

17- Actinic Keratosis/ Squamous Cell Carcinoma

Actinic Keratosis

Background:

- Premalignant lesions of SCC
 - o 10% of AK's will progress to SCC over the course of 10 years
- Variants:
 - o Hypertrophic: thick, adherent scale
 - o Cutaneous horn: horn-like projection of keratin 1/2 as tall as lesion's width

PEARL: About 20% of cutaneous horns can have SCC at the base, and should be biopsied with a scoop to rule out malignancy

- o Pigmented: mimic lentigo maligna
- o Actinic cheilitis: AK on lip

PEARL: Actinic cheilitis will blur the border between the vermilion lip and the cutaneous lip. So think of actinic cheilitis when you see scaliness on the lower lip of a patient with extensive sun damage.

Clinical Presentation:

- Erythematous and scaly macules, papules, or plaques on sun-exposed areas
 - o Head, neck, dorsal hands, and arms
- Asymptomatic but may be tender to touch

Diagnosis:

- Clinical diagnosis (most common)
- Biopsy taken if wanting to rule out SCC
 - o Lesions that are hypertrophic or painful and not responding to treatment

Histology:

- Atypia starting in basal layer
 - o Restricted to 1/3 to 2/3 of epidermis
- Parakeratosis
 - o Due to rapid cell turnover
 - o Correlates w/ scale we feel clinically
- Background of solar elastosis

Treatment:

- Cryotherapy
 - o Cure Rate = 40-80% (user dependent)

PEARL: What is the boiling point of liquid nitrogen? -196° Celsius or -321° Fahrenheit

- Photodynamic therapy
 - Chemical Peels
 - Topical Chemotherapy
- } Consider these tx options w/ diffuse AK's
- o 5- fluorouracil
 - o Imiquimod
 - o Ingenol Mebutate
 - o Diclofenac
- Variance w/ how topical tx is used
 - o 2-4 week of standard continued tx vs 5-10 day intervals w/ healing in between

PEARL: Recent literature shows 5-FU + calcipotriene = greater efficacy & tolerability in combo

Squamous Cell Carcinoma

Background:

- 2nd most common skin cancer (Incidence ~ 700,000 cases annually in U.S.)
- More aggressive behavior than BCC
- Main Variants:
 - o Keratoacanthoma
 - o Bowenoid papulosis
 - o Bowen's dz
 - o Erythroplasia of Queyrat

PEARL: Risk factors for SCC?

- Chronic UV exposure
- Ionizing Radiation (E.g. X-rays, CT scans)
 - o SCC arising from radiated skin have 10-30% risk of mets
- Medications (E.g. Vismodegib, dabrafenib)
- Immunosuppression
 - o Transplant pt have 100-250x the likelihood of SCC (vs 5-10x for BCC)
- Older age
- Male sex (3:1)
- Fitzpatrick types I-III
- Chronic scars/burns
- HPV
- Environmental exposure to arsenic
- Hypertrophic lichen, hypertrophic lichen planus, chronic lichen sclerosus, exoderma pigmentosum

PEARL: Risk factors for SCC metastases?

- Tumor diameter >2cm
- Tumor Breslow depth >2mm
 - o 2-6 mm (4%)
 - o >6mm (16%)
- W/in wounds
 - o Radiation scar or discoid lupus (25%)
- Poorly-differentiated tumors
- Perineural invasion >0.1mm
- Tumor location on the lip or ear
- Recurrent SCC's

- Immunosuppression

Pathogenesis:

- Mutations in tumor suppressor p53 (45-60%)

Clinical Presentation:

- Pink to red papule, plaque, or nodule that may have scale, erosion, ulceration or even pigment
- Lesion may be painful or tender
- Variants:
 - o Keratoacanthoma
 - Dome-shaped nodule w/ a central keratin plug
 - Grow quickly over weeks → involute over months

PEARL: Name 2 KA syndromes?

- 1) Ferguson-Smith Syndrome: multiple KA's that develop in teens and 20's (localized)
- 2) Gryzbowski: 1000's of smaller KA's in older adults (generalized) 3 G's = Gryzbowski, grown-ups, generalized
 - o Bowenoid Papulosis
 - HPV induced genital warts in younger pts → SCC in situ (presenting as small papules in anogenital region)
 - High Risk HPV = 16, 18, 31, 33
 - o Bowen's disease
 - SCC in situ anywhere on body
 - ↑ Risk of invasion vs Bowenoid
 - o Erythroplasia of Queyrat
 - SCC in situ on glans penis
 - o Buschke-Lowenstein (HPV 6, 11)
 - Massive wart(s) on genital region
 - o Epithelioma cuniculatum (HPV 6, 11)
 - Slow-growing mass on bottom of foot (destructive)
 - o Oral Florid Papillomatosis (HPV 6, 11)
 - Multiple wart-like mouth lesions

Diagnosis:

- Biopsy

Histology:

- Nests of squamous epithelial cells arising from epidermis
 - o In-Situ: contained w/in epidermis
 - o Invasive: SCC extending into dermis
- Full thickness atypia
 - o Malignant cells w/ abundant eosinophilic cytoplasm
 - o Hyperchromasia
- Variable keratinization
- Loss of granular layer w/ surface parakeratosis

Treatment:

- ED&C
 - o SCC (Unspecified)
 - Cure Rate = 96-100%
- 5-FU
 - o SCC (In-situ)
 - Cure Rate = 92%
- Imiquimod
 - o SCC (In-situ)
 - Cure Rate = 57-80%
 - o SCC (Unspecified)
 - Cure Rate = 71%
- Wide Local Excision
 - o SCC (Unspecified)
 - Cure Rate = 92%
- Mohs
 - o SCC (Unspecified)
 - Cure Rate = 97%