Special Site Dermoscopy:
Volar surface

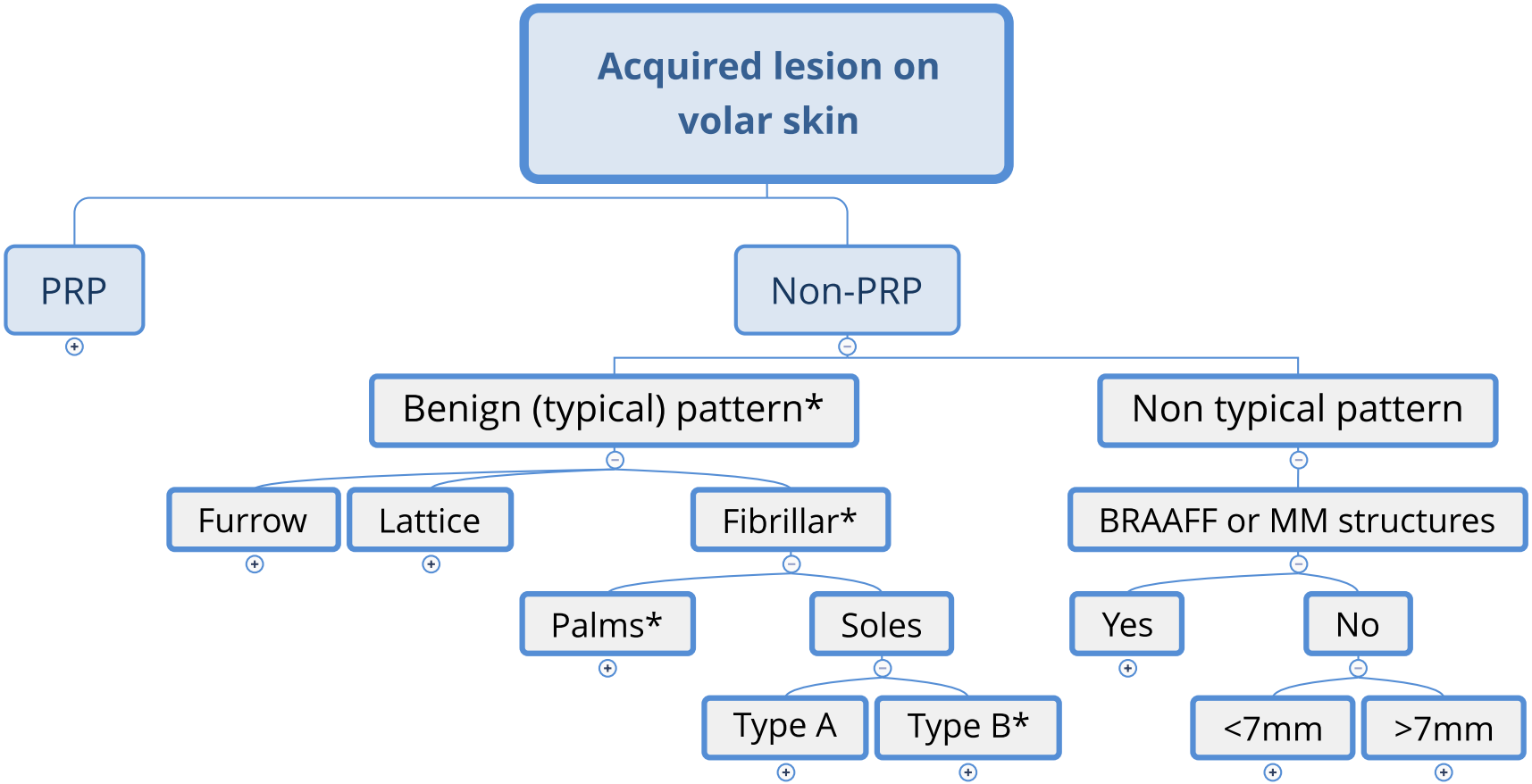
Ashfaq A. Marghoob, MD
Attending Physician

