Skin cancer for the primary care provider

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- Discuss clincal presentation of common skin malignancies
- Management strategies
- Access to dermatologic care for your patients

By the numbers

- Skin cancer is the most common cancer diagnosed in the US and world wide
- I in 5 Americans will develop skin cancer by age 70
- More than 2 people die of skin cancer per hour in the United States
- In 2012, 5.4 million non melanoma skin cancers were treated in 3.3 million patients

Melanoma

- Having more than 5 sunburns doubles risk of developing melanoma
 - One blistering sun burn confers the same risk
- When detected early (stage 1a), the 5 year survival rate is 99%
- Survival rate decreases as stage increases

Non Melanoma Skin Cancer

- Basal cell carcinoma (BCC) and squamous cell carcinoma (SCC) are the most common malignancies in humans
 - SCC traditionally 20% of skin cancers
 - Recent study showed 1:1 ratio BCC:SCC in medicare population
- Spectrum of disease from easily managed superficial cancers to highly infiltrative locally advanced or metastatic disease
- 9000 deaths/year due to SCC
 - In southern states, death from cutaneous SCC matches that of melanoma, renal and oropharyngeal ca

Karia et al. Cutaneous squamous cell carcinoma: estimated incidence of disease, nodal metastasis, death from disease in the US, 2012. JAAD. 68: 957-966. 2013 Rogers et et. Incidence of NMSC in the US poplulation 2012. JAMA Dermatology, 151: 1081-1086. 2015

Terrors of tanning beds

Ever tanning indoors:

- 67% increased risk of squamous cell carcinoma
- 29% increased risk of basal cell carcinoma
 - 69% increased risk of BCC before age 40
- 6x more likely to diagnosed with melanoma in their 20s

Good news!

 Indoor tanning among US high schoolers decreased 53% between 2009-2015

Basal cell carcinoma

- Originates from non-keratinizing cells in the basal layer of the epidermis
- Develops on sun exposed skin of fair skinned individuals
 - Can occur in any skin type, increasing incidence in Asian and Hispanic patients
- Patients with history of BCC have 3x increased risk of melanoma

BCC on the rise

- Lifetime risk for BCC in caucasians:
 - Men: 33-39%
 - women: 23-28%
 - Often delayed diagnosis in Hispanic, Black and Asian patients
- Basal cell carcinoma incidence doubles every 25 years
- Risk increases with age
- Incidence increases with proximity to equator
- High risk with history of tanning bed use

Clinical presentation

- Subtypes of BCC
 - Superficial, nodule, morpheaform, pigmented
- Any non healing friable lesion should raise suspicion of NMSC
 - Often bleed easily
 - Clinical features may include telangiectasias, ulceration, rolled border, translucency
 - Fibroepithelioma of pinkus- pink papule on lower back

The many shades of BCC





Locally advanced and metastatic BCC

- Metastatic disease is exceedingly rare
- Locally advanced disease that can not be treated surgically may be treated with radiation or sonic hedge hog inhibitors (vismodegib, sonidegib)
 - S/e: muscle spasms, dysgusia, hair loss
 - Require long duration of treatment
 - Many patients discontinue due to side effects
 - Consider using to decrease tumor size and then removing surgically







Squamous cell carcinoma

- Lifetime incidence 15% in Caucasian adults
- Lifetime risk has doubled in past two decades
- 20% decrease in mortality in past decades due to better public awareness
- After a diagnosis of SCC, 44% risk of second skin cancer diagnosis in subsequent 3-5 years
- Cutaneous SCC is not included in national tumor registries
 - Difficulty in assessing exact incidence and mortality rates

Who's at risk

- Caucasians
- Age >40
- Males 2x risk compared to women
- UV exposure and proximity to equator
 - Incidence doubles with 10 degree decline in latitude
- PUVA treatment for psoriasis
- Immunosuppression
 - Meds, CLL, HIV
- Chronic scars
- Environmental exposures- i.e. Arsenic
- HPV
- Inherited skin disease
 - Albinism, xeroderma pigmentosum

