Primary tumor cannot be assessed
T0	No evidence of primary tumor
Tis	Carcinoma in situ
T1	Tumor ≤2 cm in greatest dimension
T2	Tumor >2 cm in greatest dimension but not >5 cm in greatest dimension
T3	Tumor >5 cm in greatest dimension
T4	Tumor invades deep extradermal structures (eg, cartilage, skeletal muscle, or bone)

Regional Lymph Nodes (N)

NX	Regional lymph nodes cannot be assessed
N0	No regional lymph node metastasis
N1	Regional lymph node metastasis

Distant Metastasis (M)

MX	Presence of distant metastasis cannot be assessed
M0	No distant metastasis
M1	Distant metastasis

Stage Grouping

Stage 0	Tis	N0	M0
Stage I	T1	N0	M0
Stage II	T2	N0	M0
	T3	N0	M0
Stage III	T4	N0	M0
	Any T	N1	M0
Stage IV	Any T	Any N	M1

Treatment of sqcc- Excision&1-2cm safety margin

- Most often used by head & neck surgeons
- 93% to 95% cure
- advantages
  - specimen for evaluation
- disadvantages
  - expensive
  - time-consuming
  - scarring

Treatment - Mohs' Surgery

- 96% to 99% cure

Table 12-1. Cutaneous Tumors Amenable to Mohs' Surgery

Basal cell carcinoma
Squamous cell carcinoma
Bowen's disease
Erythroplasia of Queyrat
Verrucous carcinoma
Microcystic adnexal carcinoma
Dermatofibrosarcoma protuberans
Malignant fibrous histiocytoma
Atypical fibroxanthoma
Extramammary Paget's disease
Merkel cell carcinoma
Sweat gland carcinoma
Keratoacanthoma

Table 12-2. Indications for Consideration for Mohs' Surgery

Tumors with High Recurrence Rates Following Standard Skin Cancer Treatment
Recurrent tumors
Size > 2 cm in diameter
Tumors in high-risk locations (H-zone of the face)
Histology (aggressive growth pattern basal cell carcinoma)
Poorly differentiated squamous cell carcinoma, dermatofibrosarcoma protuberans, microcystic adnexal carcinoma
Tumors with poorly defined clinical margins
Tumors with perineural invasion
Immunosuppressed patients wtih squamous cell carcinoma
Incompletely excised tumors
Tumors for Which Maximal Conservation of Adjacent Tissue May Be Important
Tumors on the eyelid, nose, ear, lip, digit, genitalia
Tumors in young patients
Tumors that potentially involve vital structures (extraocular muscles, large vessels, nerves, cartilage, bone, tendon)

Mohs micrographic surgery (MMS) is a surgical technique that combines tumor extirpation and microscopic examination of tissue margins by the same surgeon. **Beveled excision and careful mapping of the peripheral and deep margins of horizontal frozen sections permit a comprehensive examination of all the borders of the excised tissue and ensure excellent cure rates, exceeding 98% for most skin cancers. In addition to the high** cure rate, Mohs surgery is a tissue-sparing procedure. The need
for wide, extensive excision is reduced because of the precise control of tumor margins. This is an important advantage in cosmetically and functionally sensitive areas.

Treatment - Laser

- Patients with medical diseases
- multiple lesions
- palliation

Treatment - Photodynamic Therapy

- Photosensitive drug concentrated in tumor
- porphyrin, argon ion dye pump laser most common
- still experimental

Treatment - Chemotherapy

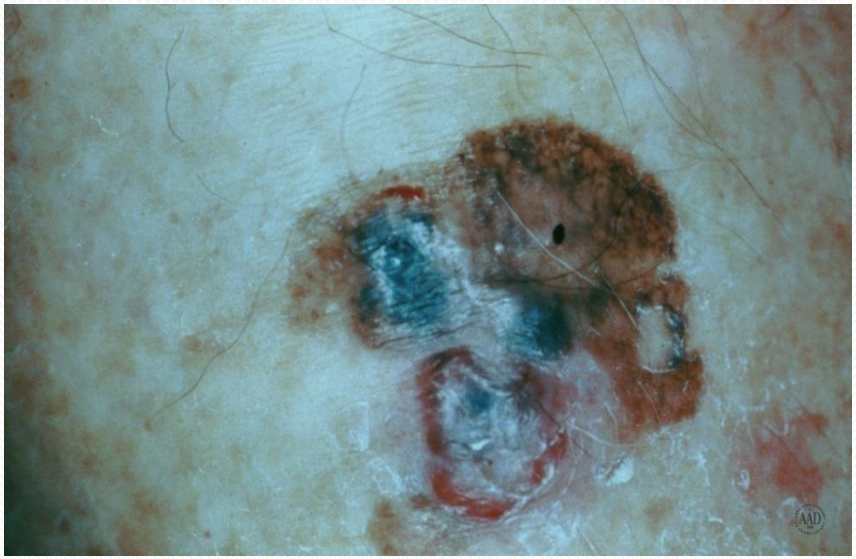
- Retinoids
- cis-platin - most widely used
- bleomycin
- cyclophosphamide
- 5-fluorouracil
- vinblastine

