Practical Management of Acral Pigmented Lesions

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Practical Management of Atypical Melanocytic Lesions
Challenges of Acral Pigmented Lesions

• Benign lesions can look worrisome, malignant ones sometimes subtle
• Location can make biopsy more difficult
• Patients may have more trouble self-monitoring feet
• Dermoscopy can aid in management
Dermoscopy of the Hands and Feet

- Acquired Acral Nevi / Melanoma
- Congenital Acral Nevi
- Nails
Basic Acral Patterns
(Acquired Nevi)

Benign
• Parallel Furrow
• Lattice-like
• Fibrillar

Malignant
• Parallel Ridge
The ink furrow test

Beware: The Parallel Ridge Pattern

“Furrows are Fine, Ridges are Risky”
Parallel Ridge Pattern
Malignant Melanoma in Situ of the Sole

Basic Benign Acral Patterns

- Parallel Furrow
- Lattice-like
- Fibrillar
3 step algorithm

1. Is it parallel ridge?
   No

2. Is it furrow, lattice or fibrillar?
   No

3. Measure: Is it 7mm or less?
   No = Biopsy

Important Take-Home Point

If a pattern is not clearly malignant, but not clearly benign, assume that it might be a melanoma
Features of Congenital Acral Nevi

Acral Congenital Melanocytic Nevi

- Parallel furrow pattern

- Crista dotted (regular dots/globules on the ridges near the openings of the eccrine ducts)

Crista Dotted Pattern
Common Benign Congenital Acral Nevus

The dots are on the ridge, but this is OK
Not the same as parallel ridge (not OK)

Crista dotted + Parallel Furrow
Peas in a Pod =
Common Benign Congenital Acral Nevus Pattern
Congenital Nevi often Change and Fade Over Time
Must be a *typical* benign pattern

- **Braun et al, Dermatology 2013 (IDS study)**
- Predominantly Caucasian population
- Benign pattern can be seen in parts of melanomas
- Diameter >1 cm were more likely to be melanoma
- Evaluate an acral lesion for the presence of malignant patterns first
Watch out for any non-typical features and big lesions

• Non-site-specific melanoma criteria (i.e. blue white veil) were detected in 83.9% of lesions, especially in ones without a PRP (95.1%)
• Anything > 7 mm must be TYPICAL
• Lesions greater than 1 cm are much more likely to be melanoma
• Acral melanomas in caucasian patients often have some component of a benign pattern – look out for any malignant features

Lallas et al Melanoma Research 2014, Braun et al Dermatology 2013
Lallas et al Br J Dermatol 2015
Algorithm

1) Any PRP gets biopsied
2) Typical symmetric PFP, lattice, fibrillar is reassuring
3) Look out for:
   • asymmetry or irregular blotch
   • Size > 7 mm, and especially > 1 cm
Not every pigmented lesion is melanocytic
Talon Noir

- Red-Brown globules on ridge
- “Pebbles on the ridge”
- Can try to pare it off with a 15 blade to confirm
Tinea Nigra

- Spicules of pigmentation
- No relationship to the dermatoglyphs
Acral Melanoma – Beware an atypical globular pattern

Ghigliotti et al JAAD 2017
Pigmented Lesions in the Nail

- Pigmented lesions in the nail are far more challenging
- Behind a frosted window
- Pigment on the plate isn’t the actual lesion
- Harder to biopsy
Diagnostic criteria for and clinical review of melanonychia in Korean patients (Jin et al JAAD 2016)

- 275 melanonychia patients
- 5 most common causes of melanonychia in Korean patients were:
  - subungual hemorrhage (29.1%)
  - nail matrix nevus (21.8%)
  - trauma-induced pigmentation (14.5%)
  - nail apparatus lentigo (11.6%)
  - ethnic-type nail pigmentation (8.0%)
- Melanoma was diagnosed in 6.2% of patients
- Ethnic-type nail pigmentation was commonly identified
What kind of pigment is it?

• Not from melanin (blood, fungus, stain)
• Extra melanin, but not melanocytic (lentigo)
• Melanocytic proliferation (nevus, melanoma)
Not melanin

- Stain
- Fungus
- Blood
Not melanin - blood

- Reddish
- Should grow out
- Fecal occult blood test can confirm blood, not melanin, still need to monitor
Extra Melanin Production

• Not melanocytic neoplasm
• Trauma-induced
• Non-melanocytic tumor-induced (wart)
• Lentigo / ethnic melanonychia
Melanocytic Activation vs Proliferation

Parallel homogenous grey lines suggest epithelial hyperpigmentation (lentigo)

Braun et al JAAD 2007
Lentigo

Gray, parallel lines
Trauma-Induced Pigmentation

• Fingernails of frequently used fingers
• Gray background with gray parallel lines
• Surface changes in nail / shape of foot
• Often bilateral 5th toes


Jin et al JAAD 2016
True melanocytic proliferations

- Nevus
- Melanoma
Nevus

• Brown or Black
• Regular bands
• Parallel, uniform thickness and spacing
• Pseudo-Hutchinson sign (see pigment through nail fold)

Braun et al JAAD 2007
Melanoma

- Bad signs:
  - Wider at the base
  - Multiple, uneven bands
  - Destruction of nail plate
  - Pigment beyond nail

Braun et al JAAD 2007
Classification of LM risk

Type 1 = q6  Type 2 $\rightarrow$ q3  Type 3 $\rightarrow$ Bx

72 $\rightarrow$ benign  52 $\rightarrow$ 5 changed  13 $\rightarrow$ all MM
2 were MM

Sawada et al Int J Dermatol 2014
Longitudinal Melanonychia IDS Study

Benati et al. JEADV 2016

< 1/3 of nail plate
light brown color $\rightarrow$ benign

> 2/3 of nail plate
grey and black $\rightarrow$ malignant
Nail melanoma can be subtle – dermoscopy isn’t always so obvious

Knackstedt and Jellinek JAAD 2017 – examples of subtle melanomas in the nail
Acral Biopsy Issues

• Ideally biopsy the entire lesion
• Not always practical for large acral lesions
• May have to pick representative area
• Can be heterogeneous – sampling error
• Hard to go deep on a shave biopsy
• Punch biopsy of a portion of a large lesion
• Go deep or go home!
Partial Punch Biopsy

• Result comes back as atypical melanocytic lesion, insufficient to call melanoma
• Surgery – removed the nail, excision
• Still atypical melanocytic, suggestive of melanoma in situ
• Surgical oncology – excision with 5 mm margin
• Melanoma in situ
Summary

- Dermoscopy can aid in management of acral pigmented lesions
- **Acquired** – Parallel Ridge needs biopsy
  - If not, look for typical benign patterns
- **Congenital** – peas in a pod is benign pattern
  - If not a known benign pattern, measure the lesion
  - 7 mm or less – monitor for change
  - > 7 mm – biopsy
- Nails – grey – hyperpigmentation
  - melanoma – uneven, Hutchinson’s, wider at base, >
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Thank you

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