A SKIN GAZERS EYE TO WOUND CARE AND SKIN LESIONS

BY: LAURA JANE HOLSEY, DO
LEARNING OBJECTIVES

- Identify Malignant versus Benign Skin cancers
- Proper work up for suspicious lesions
- Treatment options for skin lesions
- Properly assess a skin wound
- Categorize common skin wounds
- Treatment options for skin wounds
RULE OUT THE WORST FIRST
ABC'S Of Mole Changes
If you experience any of these changes please schedule a mole check

A for Asymmetry
The mole is not round, typically growing more on one side than the other.

B is Border Irregularity
This is when the border of the mole is scalloped or rough instead of smooth.

C is for Color Change
The mole is more than one color or unusual colors like red or purple.

D is for Diameter
The diameter of the mole is larger than half an inch.

E is for Evolving
The mole is changing or transforming in size, border and color over time.
“A” IS FOR ASYMMETRY

- If you draw a line through the middle of the mole, the halves of a melanoma won’t match in size.
“B” IS FOR BORDER
- The edges of an early melanoma tend to be uneven, crusty or notched.
IN LIVING COLOR

"C" IS FOR COLOR
- Healthy moles are uniform in color. A variety of colors, especially white and/or blue, is bad.
“D” IS FOR DIAMETER
- Melanomas are usually larger in diameter than a pencil eraser, although they can be smaller.
IT’S AN EVOLVING SITUATION

“E” IS FOR EVOLVING
• When a mole changes in size, shape or color, or begins to bleed or scab, this points to danger.
<table>
<thead>
<tr>
<th><strong>Table 1: Risk Factors for Melanoma</strong></th>
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<tbody>
<tr>
<td>• UV exposure</td>
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<tr>
<td>• Number of moles (both normal and atypical)</td>
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<tr>
<td>• Fair skin, freckling, light hair</td>
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<tr>
<td>• Family history of melanoma</td>
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<tr>
<td>• Personal history of melanoma</td>
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<tr>
<td>• Immunosuppression</td>
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<tr>
<td>• Age: Risk increases with age</td>
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<tr>
<td>• Gender: Males &gt; females</td>
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<tr>
<td>• Xeroderma pigmentosum</td>
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Information from the American Cancer Society, 2009.
DIAGNOSIS

NEVER SHAVE THESE LESIONS
MELANOMA

Neoplasms of the melanocytes

Two growth phases: Radial and Vertical

Lesions are categorized by their depth
HISTOLOGIC TYPES

- Superficial spreading - most common
- Nodular - Most worrisome
- Lentigo maligna
- Acral lentiginous - can occur on palms and soles, very aggressive
- Mucosal lentiginous
TREATMENT IS STAGE BASED

- **Stage 0 - Excision**
- **Stage I - Excision, with or without lymph node management**
- **Stage II - Excision, with or without lymph node management**
- **Resectable stage III - Excision, with or without lymph node management; adjuvant therapy and immunotherapy**
- **Unresectable stage III, stage IV, and recurrent melanoma - Intralesional therapy, immunotherapy, signal transduction inhibitors, chemotherapy, palliative local therapy**
BASAL CELL CARCINOMA

• MOST COMMON SKIN CANCER IN HUMANS
• ACCOUNTS FOR LESS THAN 0.1% OF PATIENT DEATHS FROM CANCER
• FLAT, FIRM, PALE AREA THAT IS SMALL, RAISED, PINK OR RED, TRANSLUCENT, SHINY, AND WAXY, AND THE AREA MAY BLEED FOLLOWING MINOR INJURY
• NON-MELANOCYTIC SKIN CANCER
LOCATION, LOCATION

• ON THE HEAD AND NECK (MOST FREQUENTLY ON THE FACE; MOST COMMON LOCATION IS THE NOSE, SPECIFICALLY THE NASAL TIP AND ALAE) - 85%

• ON THE TRUNK AND EXTREMITIES [1] - 15%

• ON THE PENIS, [8] VULVA, [9, 10] OR PERIANAL SKIN - INFREQUENT
TREATMENT

- Imiquimod 5% cream and topical 5-fluorouracil 5% cream for non-facial, superficial, and less than 2 mm
- Radiation therapy for non-surgical candidates
- Surgical therapies include electrodesiccation and curettage, excisional surgery, Mohs micrographically controlled surgery, and cryosurgery
SQUAMOUS CELL CARCINOMA