In Situ Malignant Melanoma

- Melanoma cells confined to the epidermis
- Lack in invasion may persist for months to years
- Simple excision is often curative

Superficial Spreading Melanoma

Superficial Spreading Melanoma



- Most common in middle age
- Develops anywhere on the body, back in both sexes and legs in females
- Haphazard combination on colors but may be uniformly brown or black

Acral Lentinginous Melanoma

- Most common in blacks and orientals
- Appears on the palms, soles terminal phalanges and mucous membranes
- The tumor is very aggressive and metastasizes early

Nodular Melanoma

- Occurs in the fifth or sixth decade
- More frequent in males with a ratio of 2:1
- Found anywhere on the body
- Most frequently misdiagnosed because it can resemble a blood blister, hemangioma, dermal nevus or polyp

Amelanotic Melanoma

MANAGEMENT of malignant melanoma

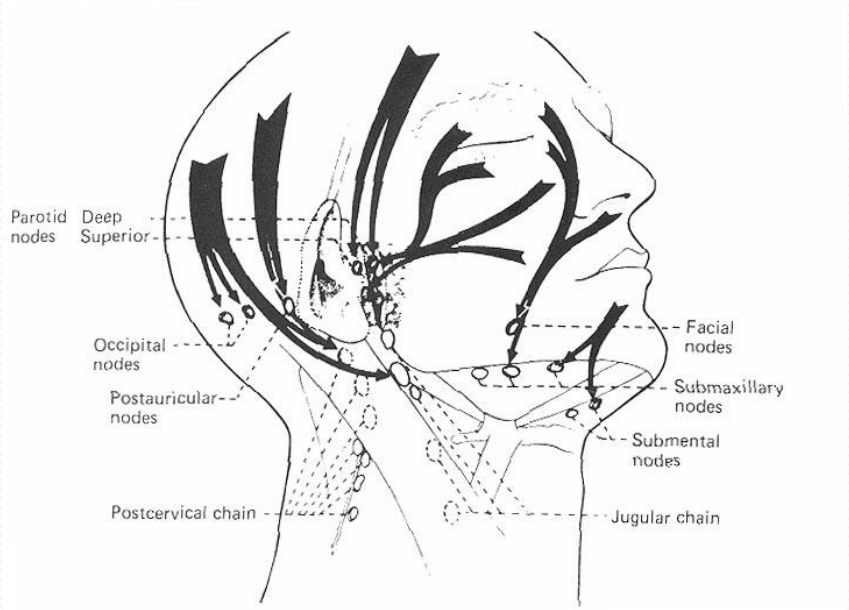
- Surgical excision – 3-5cm margins depending on Breslow depth
- Invasive primary MM on the digits can be treated by amputation
- Need to investigate all MMs over 1mm for metastases – CXR, US abd or CT chest, abd, pelvis, bloods – FBP, LFTs, LDH(TUMOR MARKERS)
- Surgical excision+reginal chemotherapy (malfalan).
- Surgical excision+immunotherapy.
- Prophylactic lymph nodes dissection