Memorial Sloan Kettering Cancer Center

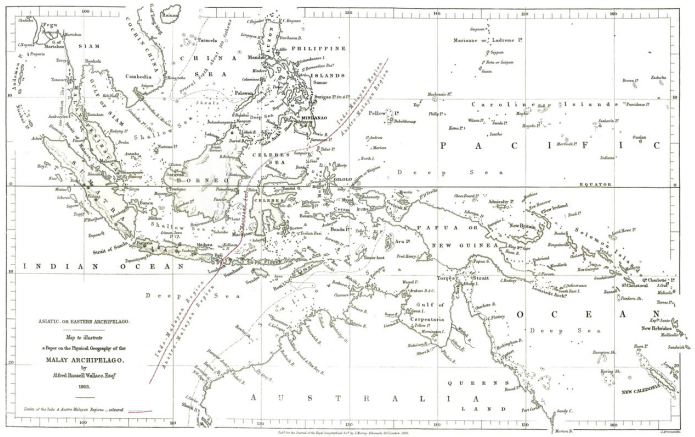
International Dermoscopy Society

Welcome to dermoscopedia

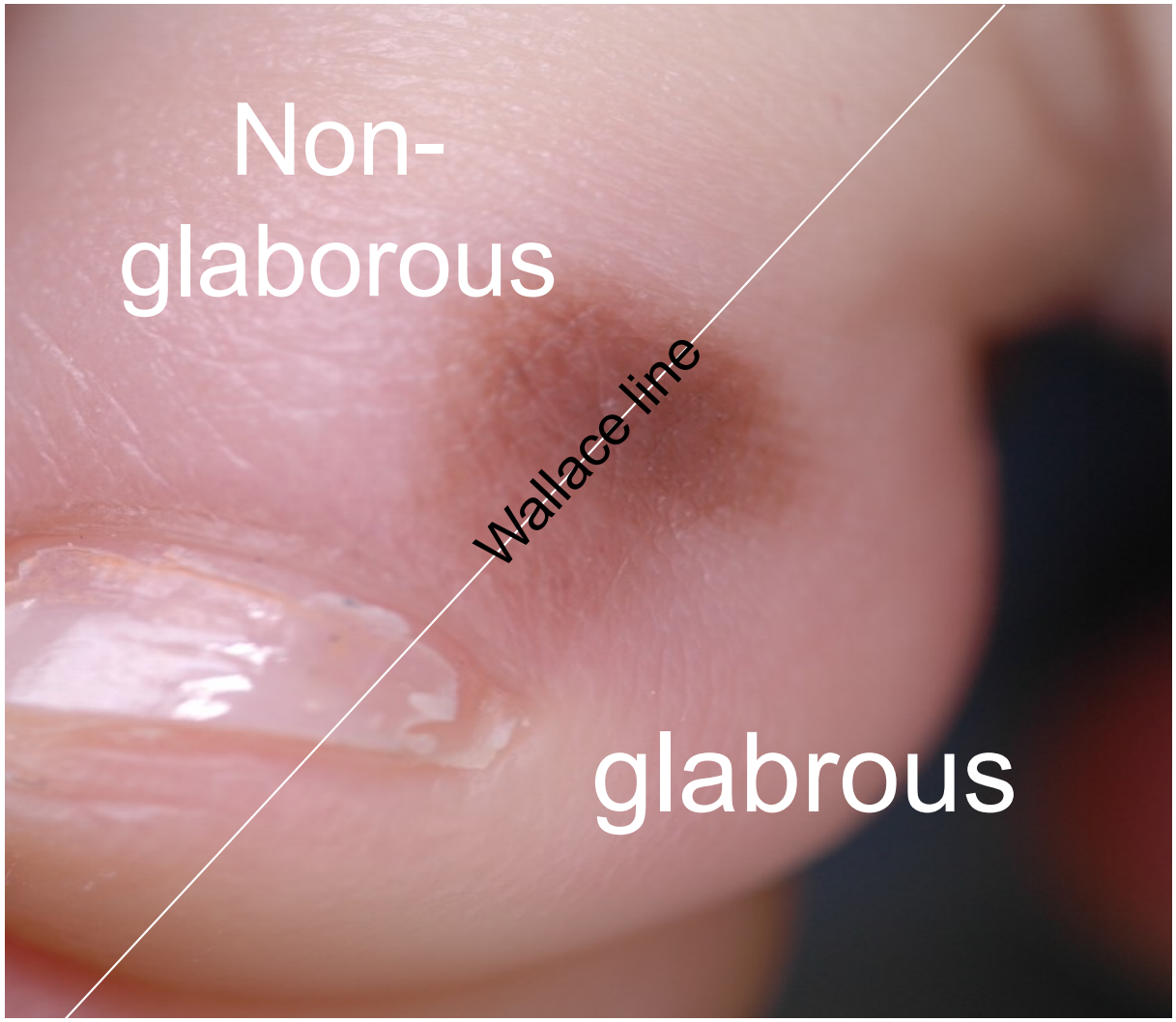
AMERICAN DERMOSCOPY MEETING

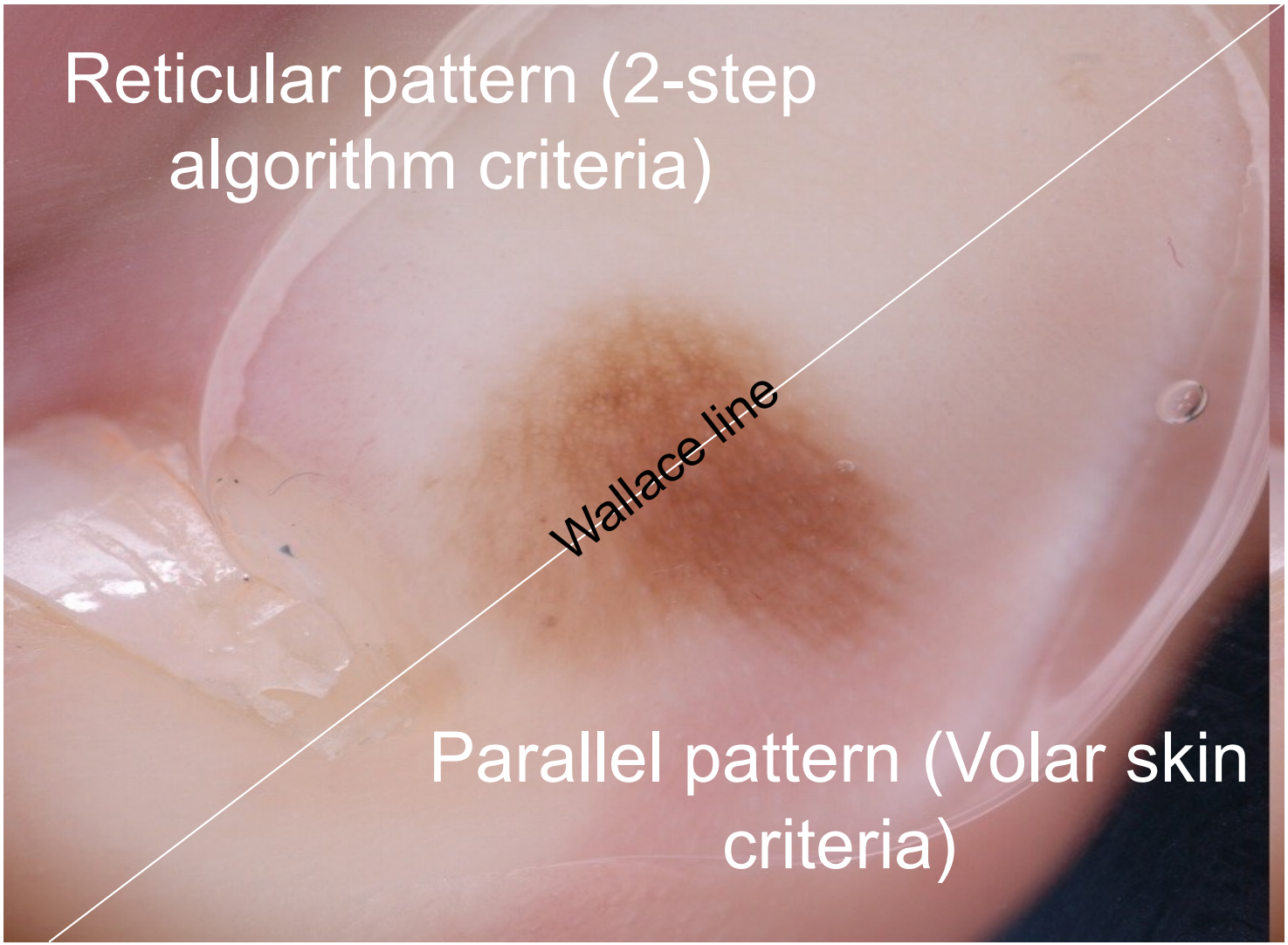

Acquired lesion on volar skin
PRP
Non-PRP
Benign (typical) pattern*
Non typical pattern
Furrow
Lattice
Fibrillar*
BRAAFF or MM structures
Palms*
Soles
Yes
No
Type A
Type B*
<7mm
>7mm

Wallace line

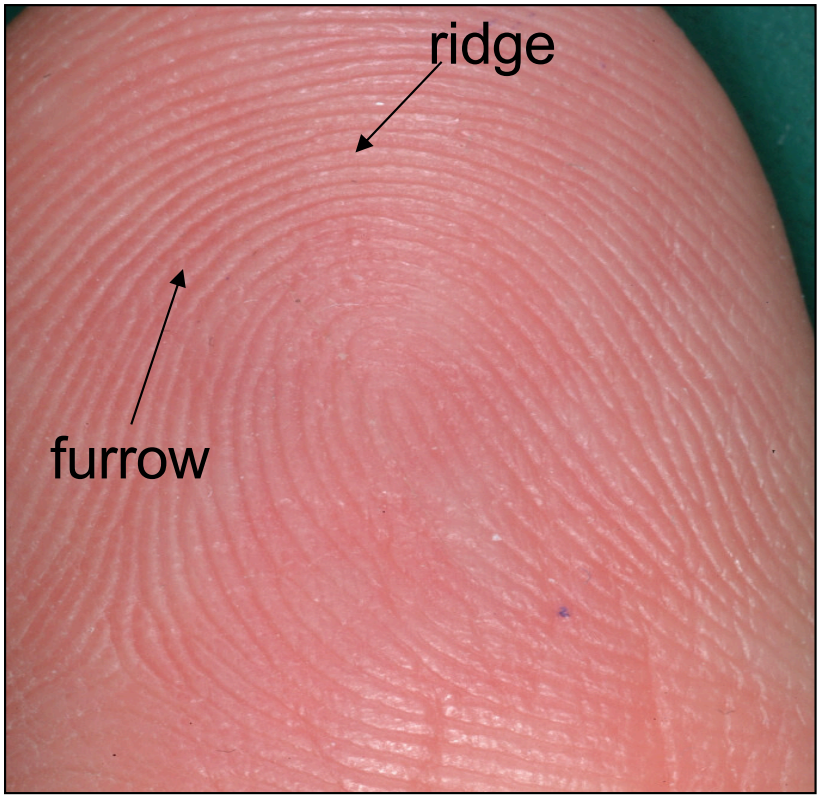


The **Wallace line** is a faunal boundary line drawn in 1859 by the British naturalist Alfred Russel Wallace and named by the English biologist T.H. Huxley that separates the biogeographical realms of Asia and 'Wallacea', a transitional zone between Asia and Australia. To the west of the line are found organisms related to Asiatic species; to the east, a mixture of species of Asian and Australian.

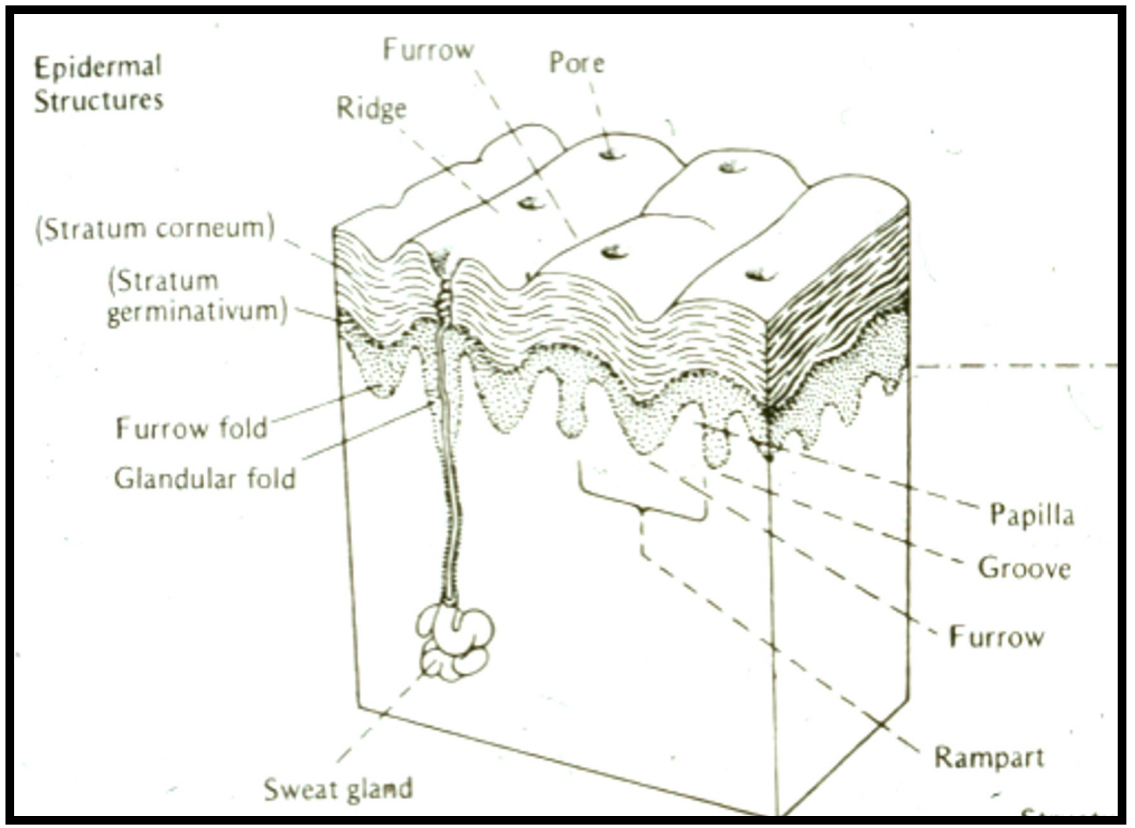



Reticular pattern (2-step algorithm criteria)
Wallace line
Parallel pattern (Volar skin criteria)