Immunosuppression

- latrogenic immunosuppression and immunosuppression due to disease
- Chronic lymphocytic leukemia
- Transplant patients!
 - Renal transplant pts have 65x increased risk of SCC
 - Among organ transplant pt, heart transplant patients have greatest risk of death due to metastatic SCC
- NMSC appear 3-7 years after initiation of immunosuppression
 - Imuran, cyclosporine, prednisone increase risk
 - Sirolomus decreases risk of SCC

Transplant patients

- Recommend full skin exam prior to transplant
- Annual skin check after transplantation
- Strict sun protection post transplant
 - Zinc oxide sun screen, UPF clothing
- Adjuvant therapies for patients making multiple skin cancers
 - 5-Fluorouracil, Imiquimod, Acitretin
 - Photodynamic therapy

Photodynamic therapy

- Useful therapy for patients with history of NMSC and actinic keratoses
- Application of amionlevulanic acid to the skin upregulates protoporphyrin-9 (PPIX)
- PPIX absorbs light in the red and blue spectrum
- Skin is exposed to light
- Creates a phototoxic reaction

Clinical findings of SCC

- Actinic keratoses
 - Precursor lesion- red scaly papules on sun exposed skin
- Variety of presentations
 - Keratotic papule, ulceration, pigmented papule, scaly patch, verrucous nodule, keratoacanthoma
- Check lymph nodes in patients with large, long standing tumors
- Pain or neurological sx at sight increases risk for perineural invasion
- High risk locations- lip, ear, temple







Metastatic SCC

Risk factors:

- Diameter >2cm
- Breslow depth >2cmm
- Site
 - Ear, lip, scar
- Perineural involvement
- Poorly differentiated
- Generally appears in regional lymph nodes 1-3 years after initial diagnosis and treatment
- May be preceded by local recurrence at site of primary lesion
- Work up: CT, MRI, SNL
- Requires lymph node dissection +/- radiation and chemo

Metastatic SCC



Fear this



Management of NMSC

- Persistent, enlarging, painful or nonhealing lesions esp. on sun exposed skin should be biopsied
- Shave vs punch
- Treatment:
 - Topical for in situ or minimally invasive tumors-Imiquimod, 5-Fluorouracil
 - ED&C for in situ disease or select superficially invasive CA
 - Excision
 - Mohs Micrographic Surgery
 - Radiation
 - Chemotherapy

Shave biopsy



Punch biopsy



Surgical excision

- Margin of 4-10 mm depending on tumor size and histology
- Recommended for small tumors or truncal lesions



Mohs Surgery

- Microscopically controlled surgery used to treat common types of skin cancer
- Áfter removal of tissue, the tissue is examined for cancer cells
- The skin and the tissue is marked with ink and surgical marks to map out the tumor
- 100% of the surgical margin is examined
- Residual cancer is removed using the inked and marked locations
- Allows for removal of skin cancer with a very narrow margin and high cure rate
- Used most commonly for bcc, SCC, other forms of NMSC
- After removal of cancer, surgical defect is repaired

Indication for Mohs Surgery

- Poorly defined clinical margins
- Location on the face- lip, ear, nasal tip
- Tumors greater than 1cm on any facial location
- Tumors on the trunk >2cm
- Genital tumors, tumors on the anterior tibial area
- Tumors in a scar- chronic scar (stoma, decub ulcers)
- Recurrent after excision or other treatment

Why Mohs?

- 100% margin control with horizontal sectioning of tumors
- Decreased risk of recurrence
 - 3% risk of recurrence of SCC treated with Mohs vs
 8% with excision
 - 1% risk with Mohs for BCC, 10% risk with excision
- Clearance of margins determined prior to repair
 - Saves patient from multiple surgeries





An injection numbs the area. The visable portion of the tumor is dubulked.





A thin layer of tissue is excised from the surrounding skin and base. The removed tissue is mapped and sectioned.