NON-HEALING WOUND OR GROWTH IN SUN EXPOSED AREA
PHYSICAL EXAM

• COMMON ON HEAD AND NECK

• MAY APPEAR AS PLAQUES OR NODULES WITH VARIABLE DEGREES OF SCALE, CRUST, OR ULCERATION

• EVALUATE NERVE FUNCTION TO RULE OUT PERINEURAL INVOLVEMENT
BOWEN’S DISEASE

• SHARPLY DEMARCATED, PINK PLAQUE ARISING ON NON–SUN-EXPOSED SKIN
<table>
<thead>
<tr>
<th>TREATMENT OPTIONS</th>
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<tbody>
<tr>
<td>Low risk cutaneous lesions on the extremities or trunk- electrodessication and curettage</td>
</tr>
<tr>
<td>Invasive SCC- surgical excision and Mohs micrographic surgery</td>
</tr>
<tr>
<td>Adjuvant Radiation to surgery to improve locoregional control</td>
</tr>
<tr>
<td>Radiation can be primary in non-surgical candidates</td>
</tr>
<tr>
<td>Systemic chemotherapy for metastatic lesions may be indicated</td>
</tr>
</tbody>
</table>
MACULAR LESIONS

**Macular Skin-Colored Lesions**

- Yellow-brown waxy appearing lesion, usually on scalp, face or neck; occurs with alopecia when present in hairline; usually present at birth, enlarges during puberty
  - Nevus Sebaceus of Jadassohn
- Rough, scaly plaques; usually present on sun exposed areas (face, hands, ears, neck, torso)
  - Actinic keratosis
    - Greasy, waxy, flesh-colored, "stuck-on" lesion, common in elderly; usually located on face, torso, shoulders or back
      - Seborrheic keratosis
    - Yellowish, warty lesion that can present as multiple Lesions; can occur with persons with GI tumors (Tome-Mur syndrome)
      - Sebaceous adenoma
- Scaly, crusty, erythematous lesions; located in unexposed areas; usually genitale
  - Bowen's disease
“Haven’t you heard? 75 is the new 15! That explains your annoying outbreak of pimples.”
SEBORRHEIC KERATOSIS

- Found anywhere on the body except palms and soles
  - Color is variable
- Texture can be velvety to wart-like
- SK's begin in the 4th decade of life and continue to increase
- When in doubt scratch the lesion for a waxy appearance. It will crumble and flake
DON’T FORGET
THE UGLY
DUCKLING
"And just where is this lesion, Mr. Avery?"
ACTINIC KERATOSIS
ACTINIC KERATOSIS

- OCCUR ON SUN EXPOSED SKIN
- IF LEFT UNTREATED CAN BECOME SQUAMOUS CELL CARCINOMA
- S/S: ROUGH PATCH THAT IS NOT SEEN, ROUGH PATCH THAT COMES AND GOES, ITCHING OR BURNING
TREATMENT-IN OFFICE

• CRYOTHERAPY (NO VS CO2)
  • TCA PEEL
  • ELECTROSURGERY AND CURETTAGE
  • LASER RESURFACING
MEDICINAL TREATMENT

• 5-FLOROURACIL CREAM: APPLIED BID FOR 2-4 WEEKS. MAY REQUIRE FOLLOW UP CRYOTHERAPY FOR THICK AK

• DICLOFENAC GEL: TWICE DAILY FOR 2-3 MONTHS. SKIN WILL BE VERY SUN SENSITIVE.

• IMIQUIMOD CREAM: BOOSTS YOUR OWN IMMUNE SYSTEM TO DESTROY ABNORMAL SKIN CELLS
Papular Lesions

- Pedunculated
  - Skin tag (acrochordon)

- Hyperkeratotic, fast-growing central keratin plug
  - Keratoacanthoma

- Friable, red granulation tissue
  - Pyogenic granuloma
    - Hard, cone-shaped mass with epidermal overgrowth
      - Keloid

- History of surgical scar, acne, skin piercing or minor trauma;
  - Fast-growing, more prevalent in darker-skin persons
    -itching, burning

- Cutaneous horn
Pigmented Lesions

- Dark brown lesion; rough, fissured surface
  - Seborrheic keratosis (wart)
- Multiple dark colored lesions; dark-skinned patient
  - Dermatosis papulosa nigra
- Brown to dark brown lesion; usually solitary, history of insect bite, "dimple sign"
  - Dermatofibroma