Dermatoglyphics

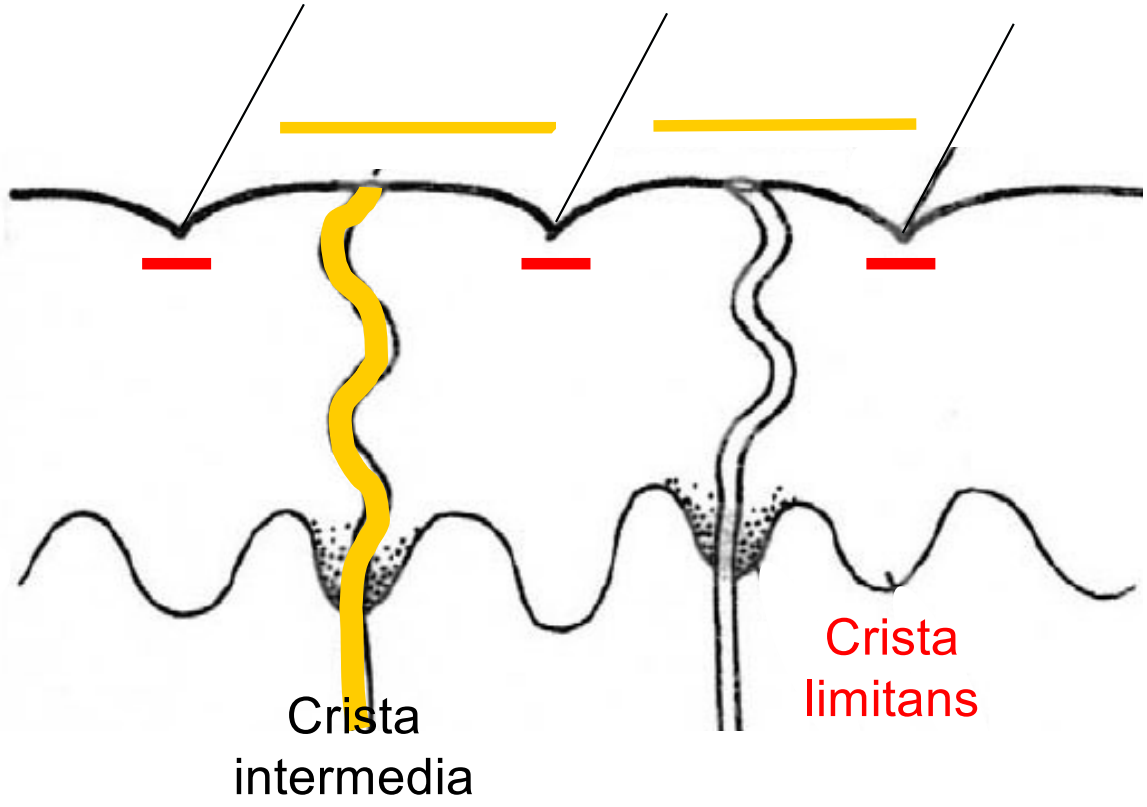


Micro-anatomy

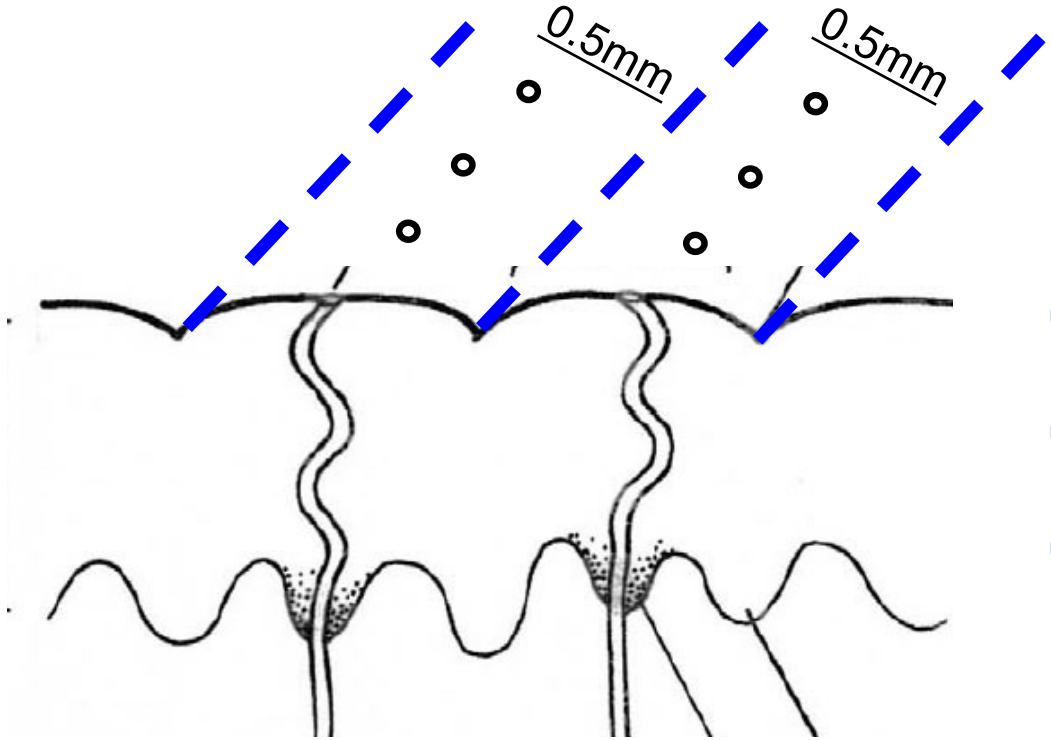


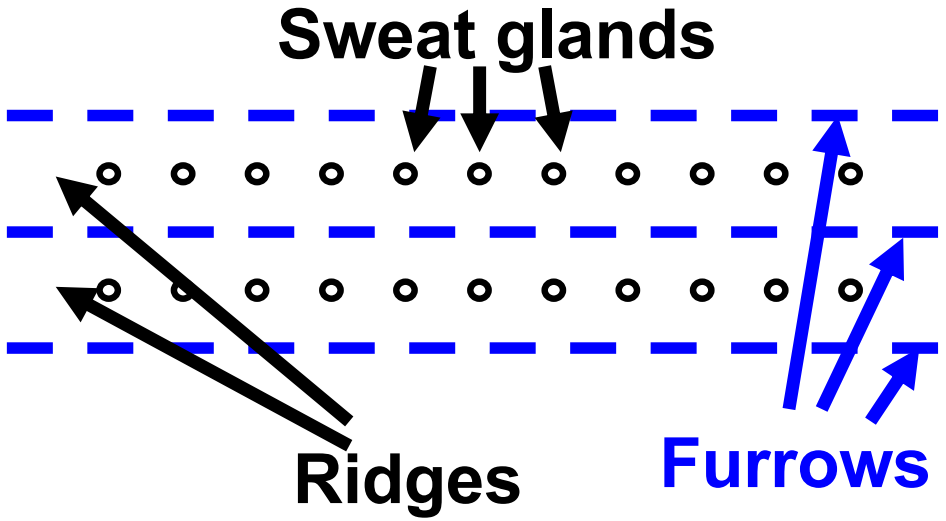
T. Saida et al. *Clin.Dermatol.* 20 (3):279-285, 2002.

Ridges & Furrows



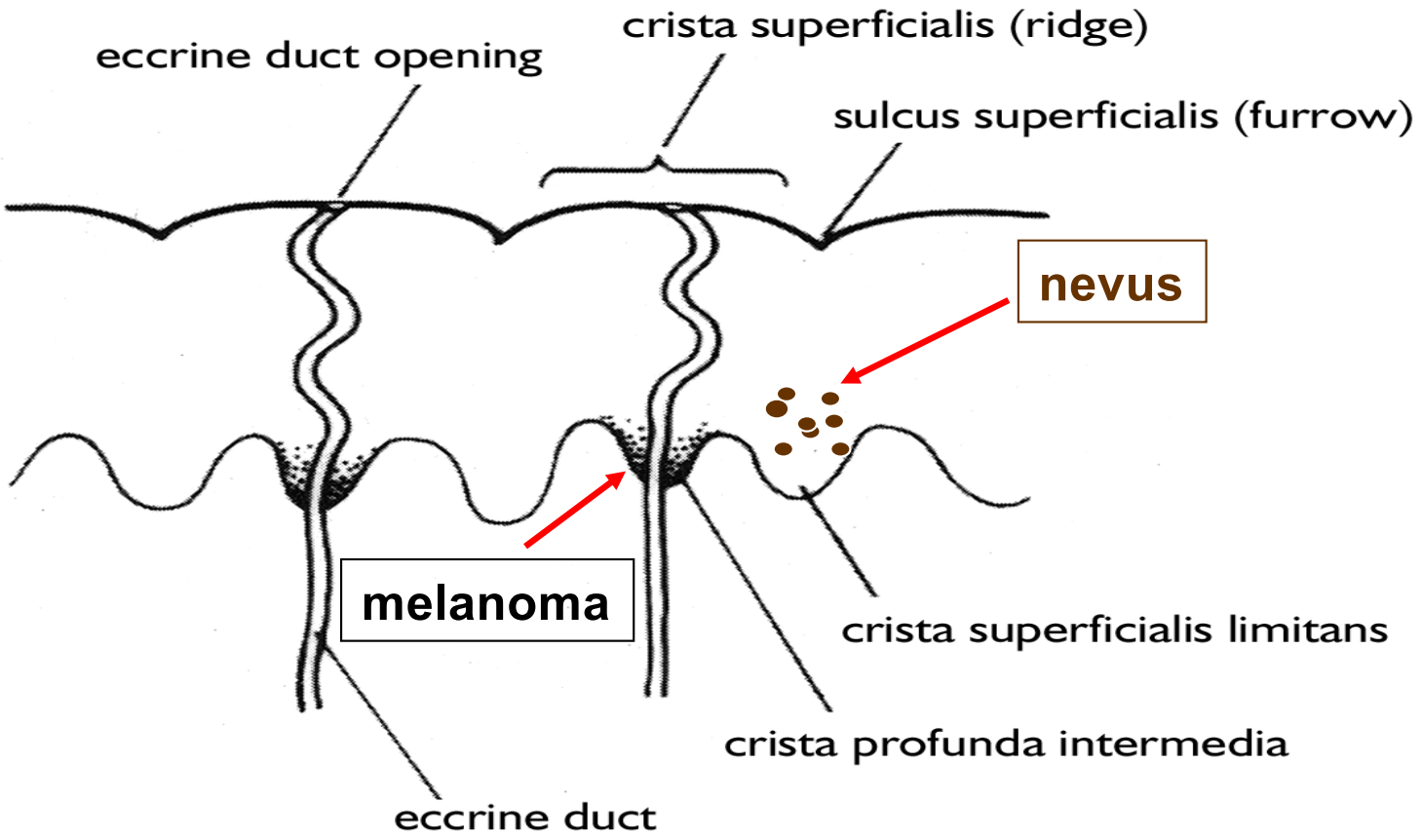
Anatomy





Why is it so important to locate ridges and furrows?

Anatomy of Volar skin



Characteristic Distribution of Melanin Columns in the Cornified Layer of Acquired Acral Nevus: An Important Clue for Histopathologic Differentiation From Early Acral Melanoma

Toshiaki Saida, MD, PhD,† Hiroshi Koga, MD,*‡ Yasufumi Goto, MD, PhD,* and Hisashi Uhara, MD, PhD**

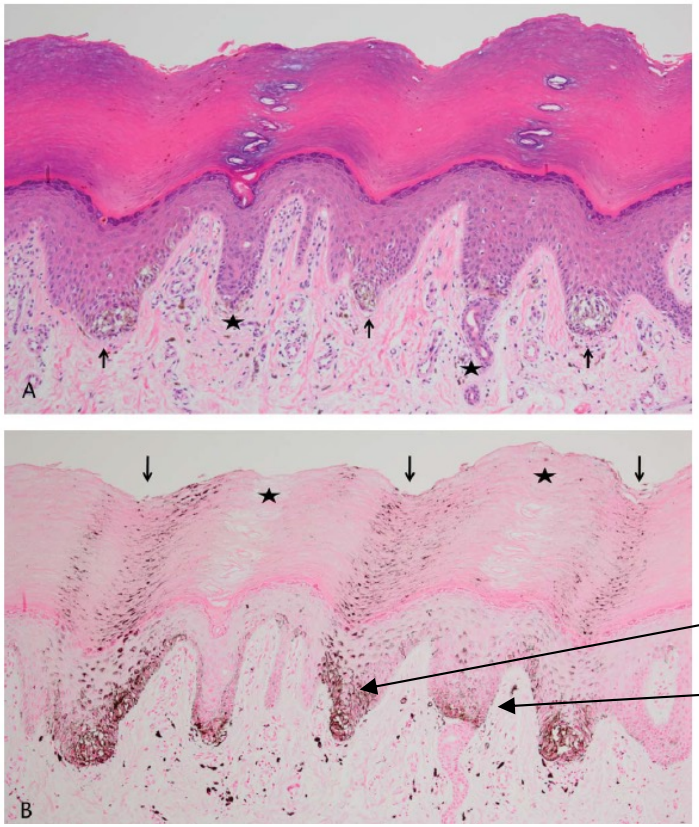
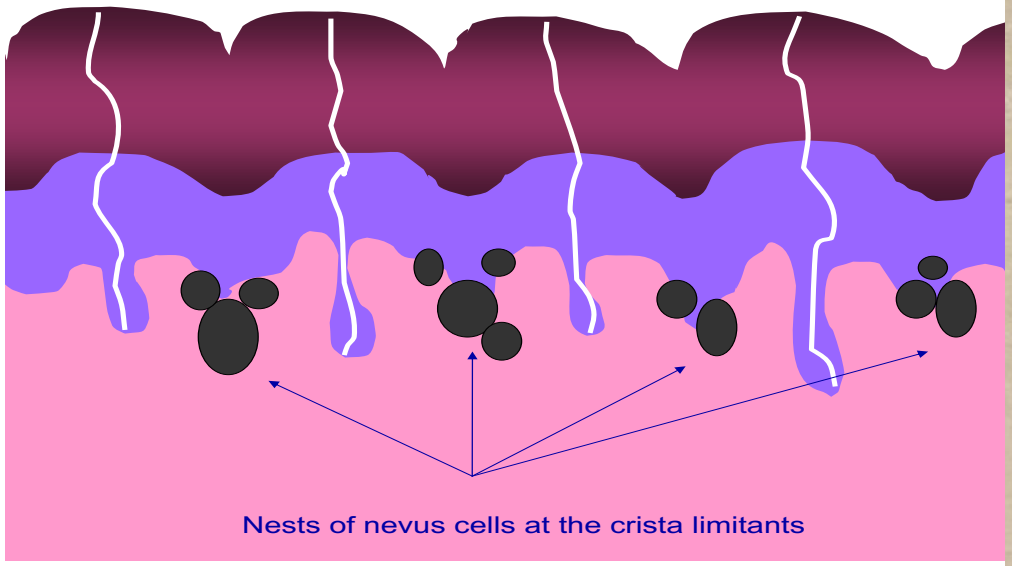