The deep and peripheral margins of each section are thinly sliced with a microtome and mounted on microscope slides for examination.





If additional tumor is found, it is located on the map, marked and subsequent layer is removed. The examination/removal process continues until no tumor is found.









55 yo Caucasian male with SCC





Required placement of skin graft





Wound check 4 months post op



Also had right preauricular and post auricular lymphadenopathy

Refer to your colleagues

RECEIBERE(S): OLTRASOUND - GUIDANCE FOR NEEDLE PLACEMENT EXAM DATE/TIME: 05/28/19 1030 REASON: ENLARGED LYMPH NODES ORDER NUMBER(S): 0528-0033, ACCESSION NUMBER(S): 1070464.001

CLINICAL DATA: ENLARGED LYMPH NODES

FINDINGS: Ultrasound was used to localize right preauricular enlarged lymph node. This lymph node is

20 x 16 x 15 mm. There is also a right posterior postauricular lymph node slightly more superiorly. Both lymph nodes show abnormal morphology suspicious for metastasis.

The right preauricular lymph node was localized with ultrasound and the skin was prepped and draped sterilely. 1% lidocaine local anesthetic was infiltrated. 2 biopsies were performed with 25-gauge needle aspirates. Pathologist stated that sample was adequate and findings were consistent with likely metastatic disease.

IMPRESSION:

RIGHT PREAURICULAR AND POSTAURICULAR LYMPH NODES ENLARGED WITH ABNORMAL MORPHOLOGY CONSISTENT WITH METASTASES.

ULTRASOUND-GUIDED FINE-NEEDLE ASPIRATION BIOPSY OF RIGHT PREAURICULAR LYMP-NODE WITH 2 BIOPSIES OBTAINED WITH 25-GAUGE NEEDLE ASPIRATES.

Final Diagnosis:

Lymph node, right preauricular, biopsy:

Metastatic keratinizing squamous cell carcinoma.

Think like House

- Why would a clinically healthy 55 year old have a metastatic aggressive tumor?
- Check CBC, CMP
- Immunosuppression?

Melanoma

- Incidence is on the rise
- most common malignancy in women aged 25-29
- Melanoma =4% of all skin cancers but 75% of skin cancer deaths
- 2.1% of people will be diagnosed with melanoma in their lifetime
- In the United States, one person each hour dies from metastatic melanoma
- Older men have highest mortality rates

Risk factors

- Sun exposure
- Tanning beds
- Skin type I & II
- Increased # nevi
- History of dysplastic nevi
- Family history
 - 10-15% melanoma are familial
 - One 1st degree relative with melanoma- doubles risk
 - >3 1st degree relatives: 35-70x risk
 - BRCA 2: 2.5x risk

CDK2NA

- Mutation in 20-40% of melanoma families
- Associated with high number of family members with melanoma
- Early onset of melanoma
- Multiple primary melanomas
- Pancreatic cancer
- Increased risk of breast, lung and tobacco related cancers

Rule of three

- Consider genetic testing for CDK2NA with:
 Individuals with 3 or more primary melanomas
- Families with these features
 - Three cases of melanoma in first or second degree relatives
 - Two cases of melanoma, one pancreatic
 - Two pancreatic, one melanoma

If CDK2NA +:

- Avoid smoking
- Skin exams
- Consider annual endoscopy for pancreatic ca screening-

Leachman S, Carucci J, Kohlmann L, et al. Selection criteria for genetic assessment of patients with familial melanoma. J Am Acad Dermatol. 2009;61(4):677.e1–14.

Melanoma subtypes

- Superficial spreading
 - Most common subtype
- Nodular
 - Often grow quickly
- Acral lentiginous
 - Most common in dark skin types
- Lentigo maligna melanoma
 - Most common in older individuals with chronic sun exposure





















The ABCDEs are helpful

But melanoma can look like anything!











But you can't biopsy everything...

