Diagnosis & Management of Non-Melanoma Skin Cancer - When is it Time to Consider Dermatology Referral?

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I have no conflict of interest, commercial interest or financial relationships with any of the products, or with the companies making the products or pharmaceuticals, discussed in my presentation today.

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At the end of this talk you should be able to:

• Recognize Actinic Keratoses & Actinic Cheilitis

• Recognize the top three “Flavors” of SCC: Superficial SCC, Invasive SCC (especially SCC on the ears and/or lips) and keratoacanthoma variant of SCC

• Recognize the top three “Flavors” of BCC: Superficial BCC, Nodular BCC and Sclerosing or Morpheaform BCC

• For AK’s, and each subtype of SCC and BCC you should
  • know the primary treatment options
  • know the treatment “rules”
  • know when to refer to dermatology (RTD)

• Understand the principles of Mohs Micrographic Surgery and when it is indicated.
Mr. Jenkins is a 66-year-old man with a history of SCC who presents to clinic for his regularly scheduled follow-up visit. He reports that during a self skin exam, he noticed a few rough, red spots on the face. He asks if this could represent another cancer.
Skin Exam

Rough, scaly, thin, red-pink plaques scattered on the forehead and right temple area.
Actinic Keratosis (AK)

- AKs are premalignant lesions; they have the potential of transforming into a skin cancer. Virtually all AKs that transform into cancer will become squamous cell carcinoma (SCC).

- Most AKs do not progress to invasive SCC
  - Risk of malignant transformation of an AK to SCC within one year is about 8% (range of 0.025%-20%)
  - Usually during the transition to SCC the AK will demonstrably grow and become sensitive, sore and crusted
  - Risk factors for malignant progression of AK to SCC include: persistence of the AK, cumulative ultraviolet exposure, prior history of skin cancer, genetic susceptibility, and immunosuppression
Actinic Keratosis

AKs may be considered as part of a disease spectrum:

1. Photodamaged Skin
2. Actinic Keratosis
3. SCC in situ (Bowen’s disease)
4. Invasive SCC
AK: Clinical manifestations

- May be symptomatic (tender)
- Located in sun-exposed areas
  - Head (especially on bald scalp and in scalp of elderly women with thinning hair) neck, extensor forearms, and dorsal hands
- Typically on background of sun damaged skin
- Erythematous papule or thin plaque with a characteristic rough, gritty scale
- Often diagnosed by feel (like sandpaper)
AK: Actinic Cheilitis

- Actinic cheilitis represents AKs on the lips, most often the lower lip
- Erythematous patch with rough gritty scale involving the lower lip
- Loss of clear definition of the vermillion border
  - Persistent ulcerations or indurated areas should prompt a biopsy to rule out malignant transformation
TREATMENT OF AK’S:

• Some treatments work only exactly where you apply them:

• Liquid nitrogen
  • Can use the canister/spray gun, but for delicate areas where you need a lot of control, such as around the eyes, consider a polystyrene coffee cup and a cotton swab.

• Some treatments can be used to treat a large area. We call it “Field therapy”:
  • 5-Flurouracil
  • Imiquimod 5% or 3.75%
    • Choose your patients carefully! Successful therapy is VERY inflammatory and uncomfortable for patients. No pain, no gain! Only the most robust and dedicated will see the treatment through and even then may require a lot of “hand holding” appointments and phone calls
KEEP CALM & FOLLOW THE RULES
AK Treatment rules:

• If you are using LN2, make sure you are freezing adequately enough to get the job done
• If you treat something with LN2 twice and it doesn’t resolve, BIOPSY it or REFER TO DERM (RTD)
• Pay special attention to AK’s that the patient tells you are becoming really sensitive or sore
• Treating more than 5-10 AK’s in one visit is, in my opinion, “cruel and unusual punishment” consider field therapy or RTD
• Pay special attention to your immunosuppressed patients, particularly transplant patients
• Diffuse actinic cheilitis RTD
Mr. Dominguez is a 70-year-old man who presents to your office with a red, crusted bump on his right forearm.

He first noticed the growth about 6 months ago. It has been increasing in size. It is sometimes itchy but never painful and has bled after minor traumas. The growth feels dry and rough, but applying lotion does not make it better.
Skin Exam

Well-circumscribed, 2cm, erythematous nodule with central ulceration and crust. The lesion is firm with palpation. Keratoacanthoma variant of SCC
Squamous cell carcinoma (SCC)

- Most commonly occurs among people with white/fair skin
- Commonly located on the head, neck, forearms, and dorsal hands (sun-exposed areas)
- Dramatically increased risk in immunosuppressed patients (ie Transplant recipients).
- Increased risk with tanning bed use
- Increased associated mortality compared to basal cell carcinoma, mostly due to a higher rate of metastasis
SCC on the lips and the ears have a higher rate of metastasis to the regional lymph nodes. Ensure that they are COMPLETELY EXCISED.
SCC in situ

- Also known as Bowen’s Disease
- Circumscribed pink-to-red patch or thin plaque with scaly or rough surface
- Keratinocyte atypia is confined to the epidermis and does not invade past the dermal-epidermal junction
- Also occurs on glans penis in uncircumcised males
Multiple Squamous Cells