FIGURE 1. Histopathologic features of acral nevus of the junctional type (case 16). The cornified layer slants slightly. A, Nevus cells arranged in nests are predominantly located in the crista profunda limitans (arrows), and only a few melanocytes are detected in the crista profunda intermedia (asterisks) (hematoxylin–eosin stain). B, Melanin granules in the cornified layer are detected as parallel columns regularly situated under the surface furrows (arrows), whereas they are mostly absent in the cornified layer under the surface ridges (asterisks) (Fontana–Masson stain).

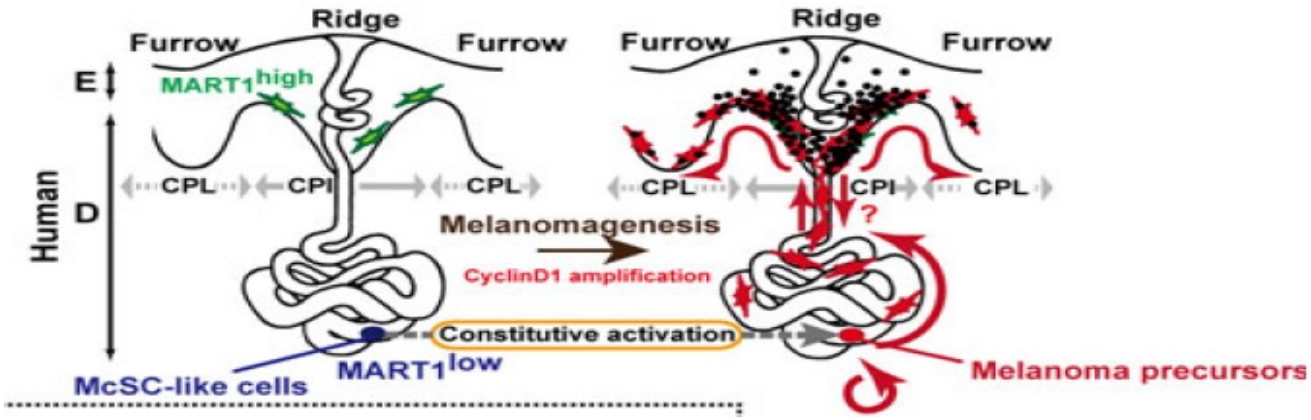
Crista profunda limitans

Crista profunda intermedia (eccrine duct)

Parallel furrow pattern



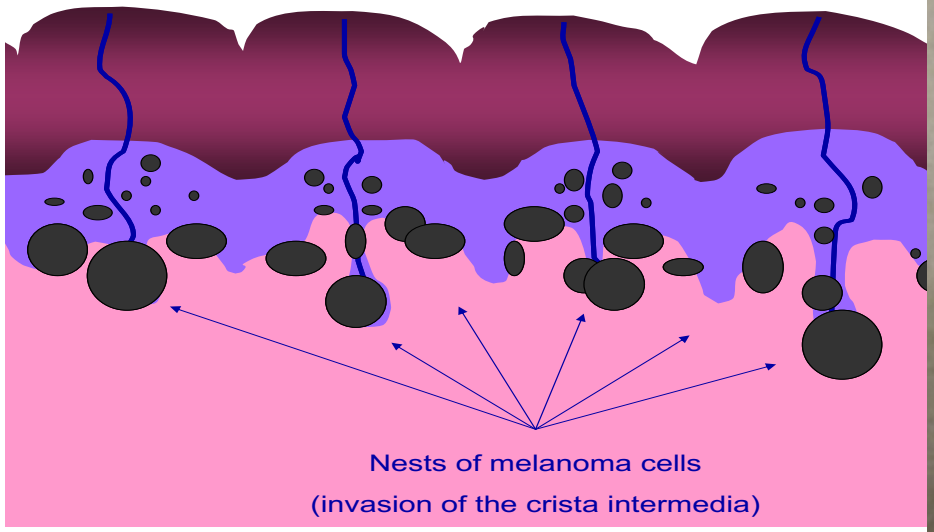
Benign pattern



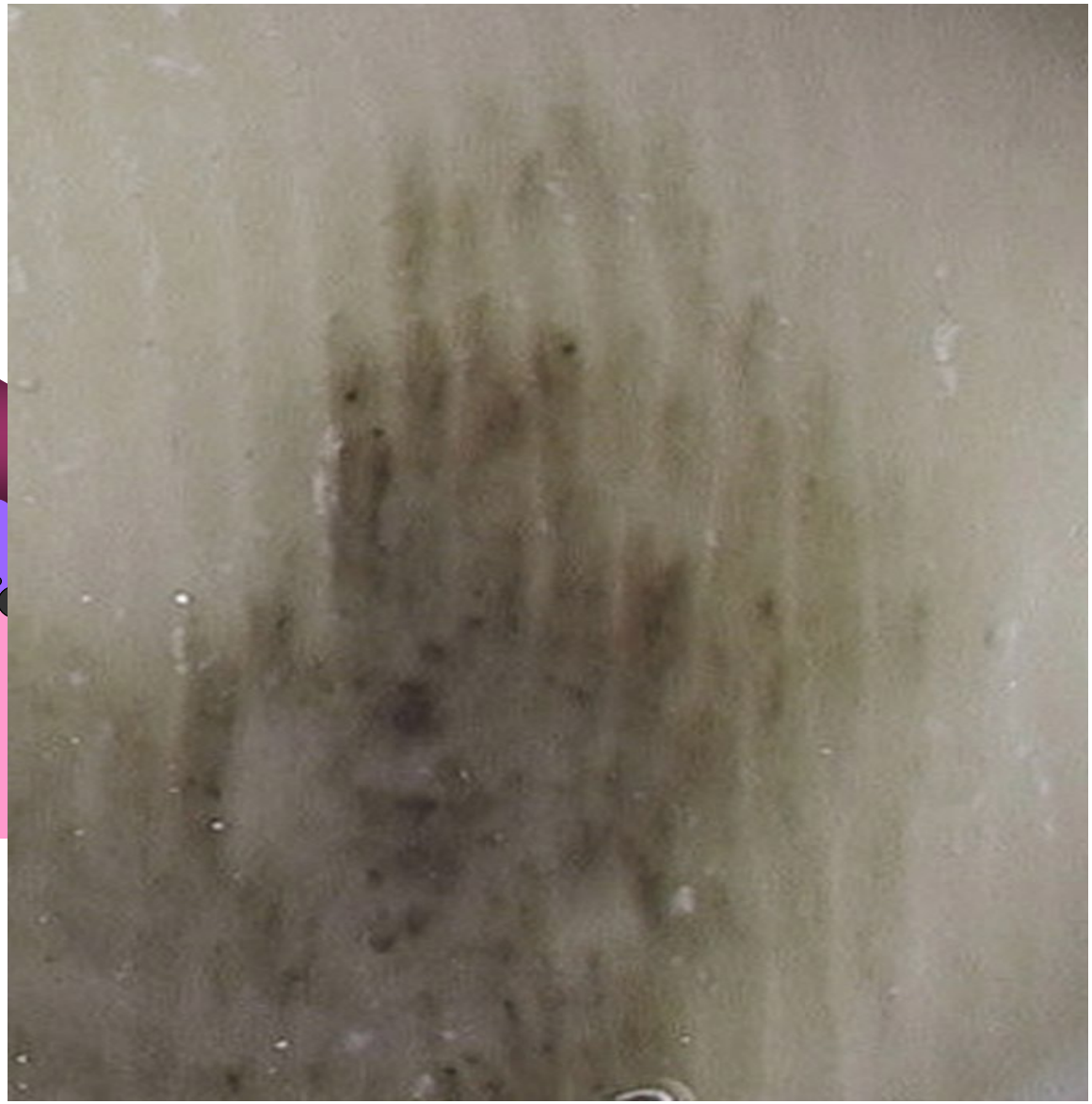
- **Secretory portion of eccrine sweat glands provide an anatomical niche for melanocyte–melanoma precursor cells**
- **This explains preferential distribution of early melanoma cells around sweat glands (crista profunda intermedia) in human volar skin = parallel ridge pattern**