Nevus
DERMATOSIS PAPULOSIS NIGRA

- THESE ARE NOT FRECKLES
- COMMON ON CHEEKS OF DARKER SKIN
- TREATMENT? NEVER CRYOTHERAPY!
IN CONCLUSION

Remember your abc’s when evaluating a lesion

Yearly skin exams on high risk patients

If it’s suspicious -> biopsy. Avoid Shave biopsies if concerned for melanoma or Squamous cell

Don’t forget the ugly duckling
CHANGING GEARs
DESCRIBING THE “WOUND PICTURE”

- "W" WOUND LOCATION
- "O" ODOR ASSESS BEFORE AND DURING DRESSING CHANGE
- "U" ULCER CATEGORY
- "N" NECROTIC TISSUE
- "D" DIMENSIONS OF THE WOUND (SHAPE, LENGTH, WIDTH, DEPTH) DRAINAGE COLOR, CONSISTENCY AND AMOUNT
- "P" PAIN (WHEN IT OCCURS, WHAT RELIEVES IT)
- "I" INDURATION
- "C" COLOR OF WOUND BED
- "T" TUNNELING
- "U" UNDERMINING
- "R" REDNESS
- "E" EDGE OF SKIN LOOSE OR TIGHTLY ADHERED
CATEGORIZING WOUNDS

- VENOUS ULCERS
- ARTERIAL ULCERS
- DIABETIC ULCERS
- PRESSURE ULCERS
- SICKLE CELL ULCERS
- SURGICAL WOUNDS
- ATYPICAL WOUNDS
GUESS WHO I AM?
VENOUS ULCERS

Usually found on lower extremities at the pretibial and medial supra-malleolar areas of the ankle, where perforators are located.

Due to Venous Hypertension. Resulting in superficial vein distension leading to vein wall damage and exudation of fluid into the interstitial space. Leading to Venous Insufficiency.
DIAGNOSIS-PHYSICAL EXAM

• HYPERPIGMENTATION, DERMATITIS, LIPODERMATOSCLEROSIS OR ATROPHIE BLANCHE, A CHARACTERISTIC WHITE PATCHY SCARRING

• ASSESS THE COLOR OF EACH TOE

• SKIN APPEARS DUSKY RUDDY COLOR

• PALPATE FOR SKIN TEMPERATURE CHANGES

• EDEMA
DIAGNOSIS-IMAGING

-VASCULAR ULTRASOUND BOTH ARTERIAL AND VENOUS WITH REFUX
MAINSTAY OF TREATMENT

- Compression and elevation
  - One study showed foam dressing over ulcer healed ulcer twice as fast

- Can place agents that promote granulation tissue under an Unna

- Always wrap from toes up and pad bony areas to prevent pressure ulcers
WHO AM I?
ARTERIAL ULCERS

• SIGNS AND SYMPTOMS OF ARTERIAL DISEASE
  • SHINY, ATROPHIC SKIN
  • DECREASED PROFUSION WHEN ELEVATING LEG
  • LOSS OF HAIR DISTALLY
  • SKIN FEELS COOL OR COLD
  • LACK OF PULSES
  • COMPLAINS OF PAIN (CLAUDICATION)
WORK-UP

• HANDHELD DOPPLER FOR PULSES
• ARTERIOGRAM-INVASIVE
• ARTERIAL DOPPLER- SEVERELY DISEASED ARTERIES WILL HAVE A MONOPHASIC LOW AMPLITUDE
• ANKLE BRACHIAL INDEX
  • 1.0-1.2 NORMAL
  • 0.75-0.9 MODERATE DISEASE
  • 0.5-0.75 SEVERE DISEASE
  • <0.5 REST PAIN OR GANGRENE
  • UNRELIABLE DIABETES
TREATMENT

• MAY REQUIRE REVASCULARIZATION TO ESTABLISH BLOOD FLOW.
GUESS WHO?
DOCTOR, WE'VE GOT ANOTHER PUNCTURE WOUND!