Treatment - Regional Lymphatics

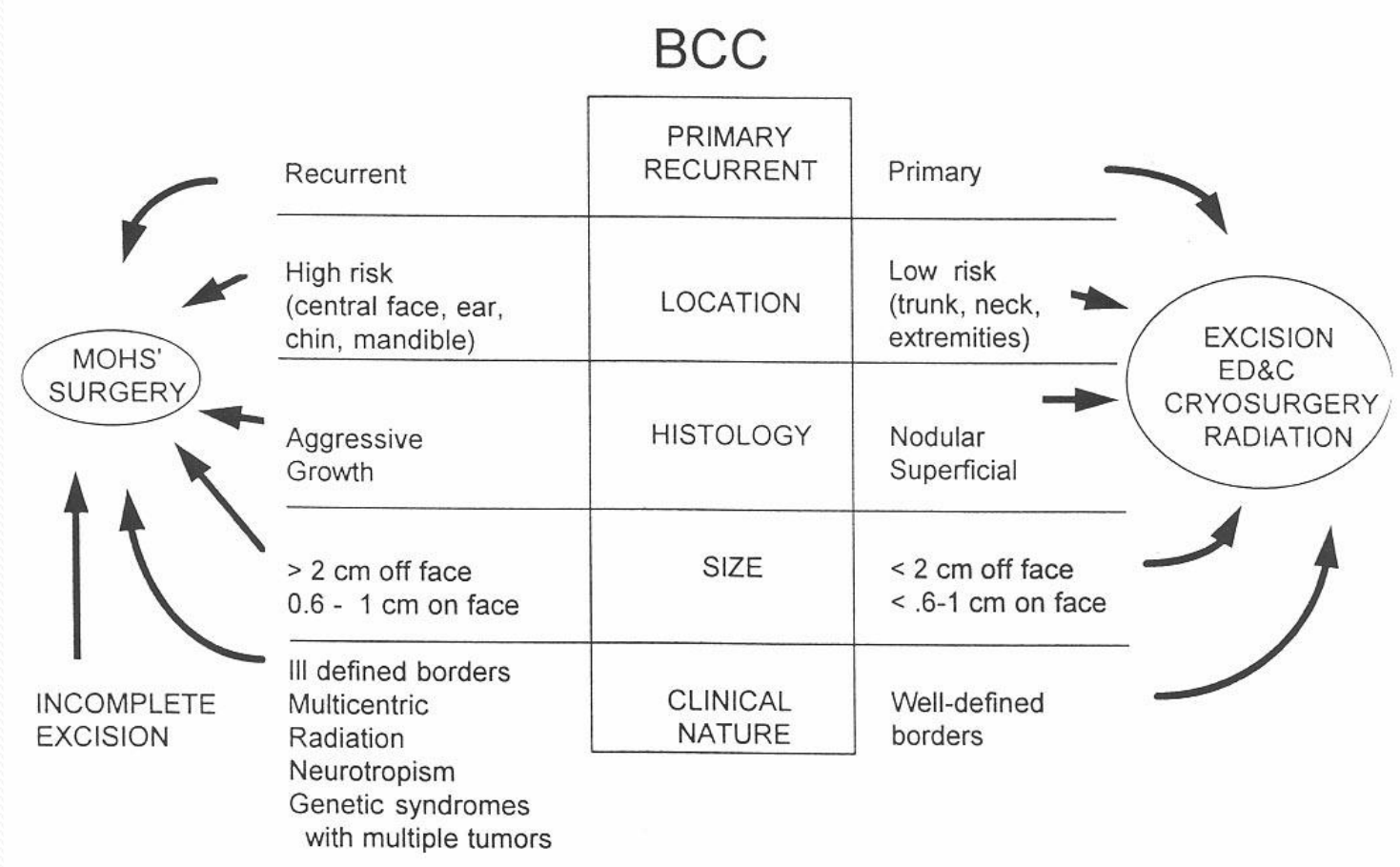
- Deep invasion into muscle, bone, nerve
- tumors >2 cm
- recurrent tumors
- tumors arising *de novo* or in scarred areas

Treatment - Regional Lymphatics

- Parotidectomy for periauricular tumors
- spare uninvolved structures
- post op XRT as indicated



Treatment - Selection



Mortality

- Exact numbers not available - not consistently reported
- 0.44 per 100,000 persons per year
- 2,000 to 3,000 deaths per year in U.S.
- patients 65-70 years old
- widespread SCCa arising in periauricular region

Conclusion

- Common tumors
- best chance for cure is early diagnosis and treatment
- prevent new lesions with sun protection

TYPES OF MELANOMA

NODULAR

- Commoner in males
- Trunk is a common site
- Usually thick with a poor prognosis
- Black/brown nodule
- Ulceration and bleeding are common

SUPERFICIAL SPREADING

- The most common type of MM in the white-skinned population – 70% of cases
- Commonest sites – lower leg in females and back in males
- In early stages may be small, then growth becomes irregular

ACRAL LENTIGINOUS MELANOMA

- In white-skinned population this accounts for 10% of MMs, but is the commonest MM in nonwhite-skinned nations

- Usually comprises a flat lentiginous area with an invasive nodular component

SUBUNGAL MELANOMA

- Rare
- Often diagnosed late – confusion with benign subungal naevus, paronychial infections, trauma
- Hutchinson's sign – spillage of pigment onto the surrounding nailfold

LENTIGO MALIGNA MELANOMA

- Occurs as a late development in a lentigo maligna
- Mainly on the face in elderly patients
- May be many years before an invasive nodule develops

AMELANOTIC MELANOMA

- Diagnosis is often missed clinically

- The lack of pigmentation is due to the rapid growth of the tumour and the differentiation of the malignant melanocytes

METASTATIC MELANOMA

PLANTAR MALIGNANT MELANOMA

- Caucasians – 1-9%
- Asians – 29-46%
- Afro-Carribean – 60-70%

SUBUNGAL MELANOMA

TRAUMA