Okamoto et al. 2014

Parallel ridge pattern



Malignant pattern

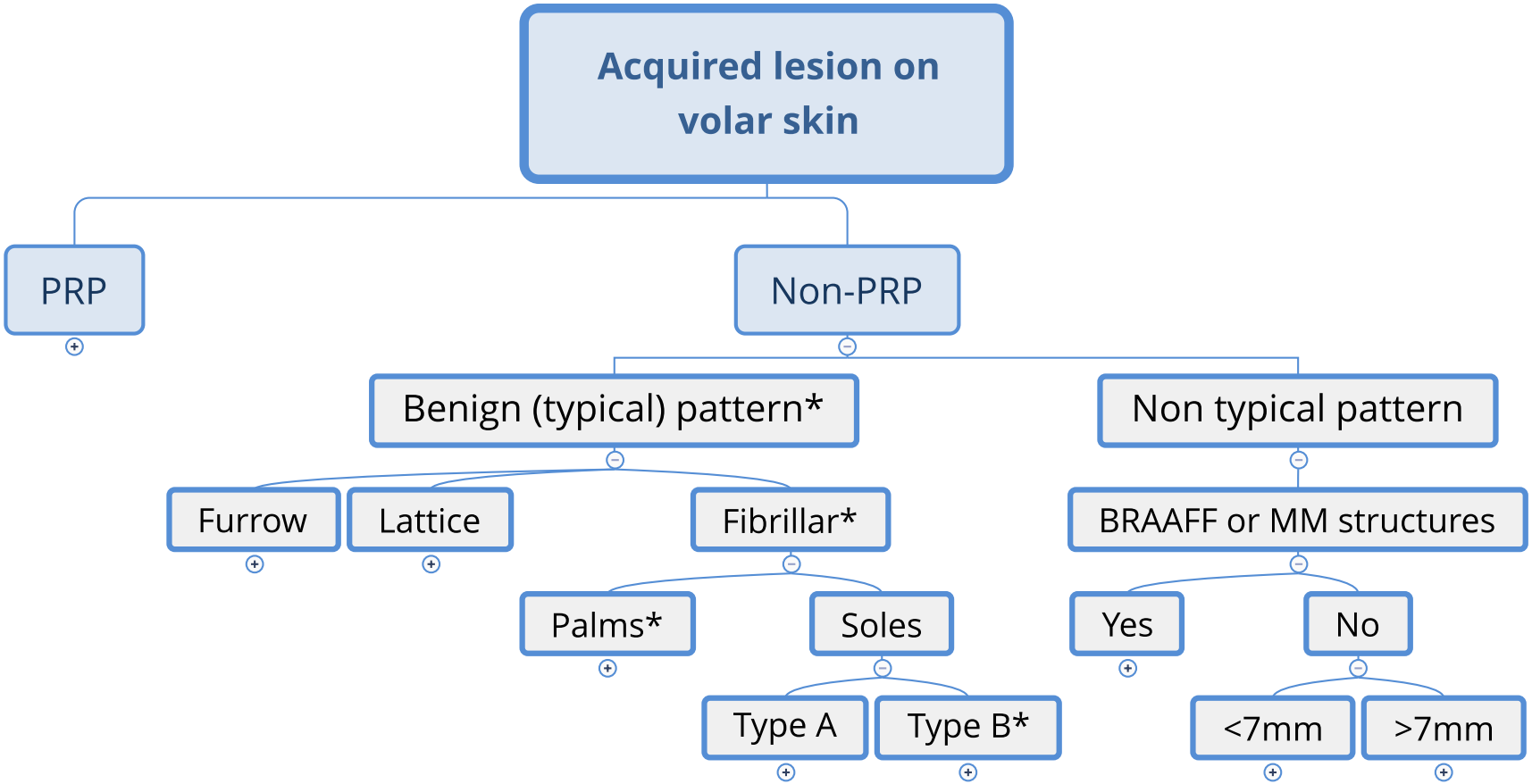


Management Algorithm for Acquired volar melanocytic lesions

Dermoscopy for Acral Melanocytic Lesions: Revision of the 3-step Algorithm and Refined Definition of the Regular and Irregular Fibrillar Pattern

Toshiaki Saida[1], Hiroshi Koga[1], Hisashi Uhara[2]

Commentary | Dermatol Pract Concept. 2022;12(03):e2022123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Acquired lesion on volar skin

- Parallel ridge pattern (PRP)
  - 
- Non-PRP

Significance of Dermoscopic Patterns in Detecting Malignant Melanoma on Acral Volar Skin

Results of a Multicenter Study in Japan

Toshiaki Saida, MD, PhD; Atsushi Miyazaki, MD; Shinji Oguchi, MD, PhD; Yasushi Ishihara, MD; Yoriko Yamazaki, MD; Sumio Murase, MD, PhD; Shusuke Yoshikawa, MD; Tetsuya Tsuchida, MD, PhD; Yasuhiro Kawabata, MD, PhD; Kunihiko Tamaki, MD, PhD

Objective: To determine diagnostic variables such as sensitivity and specificity of the major dermoscopic patterns observed in melanocytic lesions on acral volar skin, with particular attention to the significance of the parallel ridge pattern and irregular diffuse pigmentation in detecting acral melanoma.

Design: Multicenter, retrospective study.

Setting: University hospitals in Japan.

Patients: Patients with melanocytic lesions on acral volar skin. A total of 712 melanocytic lesions (103 malignant melanomas, including 36 in situ lesions, and 609 melanocytic nevi) were consecutively collected from the files of 3 hospitals. Diagnoses of all the lesions had been determined histopathologically.

Interventions: Dermoscopic examination.

Main Outcome Measures: The sensitivity, specificity, positive predictive value, negative predictive value, and diagnostic accuracy of the major dermoscopic patterns seen in benign and malignant melanocytic lesions on acral volar skin.

Results: The parallel ridge pattern and irregular diffuse pigmentation showed extremely high specificity (99.0% and 96.6%, respectively) and very high negative predictive value (97.7% and 97.5%, respectively) in malignant melanoma. For melanoma in situ, the positive predictive value and diagnostic accuracy of the parallel ridge pattern were significantly higher than those of irregular diffuse pigmentation ($P=.009$ and $P=.006$, respectively). In melanocytic nevi, the specificity and positive predictive value of the parallel furrow pattern and/or the latticelike pattern were found to be very high (93.2% and 98.3%, respectively).

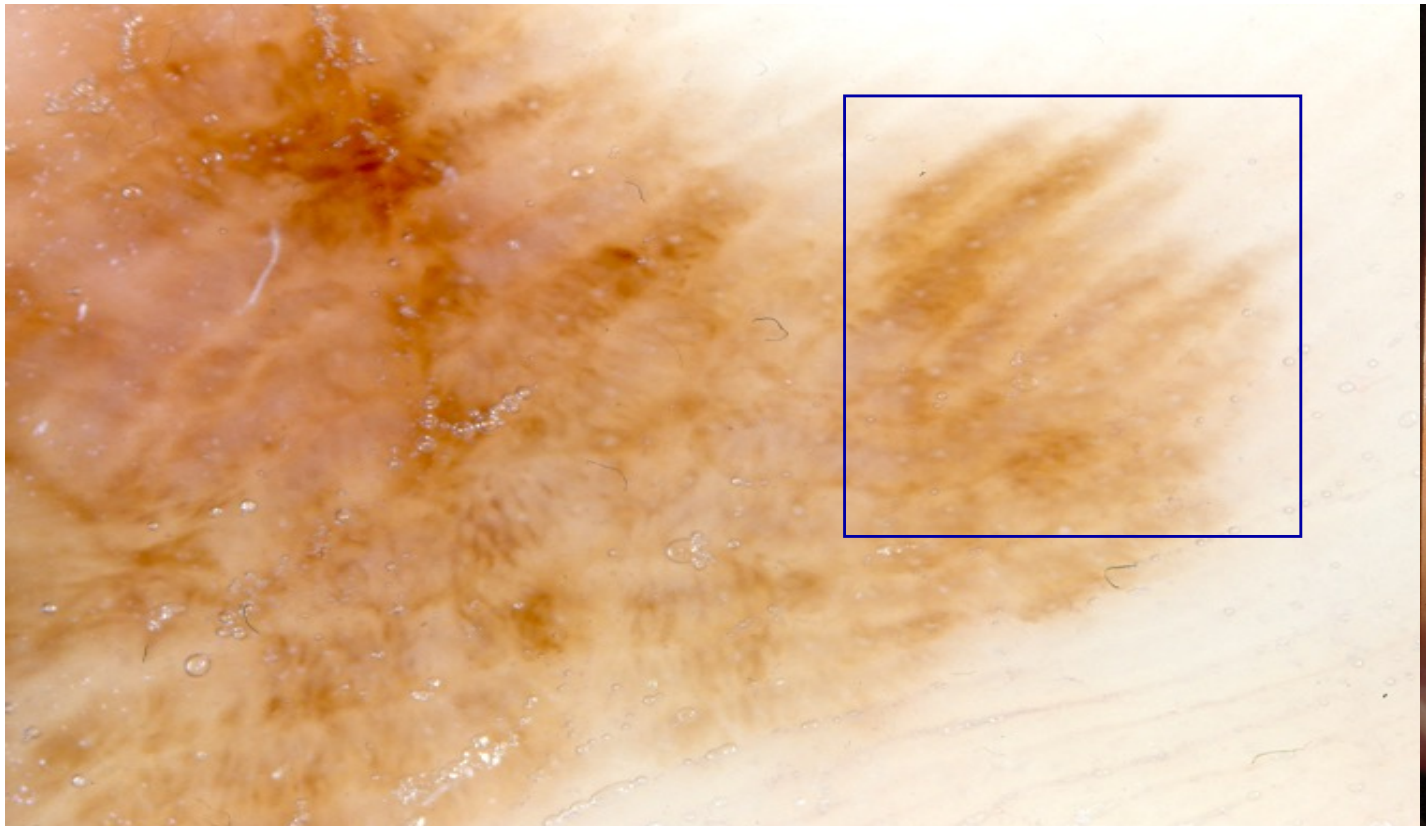
Conclusions: Dermoscopy is immensely helpful in differentiating malignant melanomas from melanocytic nevi on acral volar skin. Moreover, the parallel ridge pattern aids in detecting acral melanomas in early, curable stages.