DARN IT...
DIABETIC FOOT ULCERS

• DEFINITION
  • WOUNDS FROM ILL-FITTING SHOES, ULCERS ON WEIGHT-BEARING AREAS AND PENETRATING INJURIES FROM PUNCTURE WOUNDS OR OTHER TRAUMATIC EVENTS
DIABETIC FOOT ULCERS

• DIABETES AFFECTS SENSORY, MOTOR AND AUTONOMIC NERVE FUNCTION

• 56% WILL BE TREATED FOR SOFT TISSUE INFECTION DURING THE COURSE OF THEIR ULCERATION

• HYPERGLYCEMIA IMPAIRS LEUKOCYTE FUNCTIONING, INCLUDING PHAGOCYTOSIS AND INTRACELLULAR KILLING FUNCTION.

• USE OF SUPERFICIAL WOUND SWABS ARE DISCOURAGED. TISSUE SAMPLES SHOULD BE SENT FROM THE BASE OF THE WOUND.
PRESSURE ULCERS

- STAGE 1 PRESSURE INJURY - NONBLANCHABLE ERYTHEMA OF INTACT SKIN
- STAGE 2 PRESSURE INJURY - PARTIAL-THICKNESS SKIN LOSS WITH EXPOSED DERMIS, MAY REPRESENT AN INTACT OR RUPTURED BLISTER
- STAGE 3 PRESSURE INJURY - FULL-THICKNESS SKIN LOSS, SUBCUTANEOUS FAT MAY BE VISIBLE
- STAGE 4 PRESSURE INJURY - FULL-THICKNESS SKIN AND TISSUE LOSS WITH EXPOSED BONE, TENDON OR MUSCLE
- UNSTAGEABLE PRESSURE INJURY - OBSCURED FULL-THICKNESS SKIN AND TISSUE LOSS
- DEEP PRESSURE INJURY - PERSISTENT NONBLANCHABLE DEEP RED, MAROON OR PURPLE DISCOLORATION
PRESSURE ULCERS
QUIZ TIME
QUIZ
QUIZ TIME
QUIZ TIME
QUIZ TIME
STAGING PRESSURE ULCERS
KEYS

• PREVENTION
  • HIGH PROTEIN ORAL SUPPLEMENTS (30-35 CALORIES/KG BODY WEIGHT)
  • REPOSITIONING IS A MUST! IMPORTANCE OF A TEAM APPROACH
  • FOAM OR AIR MATTRESS
  • CONTROL INFECTION (DO NOT SWAB CULTURE THE WOUND)
  • AVOID SHEARING FORCES AND FRICTION
• IMPORTANCE OF A TEAM APPROACH
TREATMENT OPTIONS FOR ALL WOUNDS

LET THE WOUND SPEAK TO YOU
DRY WOUND TREATMENT OPTIONS

Transparent film:
- Benefits: See through and waterproof, can be impregnated with silver

Hydrogel: Water or glycerin based.
- Benefits: non-adherent, softens and loosens necrosis and slough, change every 24-72 hours, can be impregnated with silver.
- Disadvantages: may macerate periwound
LIGHT DRAINAGE TREATMENT OPTIONS

• HYDROCOLLOID: OCCLUSIVE DRESSING IMPERMEABLE TO BACTERIA AND CONTAMINATES.
  • BENEFITS: FACILITATES AUTOLYTIC DEBRIDEMENT, LONG WEAR TIME 3-7 DAYS. CAN BE IMPREGNATED WITH SILVER.
  • DISADVANTAGES: CONTRAINDICATED WITH MUSCLE, BONE OR TENDON. CAN BE DIFFICULT TO REMOVE. INDICATIONS: STAGE 1 OR 2 PRESSURE ULCERS, PREVENTATIVE FOR FRICTION AREAS, FIRST AND SECOND DEGREE BURNS

• HYDROGEL
### LIGHT DRAINAGE TREATMENT OPTIONS

<table>
<thead>
<tr>
<th>Collagen: major protein of the body, stimulates cellular migration and contributes to new tissue development</th>
<th>Advantages: absorbent, non adherent. Conforms well. Can be impregnated with silver</th>
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<tbody>
<tr>
<td>Disadvantages: not for necrotic wounds</td>
<td>Indications: chronic non-healing wounds, Stage 3 and 4 pressure ulcers, surgical wounds, donor sites</td>
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</tbody>
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MODERATE TO HEAVY DRAINING WOUNDS

