Squamous Cell Carcinoma

Squamous Cell Carcinoma (SCC)

- **Squamous cell carcinoma (SCC)** is a malignant neoplasm of keratinizing epidermal cells.
- It frequently occurs on sun-exposed skin or at the base of skin lesion.
- SCC is less common than BCC.
- SCC can be highly aggressive, has the potential to metastasize, and may lead to death if not treated early and correctly.

Squamous Cell Carcinoma (SCC)

- Appear on sun exposed skin, and may arise from actinic keratosis lesions
- Biggest risk factor is longterm UV exposure–this is important, not only for sunworshippers and tanning bed fanatics, but also for psoriasis patients receiving UV treatment
- Other risk factors are fair skin (mc cancer in albino pop.), immunosuppression, older than 50, hx of other nonmelanoma skin CA, tobacco and ETOH use, male gender, exposure to ionizing radiation, chronic inflamed lesion. (Know 2 in addition to longterm UV exposure and actinic keratosis)

SQUAMOUS CELL CARCINOMA

elevated

wart-like

irregular borders

Squamous cell carcinoma-causes:

- UV radiation-damages DNA in skin
- SCC may develop in an actinic keratosis or patch of Bowen's disease
- Genetic predisposition to develop SCCs
- Smoking-especially SCC lip
- Thermal burns
- Chronic leg ulcers
- Immunosuppression-Azathioprine/Ciclosporin. Organ transplantation patients highly susceptible
- Pre-existing skin conditions eg lichen sclerosus and lichen planus can predispose to development of genital and oral SCCs

Epidemiology

- 20% of all cutaneous cancers annually
- 200,000 new cases → 3000 deaths annually
- Metastasis rate is 0.3-16% (mainly in high-risk SCC)
- Lifetime risk
  - 14 % in Caucasian Males
  - 9% in Caucasian Females
- Typical age of presentation age 70 → highest incidence age 85

Holme SA et al. Br J Dermatol 2000; 143:1124-9
Veness MJ. Australian J Dermatol 2006; 47:28-33

Squamous Cell Carcinoma

- Non-melanoma carcinoma
- May appear as nodules, or as red, rough/scaly/crusted patches of skin
- Usually treated successfully—95% (American Academy of Dermatology)
- Second most common skin cancer found in Caucasians

Squamous Cell Carcinoma

SQUAMOUS CELL CARCINOMA (SCC)

Did you know?

Squamous Cell Carcinoma is the second most common type of skin cancer

Appearance:

- Rough-feeling bump or lump
- A sore that doesn't heal (or heals and returns)
- Flat
- Reddish
- Scaly or crusty

Common Locations:

- Head
- Neck
- Backs of hands
- Lower legs (in women)

Source: American Academy of Dermatology. aad.org

AAD AMERICAN ACADEMY of DERMATOLOGY | ASSOCIATION

Typical appearances and locations of squamous cell carcinoma

Areas of the skin exposed to the sun for long periods are the most likely to develop squamous cell carcinoma. The lesions can have a variety of appearances in sun-exposed locations.

Squamous Cell Carcinoma

Histologic Grading of Cutaneous Squamous Cell Carcinoma
Googe, Paul B., DermPath Update Volume 1 Number 4 - December 31, 1995

Broders	UTMCK	Microscopic Appearance
Grade 1	Well differentiated, moderately well differentiated	abundant keratinization, little nuclear anaplasia < 25% undifferentiated cells
Grade 2	Moderately differentiated	50% keratinizing, nuclear anaplasia present < 50% undifferentiated cells
Grade 3	Moderately to poorly differentiated	less than 25% keratinizing, nuclear anaplasia extensive < 75% undifferentiated cells
Grade 4	Poorly differentiated	extensive nuclear anaplasia, little or no keratinization includes spindle cell and undifferentiated carcinomas > 75% undifferentiated cells

Squamous Cell Carcinoma

- Histology
  - Irregular masses of epidermal cells proliferating into dermis
  - Keratinization in well-differentiated tumors
  - Range in degree of anaplasia
  - Subtypes of Verrucous, Adenoid squamous, and Spindle Pleomorphic