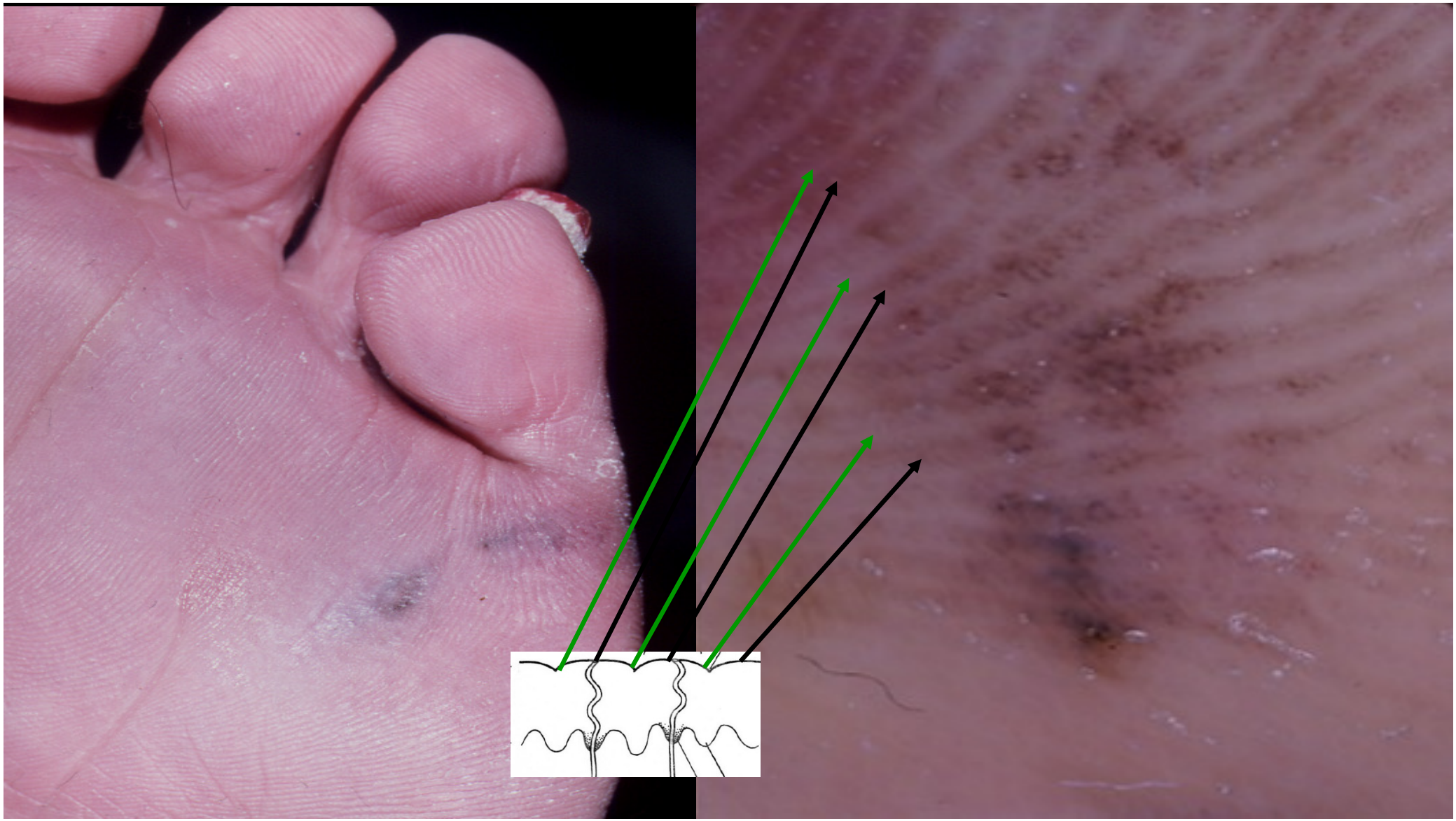
Arch Dermatol. 2004;140:1233-1238

Parallel ridge pattern

98% of melanomas

<1% acral nevi





Amelanotic MM: Vascular ridge pattern (VPRP)

Acral lentiginous melanoma in the Turkish population and a new dermoscopic clue for the diagnosis

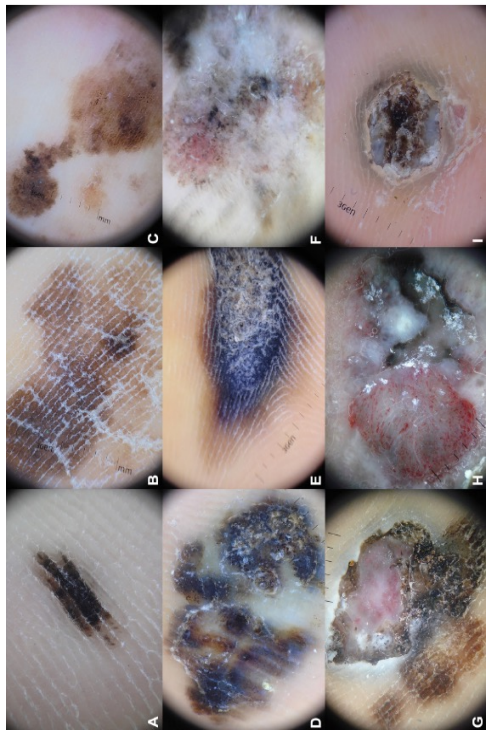
Fezal Ozdemir[1], Micol A. Errico[2], Banu Yaman[3], Isil Karaarslan [1]

Association between Breslow thickness and dermoscopic findings in acral melanoma

Je-Ho Mun, MD, PhD,[a,b] Gwanghyun Jo, MD,[a] Claudia C. Darmawan, MBBS,[a,b] Jin Park, MD, PhD,[c] Jung Min Bae, MD, PhD,[d] HyunJu Jin, MD,[e] Woo-Il Kim, MD,[e] Hoon-Soo Kim, MD,[e] Hyun-Chang Ko, MD, PhD,[e] Byung-Soo Kim, MD, PhD,[e] and Moon-Bum Kim, MD, PhD[e,f]
Seoul, Jeonju, and Busan, South Korea

Table I. Frequencies of colors and dermoscopic patterns of AMs according to depth of invasion

Characteristic	AM in situ, N = 25, n (%)	Invasive AM ≤2 mm, N = 17, n (%)	Invasive AM >2 mm, N = 33, n (%)	*P* value
Color				
Black	17 (68.0)	17 (100)	27 (75.8)	.033
Brown	19 (76.0)	14 (82.4)	24 (72.7)	.752
Grey	16 (64.0)	9 (52.9)	25 (75.8)	.153
White	4 (16.0)	3 (17.6)	26 (78.8)	**<.001**
Blue	1 (4.0)	8 (47.1)	22 (66.7)	**<.001**
Red	1 (4.0)	3 (17.6)	25 (75.8)	**<.001**
Pattern				
Asymmetry	22 (88.0)	14 (82.4)	30 (90.9)	.602
Parallel ridge pattern	21 (84.0)	16 (94.1)	27 (81.8)	.494
Irregular blotches	6 (24.0)	15 (88.2)	21 (63.6)	**<.001**
Irregular dots and globules	10 (40.0)	8 (47.1)	16 (48.5)	.803
Ulcers	1 (4.0)	5 (29.4)	25 (75.8)	**<.001**
Blue-white veils	1 (4.0)	8 (47.1)	21 (63.6)	**<.001**
Polychromia	0 (0)	5 (29.4)	25 (75.8)	**<.001**
Atypical vascular pattern	1 (4.0)	2 (11.8)	24 (72.7)	**<.001**
Regression	2 (8.0)	2 (11.8)	3 (9.1)	1
Irregular fibrillar pattern	2 (8.0)	0 (0)	0 (0)	.157



Results: Multivariable analysis revealed that the colors red (odds ratio [OR] 16.482, 95% confidence inte

Association between Breslow thickness and dermoscopic findings in acral melanoma

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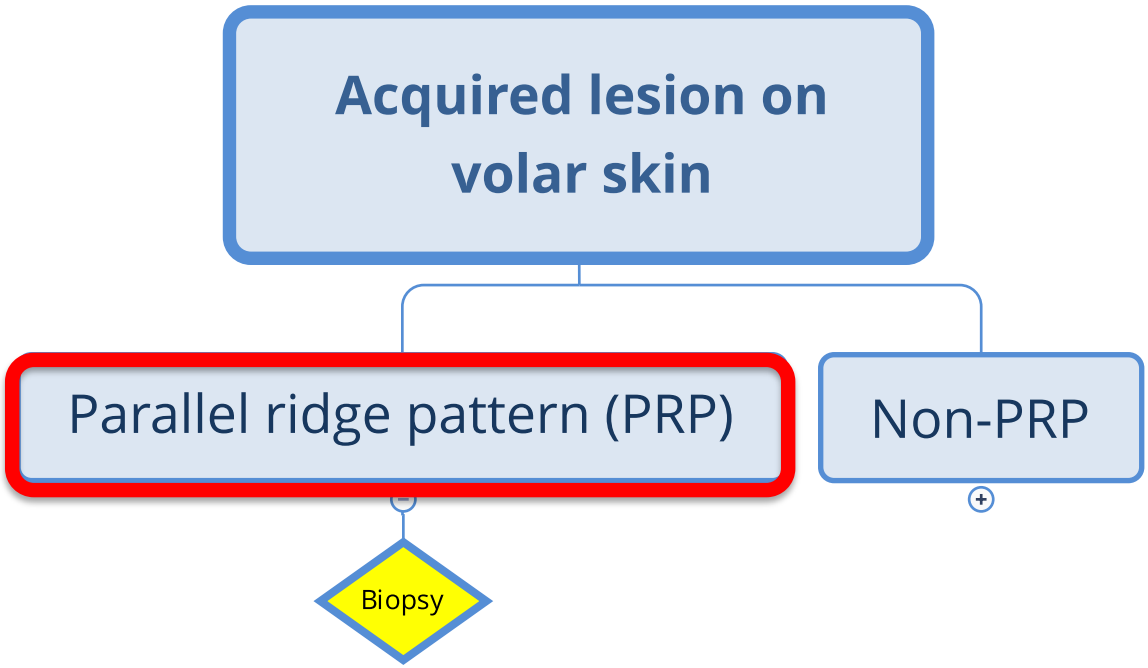
Seoul, Jeonju, and Busan, South Korea

- MM in situ
  - PRP
  - w/o red, white, blue colors
- Invasive MM
  - Vessels (red)
  - BWV
  - Irregular blotches
  - Ulcer


Acquired lesion on volar skin
Parallel ridge pattern (PRP)
Non-PRP
Biopsy

Exceptions to the PRP rule for MM

1. Peutz-Jeghers syndrome macules
2. Laugier-Hunziker syndrome
3. Ethnic pigmented macules
4. Dye (exogenous)
5. Chemotherapy induced pigmentation
6. CMN (<1% of other nevi)
7. Subcorneal hemorrhage

Dermoscopic findings and histological correlation of the acral volar pigmented maculae in Laugier–Hunziker syndrome

Elena SENDAGORTA,[1] Mar
María GONZALEZ-BEATO

2. Laugier-Hunziker syndrome

- Increased melanin in basal keratinocytes:
  - lips
  - oral mucosa
  - perineum
  - nails
  - volar skin