• FOAM: HYDROPHILIC POLYURETHANE OR GEL FILM COATED FOAM.
  • BENEFITS: NON-ADHERENT, CAN CHANGE EVERY 3-5 DAYS DEPENDING ON DRAINAGE. CAN BE IMPREGNATED WITH SILVER.
  • DISADVANTAGES: NOT RECOMMENDED FOR DRY WOUNDS OR DRY ESCHAR. MAY MACERATE PERIWOUND AREA IF NOT CHANGED APPROPRIATELY.
  • INDICATIONS: PARTIAL AND FULL THICKNESS WOUNDS, STAGES 2-4 PRESSURE ULCERS, UNDER COMPRESSION WRAPS/STOCKING, TUNNELING WOUNDS
| Calcium alginate: nonwoven composite of fibers from calcium-sodium alginate |
| Advantages: trauma free removal, can be used on tunneling wounds, hemostatic properties for minor bleeding, change every day to every other. Can be impregnated with silver |
| Disadvantages: contraindicated for dry eschar, 3rd degree burns, surgical implantation and heavy bleeding. Gel may have odor during dressing change. Silver can change the color of drainage. |
| Indications: Partial to full thickness wounds, stage 3-4 pressure ulcers, post-op wounds for hemostasis, tunnels or cavities |
“...now apply pressure and hold it there. It's highly absorbant and will speed healing...”
NEGATIVE PRESSURE WOUND THERAPY

Non-invasive active therapy using localized negative pressure to promote healing

Indications: moderate to heavy drainage, partial to full thickness wounds; venous, arterial, diabetic ulcers and dehisced wounds. Stage 3-4 pressure ulcers, Flaps and grafts

Advantages: decreased edema, decreases bacterial colonization, increases blood flow, change every 48-72 hours.
NEGATIVE PRESSURE WOUND THERAPY

• DISADVANTAGES
  • STAFF NEEDS TO BE TRAINED
  • NOT REIMBURSED IN ACUTE AND LONG TERM CARE FACILITIES
  • MAY ADHERE TO WOUND
  • CONTRAINDICATED FOR WOUNDS WITH MALIGNANCY AND UNTREATED OSTEOMYELITIS
Enzymatic Debridement

Prescriptive collagenase ointment that digests collagen

Trade name: Santyl

Indication: debride necrotic wounds, pressure ulcers, dermal ulcers and post op wounds

Advantage: collagen in healthy tissue is not attacked, nonsurgical method of debridement, requires daily changes

Disadvantages: adversely affected by certain detergents, acidic solutions, and heavy metal ions such as mercury and silver
SPEEDING THE HEALING PROCESS

• DEBRIDEMENT IS A NECESSARY STEP IN LOCAL WOUND CARE

• DEBRIDEMENT IS THE REMOVAL OF NECROTIC TISSUE, EXUDATE, BACTERIA AND METABOLIC WASTE FROM A WOUND

• REMOVING NECROTIC TISSUE CREATES AN ACUTE WOUND WITHIN A CHRONIC WOUND, RESTORING CIRCULATION AND ALLOWING ADEQUATE OXYGEN DELIVERY
METHODS

Sharp debridement
Enzymatic debridement
Mechanical: wet to moist
Pulse Lavage
WET TO DRY DRESSING

Center for Medicare and Medicaid services recommend limited use

Not only removes necrotic tissue but also good tissue

Painful

Time consuming
IN CLOSING

1. Categorize the wound. Measure routinely.
2. Let the wound speak to you and guide your treatment accordingly.
3. High index of suspicion for Osteomyelitis in wounds with bone exposed. Consider MRI, Bone biopsy or ID consult.
4. Try to avoid wet to dry dressings if possible.
REFERENCES

https://www.aad.org/public/diseases/scaly-skin/actinic-keratosis

https://emedicine.medscape.com/article/280245-overview

https://emedicine.medscape.com/article/1294801-overview#a4

file:///C:/Users/Laura/Downloads/Benign-Skin-Lesions.pdf

https://emedicine.medscape.com/article/460282-overview

https://acphospitalist.org/archives/2012/02/coverstory.htm

http://en.skin.erasmusnursing.net/content/8-1-surgical-2/8-5-pressure-ulcers/8-5-1-treatment-of-pressure-ulcer-stages/

http://decubitusulcervictims.com/info/stages-of-decubitus-ulcers/stage2-decubitus-ulcer/

http://www.smith-ephew.com/australia/healthcare/treatment-options/treatment-options-for-pressure-ulcers/

https://www.pinterest.co.uk/pin/40039884158527370/

https://emedicine.medscape.com/article/280245-overview

https://emedicine.medscape.com/article/280245-overview