Acral and Mucosal Dermoscopy

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Overview: Acral and Mucosal Dermoscopy

- Acral benign and malignant patterns
- Mucosal benign and malignant patterns
- Clinical cases
Acral Melanoma

- Accounts for 2-3% of all melanoma diagnoses
- Acral melanoma: incidence rate: 1.8 per 1,000,000 person-years
- Mean age at diagnosis: 62.8 years
- 78.3% found on skin of lower limb

Mucosal melanoma

- Accounts for 1.3-1.4% of all melanoma diagnoses
- 25-50% on head and neck
- Mean age at diagnosis: 10 years later than cutaneous
- Usually presents at a later stage, worser prognosis (5 yr survival for oral melanoma: 15%)

Acral Lesions
Challenges of Acral Lesions

• Patients may have more trouble self-monitoring: not as much clinical history to guide you

• Anatomy is different from other areas of body: different dermoscopic patterns to learn
Anatomy of Acral Skin: Furrows and Ridges

Eccrine duct openings on
Ridges: crista superficialis

Furrows:
Sulcus superficialis
Anatomy of Acral Skin: Furrows and Ridges

RIDGES: (HILLS)

Malignant

FURROWS: (VALLEYS)

Benign
The ink furrow test

Benign Acral Patterns

• Parallel furrow (24-52%)
• Lattice-like (10-27%)
• Fibrillar (6-12%)

Other

• Crista dotted
• Diffuse homogeneous

Saida et al. Arch Derm 1995
Benign Acral Patterns

- **Parallel furrow**
  Parallel, pigmented lines within furrows

Benign Acral Patterns

• Lattice-like

Parallel, pigmented lines along the furrows and lines forming bridges across furrows

Benign Acral Patterns

- Fibrillar

Pigmented lines across furrows

Benign Acral Patterns

• **Other**

Crista dotted pattern:

Regular pigment dots around eccrine units

(congenital type nevi)

Benign Acral Patterns

• **Other**
  Diffuse homogeneous

Seen in congenital nevi or nevi with prominent dermal component
Benign Acral Patterns

- Other

Hemorrhage:

Talon noir

Can have diffuse pigment, reddish-black globules

www.dermnetnz.org
Malignant Acral Pattern

- Parallel Ridge:
  Pigmentation accentuated along ridges

Malignant Acral Pattern

- Parallel globules on ridges

Ghigliotti et al. JAAD 2017; 76 (2) Supplement 1:S1-2
Malignant Acral Pattern

• Disorderly pigment

191 (166 + 25) Acquired melanocytic lesions on acral volar skin

First step

174 (166 + 8) Nonparallel ridge pattern
17 (0 + 17) Parallel ridge pattern

Second step

101 (101 + 0) Typical PFP, LLP, or regular fibrillar pattern
73 (65 + 8) Dermoscopic features not conforming to the left box

Third step

47 (47 + 0) Diameter ≤7 mm
26 (18 + 8) Diameter >7 mm

101 (101 + 0) No follow-up
47 (47 + 0) Follow-up
43 (18 + 25) Biopsy for histopathologic evaluation

Important Take-Home Points

• If parallel ridge/globules or disorderly pigment: biopsy to r/o melanoma

• If clear benign dermoscopy pattern (parallel furrow, lattice, fibrillar, follow clinically

• If not parallel ridge/globules or disorderly pigment but not clear benign pattern, if < 7 mm, consider close f/u but if > 7 mm, consider biopsy
Summary: Benign Acral Patterns

- Parallel furrow
- Lattice
- Fibrillar
- Crista dots
- Diffuse homogeneous
- Hemorrhage: red-black globules
Summary: Malignant Acral Pattern

* Parallel ridge/globules
* Disorderly pigment

7-10 mm may be an important cutoff
Mucosal Lesions
Challenges of Mucosal Lesions

Challenges:

• High rates of benign melanosis
• Low rates of melanoma
• Awkward exam
• Soiling dermoscope with contact
• Not able to use dermoscopy in some areas (oral cavity)
  • Polarized dermoscope
  • Transparent shield after oil/ gel/ alcohol interface (plastic wrap)
  • Videodermoscope/ camera attachment

Benign mucosal lesions: Melanotic macules

- Most common on lower lip
- F>M (2:1) and young adults
- Etiology not clear: physiologic or reactive process
- **Benign: not thought to be premalignant**
- One case report of palatal melanotic macule transforming to MM but ? true melanotic macule
- **Pathology:** increased melanin within the basal cell layer, melanophages

Kahn et al. OOOM Volume 100, Issue 4, Pages 454-459 (October 2005)

[Image of melanotic macule]

[Links to images and resources]
Benign Mucosal Patterns

Pigmented lesions:
• Homogenous pattern

Benign Mucosal Patterns

• Ring-like pattern
• Fish-scale-like pattern
• Dotted-globular pattern
• Fingerprint-like pattern

Malignant Mucosal Patterns

Multicenter study by the International Dermoscopy Society (IDS)

Melanoma:
• Combination of blue, gray, or white color with structureless zones
• Multicomponent pattern

Blum A et al. Arch Dermatol 2011; 147(10):1181-7
Reported dermoscopic patterns:

-- abrupt cut-off of pigment pattern at lesion periphery
-- blue-white veil, atypical vascular patterns
Summary: Benign Acral Patterns

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- Diffuse homogeneous
- Hemorrhage: red-black globules
Summary: Malignant Acral Pattern

* Parallel ridge/globules
* Disorderly pigment

7-10 mm may be an important cutoff
Summary Mucosal Dermoscopy

**Benign Patterns:**
• Homogeneous pattern

**Malignant Patterns:**
• Blue, gray, white structureless areas
• Multicomponent pattern

If in doubt, consider biopsy!
Clinical Cases
Case 6
Melanoma

Oh, TS et al. Ann Dermatol 2011; 23(3): 400-404
Case 10

Multiple colors, irregular dots, blotches, scar-like depigmentation, peppering, blue-white veil

Malignant melanoma

Thank you!

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