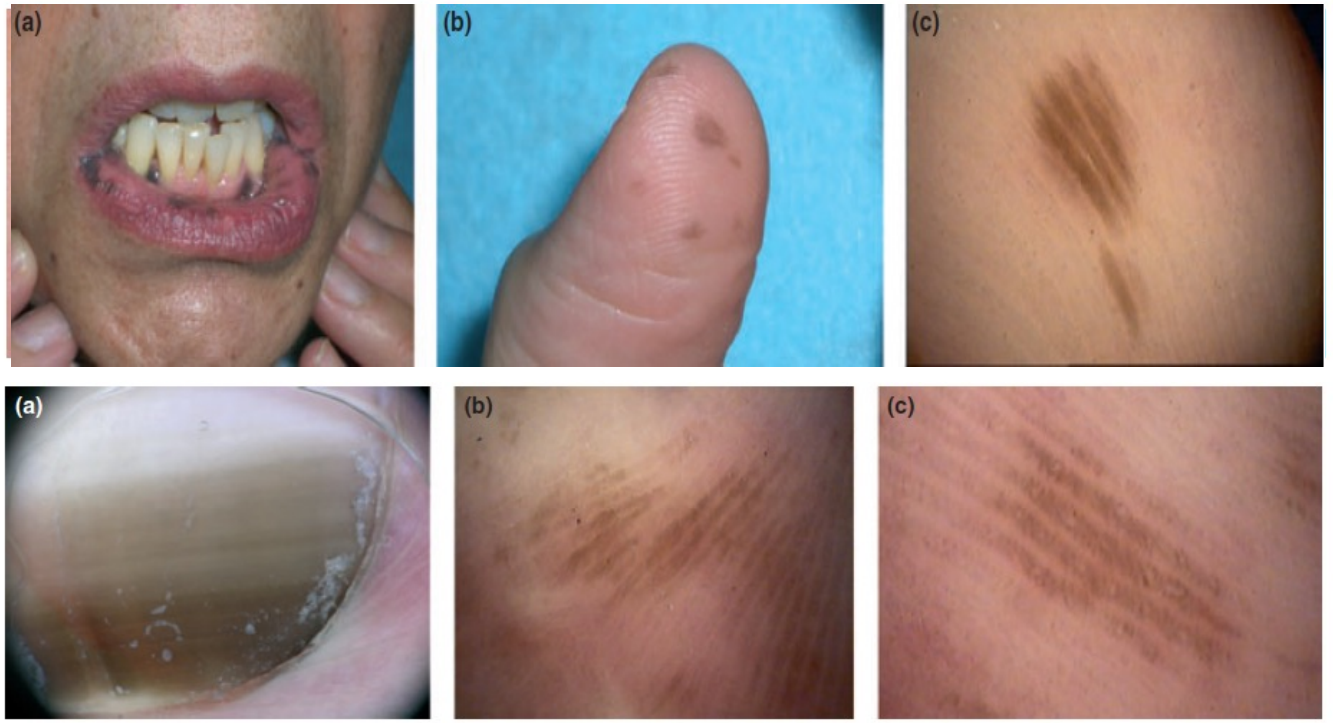
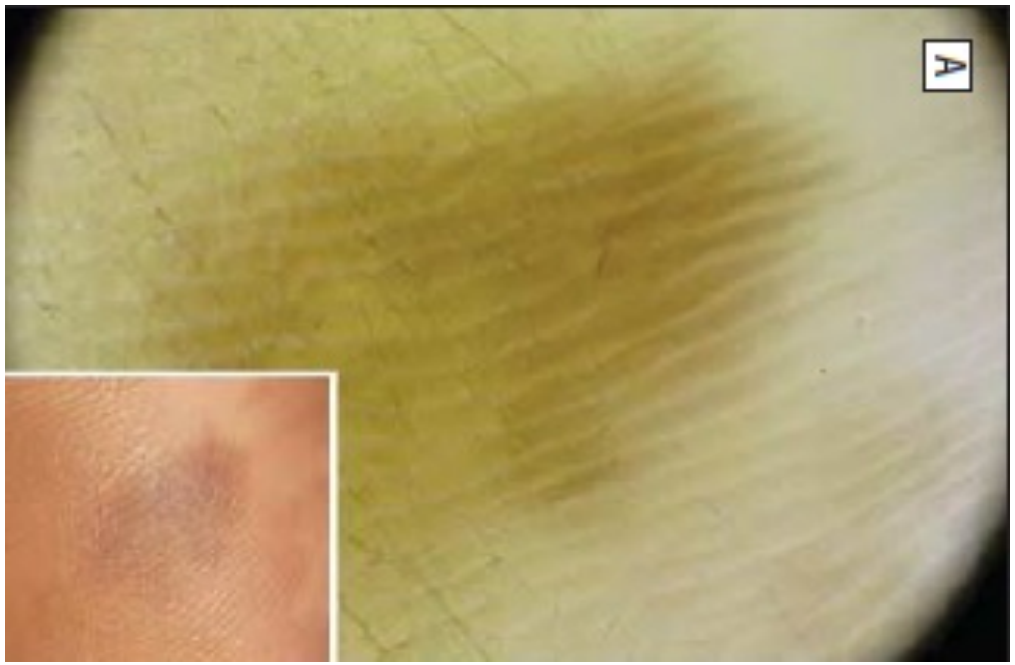


Figure 2. (a) Dermoscopic examination of the nail plates revealing homogeneous, band-like pigmentations. (b) A parallel-ridge pattern was found on the volar maculae of the fingertips. (c) Another volar maculae of the fingertips showing parallel-ridge pattern on the fingertips.

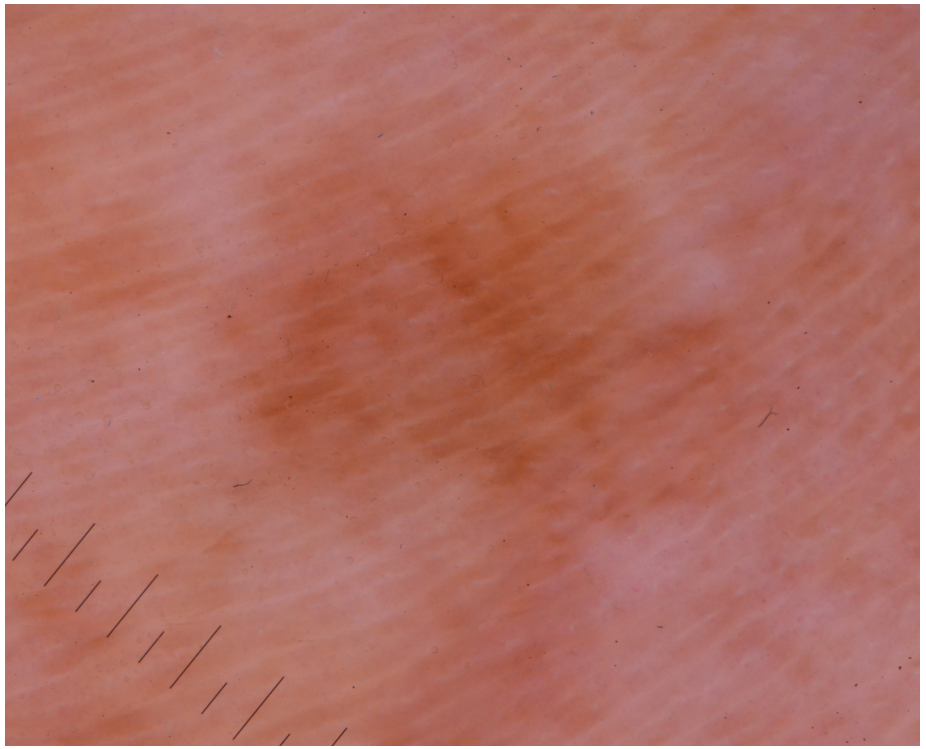
Benign Dermoscopic Parallel Ridge Pattern Variants

Alice Phan, MD; Stéphane Dalle, MD; Marie-Cécile Marcilly, MD; Jean-Pierre Bergues, MD; Luc Thomas, MD, PhD;
Centre Hospitalier Lyon-Sud, Claude Bernard University, Pierre Bénite, France