Listen to your patients

- Symptoms of rapid change, itching, bleeding warrant further evaluation
- Consider photography for high risk patients
- Referral to dermatologist for full body skin exam

If you are considering melanoma

- Try to remove the entire lesion with a biopsy
 - Excisional biopsy vs deep saucerization shave
- The most important prognostic factor is the breslow depth
 - Depth of invasion from the granular layer of epidermis to deepest portion
- Determines need for sentinel node biopsy and further staging
- Partial removal of lesion may miss the true depth and lead to misdiagnosis

65 yo male with new lesion on right shoulder, h/o multiple NMSC



The path report you don't want:

A. Right Lateral Malar Cheek, Biopsy by Shave Method SQUAMOUS CELL CARCINOMA IN-SITU, AT LEAST (SEE COMMENTS)

COMMENT: Invasive carcinoma cannot be excluded. (C44.329)

B. Right Proximal Posterior Upper Arm, Biopsy by Shave Method INVASIVE MALIGNANT MELANOMA, EXTENDING TO A DEPTH OF AT LEAST 0.6 MILLIMETERS (SEE COMMENT AND SYNOPTIC SUMMARY)

COMMENT: Invasive melanoma broadly involves the base of the specimen as well lateral biopsy margins. It is therefore very likely that the actual depth of this mela greater than what has been measured. Melanoma in situ broadly involves the late biopsy margins and focally involves the base of the specimen.

SYNOPTIC SUMMARY Maximum Tumor Thickness: 0.6mm, at least Ulceration: Not present Mitotic Rate: 6/mm2 Microsatellitosis: Not identified Lymphovascular invasion: Not identified Perineural invasion: Not identified Tumor Regression: Not identified

What to do with a new melanoma diagnosis

- Stage IA (Breslow depth <1mm, no ulceration and mitotic rate <1): refer to dermatology for wide local excision (WLE)
- Stage 1B (breslow <1mm with ulceration or mitotic rate >1)- WLE + sentinel node biopsy (SNL)
- Stage 2 (Breslow >1mm)- WLE +SNL
- Presence of lymph node invasion will determine need for further staging and treatment
- Melanoma patients need full body skin exams with lymph node palpation
 - Q₃ mo for first year

Hope on the horizon

- Multiple new advances in melanoma treatment for stage III or Stage IV melanoma
- Prolong survival and some new evidence of "cure"
- New therapies are gene directed (BRAF inhibitors) or take advantage of immune system ability to fight disease
 - Ipilimumab (CTLA inhibitor)
 - Pembrolizumab (PD-1 inhibitor)
 - Zelboraf (BRAF inhibitor)

A cyst is not always a cyst

- Not all lumps on scalp (or elsewhere) are cysts
- Consider metastatic disease if patient has a history of other malignancy
 - Cancers with highest propensity to met to skin include melanoma (45% of cutaneous metastasis cases) and cancers of the breast (30%), nasal sinuses (20%), larynx (16%), and oral cavity (12%).
 - Nodules with overlying alopecia, fixed/firm, tender nodules
- Other DDx nodules
 - Lymphoma- soft red violaceous
 - Adnexal carcinomas
 - Sarcomas

Alopecia neoplastica



Lymphoma



Other tumors to fear



Merkel Cell Carcinoma

Angiosarcoma



Prevention

Slip, Slop, Slap, Slide, Seek

Campaign started in Australia in the 90s

 Melanoma rates fell from 25/100,000 in 1996 to 14/100,000 in 2010

SB 159 Signed into law in May of 2019 Allows kids to apply sunscreen at school Mandates sun education curriculum for Nevada schools





Taking sun protection to the extreme!!







Utilizing your dermatologist

- If something is not working ask for help
- If you freeze it more than twice, consider a biopsy
- Clinical history is key
- Stat referrals-
 - Physician to physician communication
 - Send photos
- UNR med student outreach clinic
- Nevada Society for Dermatology and Dermatologic Surgery
- Northern Nevada Children's Cancer Foundation

Thank you!

- II. JAN BERT
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