- Patient had received past total body radiation for cutaneous lymphoma
- Immunosuppressed patients can have the same problems
- These patients should be followed closely by Dermatology and the Oncology team
Suspicion of SCC should prompt RTD for evaluation and discussion of specific treatment approaches

### Surgical Treatment Options
- Surgical excision (standard of care for invasive SCCs)
  - Wide local excision with appropriate margins (based on high or low risk)
  - Mohs micrographic surgery if indicated
- Curettage and Electrodesiccation or Cryosurgery (reserved for in situ SCC)

### Non-surgical Treatment Options
- Radiation therapy for poor surgical candidates
- 5-Fluorouracil cream or imiquimod cream typically reserved for in situ SCCs when excision is a suboptimal choice
KEEP CALM & FOLLOW THE RULES
SCC Treatment rules:

• Ensure that SCC’s are completely excised with clear margins or RTD

• Your patients who are immunosuppressed/transplant recipients and who have a lot of photo damage need to be followed by dermatology.
There are several clinical presentations of BCC.
Mr. Carter is a 62-year-old man who presents to your office with a growth by his right ear. He first noticed the growth about six months ago. He states that it has increased in size, but it otherwise does not bother him.
Solitary, 5 mm pearly pink papule with telangiectasias, on right zygomatic cheek
Basal cell carcinoma (BCC)

Most common skin cancer
- >1 million new cases per year in the US
- Arises from the **basal layer** of the epidermis

Etiology
- Ultraviolet radiation induces DNA damage
- *PTCH (tumor suppressor gene)* mutation usually involved
## Basal cell carcinoma (BCC)

### Risk factors

- Skin types I, II (fairer skin types that burn easily)*
- Severe actinic (sun) damage
- Male gender*
- Age over 60*
- Immune suppression (transplant patients, systemic immunosuppressive medications)
- Genetic conditions that increase skin cancer risk

* BCC is still seen in darker skin types and in women and patients under 60, especially if a history of tanning beds / UV exposure
Superficial BCC

- Presents as a pink patch and may even having superficial scaling
- Differential diagnosis may include squamous cell carcinoma *in situ* or actinic keratosis
More examples of superficial BCC
Morpheaform / infiltrative / sclerotic BCC

- Presents with features suggestive of BCC including a pink or white color and telangiectasia.
- In addition, the plaque appears white and bound down or scar-like in areas.
- Can be subtle and difficult to appreciate but clinically the most aggressive.
BCC: Treatment

✿ Surgical Treatment Options:
  • Curette and Desiccation
  • Excision with standard 3-4mm margins
  • Mohs micrographic surgery – permits real time evaluation of tumor margins and consequent tissue conservation to minimize defect size

✿ Non-Surgical Treatment Options:
  • Imiquimod cream 5% – FDA approved for superficial BCC
  • 5% fluorouracil cream for superficial BCC
  • Vismodigeb - inhibits Hedgehog pathway signalling in the PTCH gene. New oral medication indicated for non-surgical BCC’s
  • Radiation
KEEP CALM & FOLLOW THE RULES
BCC Treatment rules:

- Lesions on the head & neck, hands or feet, suspicious for BCC RTD for biopsy and treatment.
- Be aware of sclerosing or morheaforn variant of BCC and RTD
- Small SBCC’s on the trunk and/or extremities can be treated with electrodessication and curettage
Mohs Micrographic Surgery (MMS)

- Developed by Dr. Frederick Mohs in the 1930’s
- Primarily used to treat SCC and BCC
- MMS examines 100% of the surgical margin
- Recurrence rates tend to be lower with MMS compared to other modalities.
- Indications include:
  - Location: nose, ears, eyes, lips, scalp, hands
  - Aggressive histologic subtypes: sclerosing, morpheaform
  - Large tumors or tumors with indistinct clinical borders
  - Recurrent tumors
Mohs Micrographic Surgery

**Step 1:** The roots of a skin cancer may extend beyond the visible portion of the tumor. If these roots are not removed, the cancer will recur.

**Step 2:** The visible tumor is surgically removed.

**Step 3:** A layer of skin is removed and divided into sections. The surgeon then color codes each of these sections with dyes and makes reference marks on the skin to show the source of these sections. A map of the surgical site is then drawn.
Mohs Micrographic Surgery

Step 4: The undersurface and edges of each section are microscopically examined for evidence of remaining cancer.

Step 5: If cancer cells are found under the microscope, the surgeon marks their location onto the "map" and returns to the patient to remove another layer of skin - but only from precisely where the cancer cells remain.

Step 6: The removal process stops when there is no longer any evidence of cancer remaining in the surgical site.
KEEP CALM & FOLLOW THE RULES
Know the indications for MMS:

* Location: “H” zone of Head & Neck, Hands, Feet, Shins

* Aggressive tumor pathology: eg: Morpheaform or Sclerosing BCC

* Large, poorly defined tumors

* Recurrent tumors
Thank you! I look forward to participating in the care of your patients.