Staging: TNM system for SCC

Stage	Primary tumour	Regional lymph nodes	Distant metastasis
Stage 0	Tis= Carcinoma in situ	N0= no regional lymph node metastasis	M0
Stage I	T1= Tumour 2 cm or less	N0	M0
Stage II	T2= Tumour >2 cm but <5cm	N0	M0
	T3= Tumour >5cm	N0	M0
Stage III	T4= Tumour invading deeper extradermal structures	N0	M0
	Any T	N1= Regional lymph node spread	M0
Stage IV	Any T	Any N	M1= Distant metastasis

Squamous Cell Carcinoma

- Presenting features[1]
  - Usually on sun-exposed areas
  - Hyperkeratotic papule or nodule
  - Usually erythematous, scaly and raised
- Natural history
  - More aggressive than BCC
  - Local invasion, tissue destruction, and possible metastasis if untreated
  - Metastasis rates
    - Estimates range from 0.3% to 5% on sun-damaged skin[1,2]
    - 10% to 30% on mucosal surfaces and sites of injury[1]
    - Much higher risk of metastases in transplant recipients with SCC

SCC on the nose of a 75-year-old woman

Reprinted with permission from DeVita VT Jr, Hellman S, Rosenberg SA. *Cancer: Principles and Practice of Oncology*. 6th ed. Philadelphia, Pa: Lippincott Williams & Wilkins; 2001. Book on CD. (Fig SCC-31)

1. Leffell DJ, Carucci JA. In: *Cancer: Principles and Practice of Oncology* [book on CD-ROM]. Based on: DeVita VT Jr, Hellman S, Rosenberg SA, eds. *Cancer: Principles and Practice of Oncology*. 6th ed. Philadelphia, Pa: Lippincott Williams & Wilkins; 2001:1976-2002.
2. Leshin B, White WL. In: Arndt KA, LeBoit PE, Robinson JK, Wintroub BU, eds. *Cutaneous Medicine and Surgery: an Integrated Program in Dermatology*. Philadelphia, Pa: WB Saunders Company; 1996:1378-1440.

Management of BCC & SCC

The treatment method depends on the tumor location; the cell type, location, and depth; the cosmetic desires of the patient; the history of previous treatment; whether the tumor is invasive, and whether metastatic nodes are present.

The management of BCC and SCC includes

- Surgical excision
- Mohs' micrographic surgery
- Electrosurgery
- Cryosurgery
- Radiation therapy

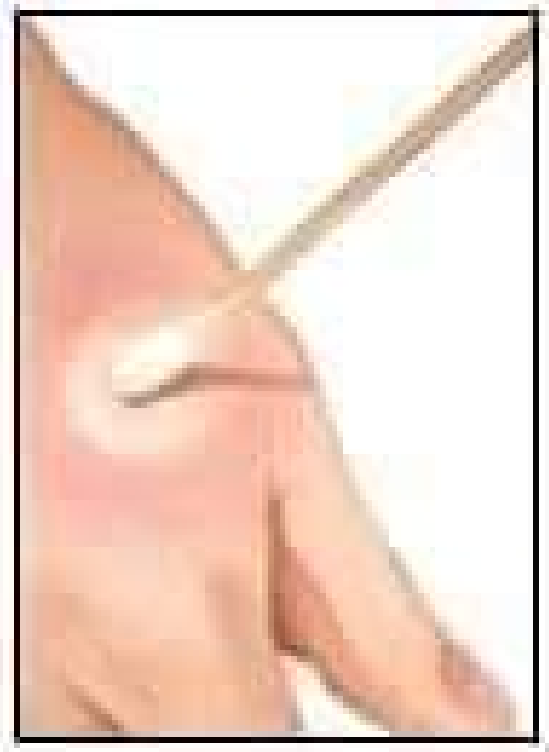
Excision

Curettage and electrodesiccation

Radiation

Topical drugs

Cryosurgery



Squamous Cell Carcinoma

- Mohs Micrographic Surgery
  - Good for genital tumors (v. amputation)
  - Early SCC of digits without bony involvement especially in periungual region to avoid amputation without compromising cure
  - Good for SCC in scar or radiation site due to high recurrence rate
  - Good for SCC in perineural or scalp