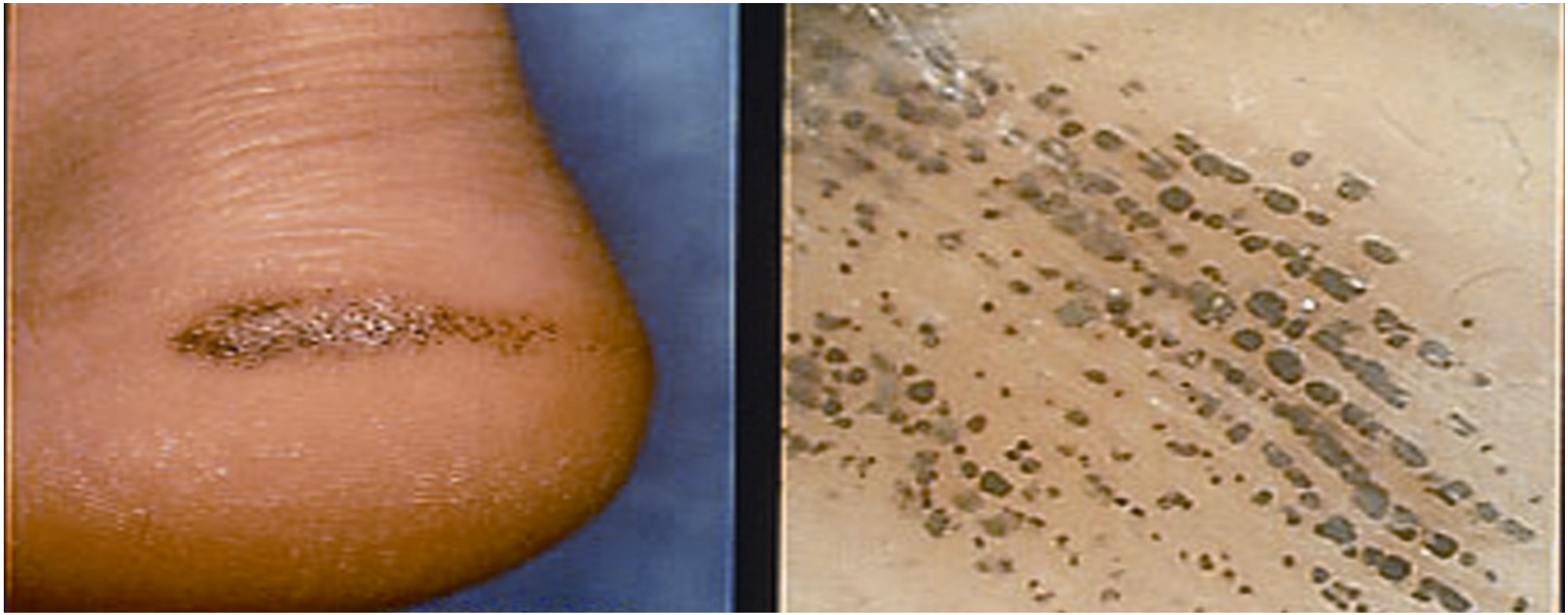
3. Ethnic pigmented macules

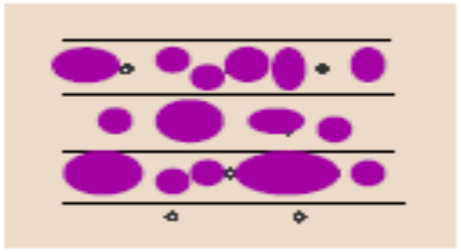


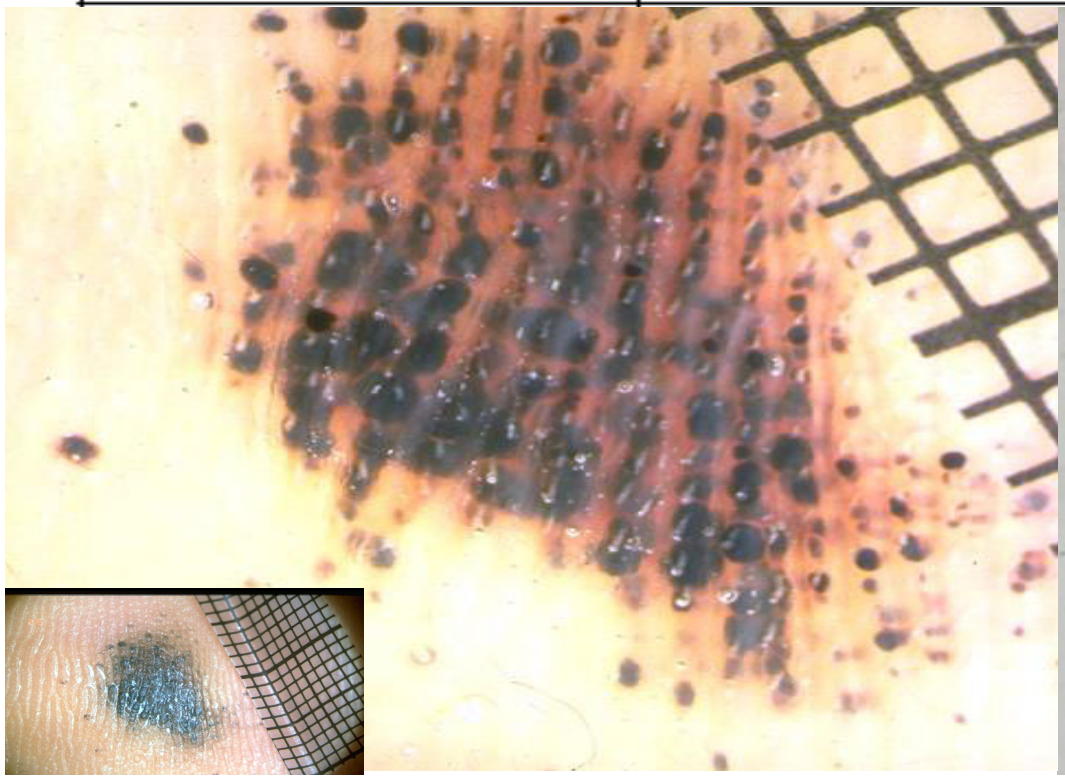
My experience: Context is key. These darker macules occur in a background of normal skin that also has a PRP!

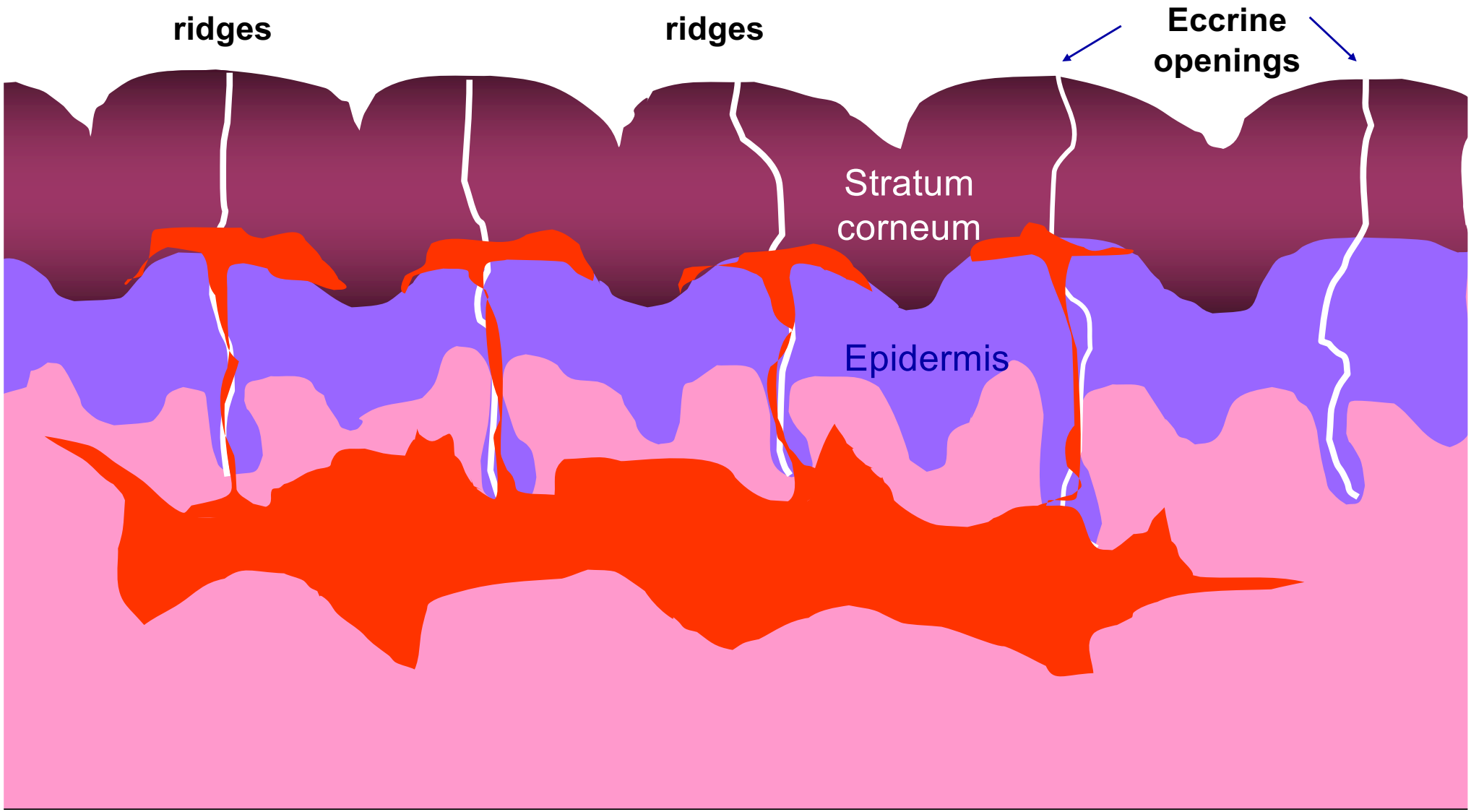


7. Subcorneal hemorrhage (“pebbles on the ridges”)

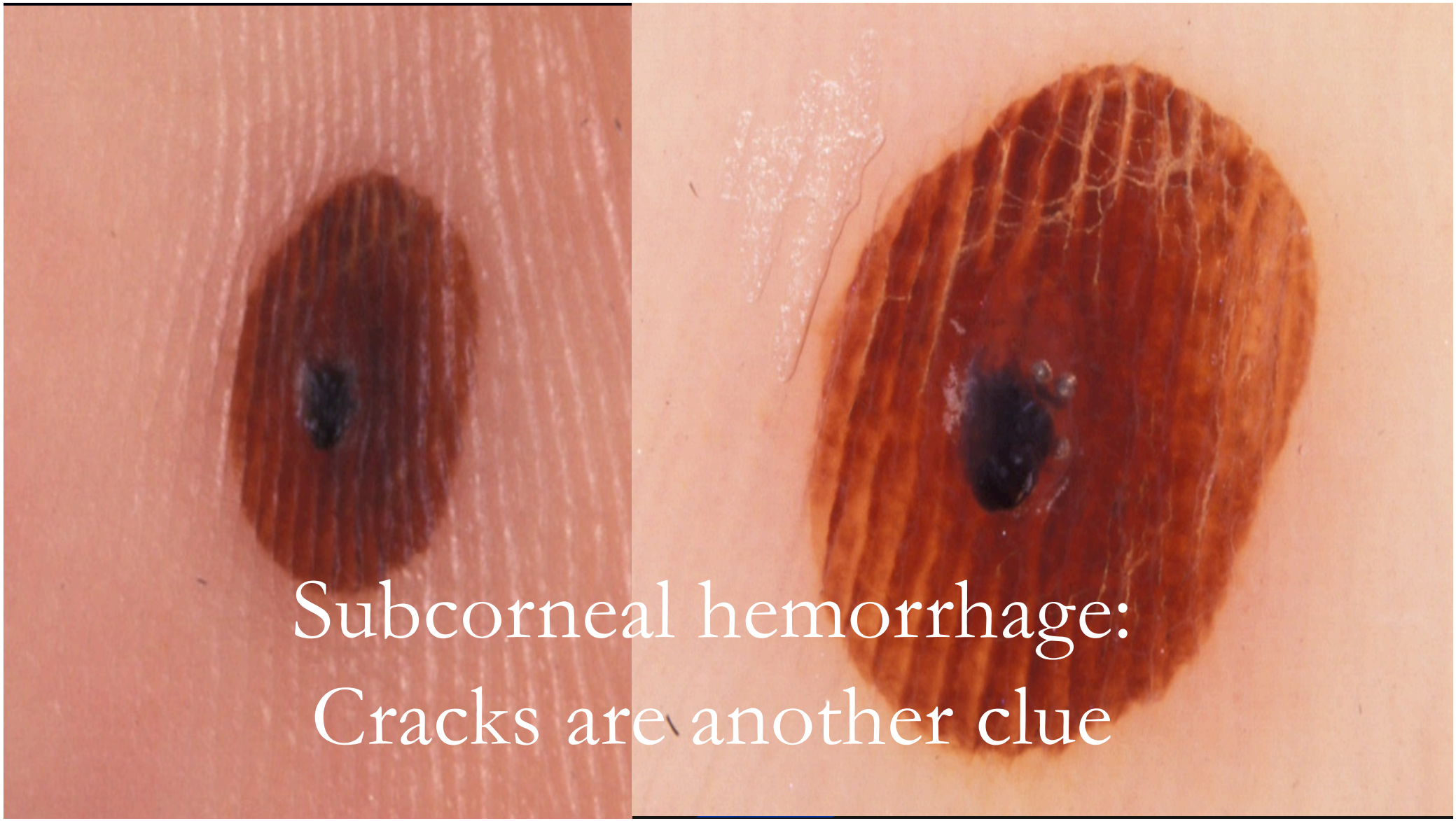


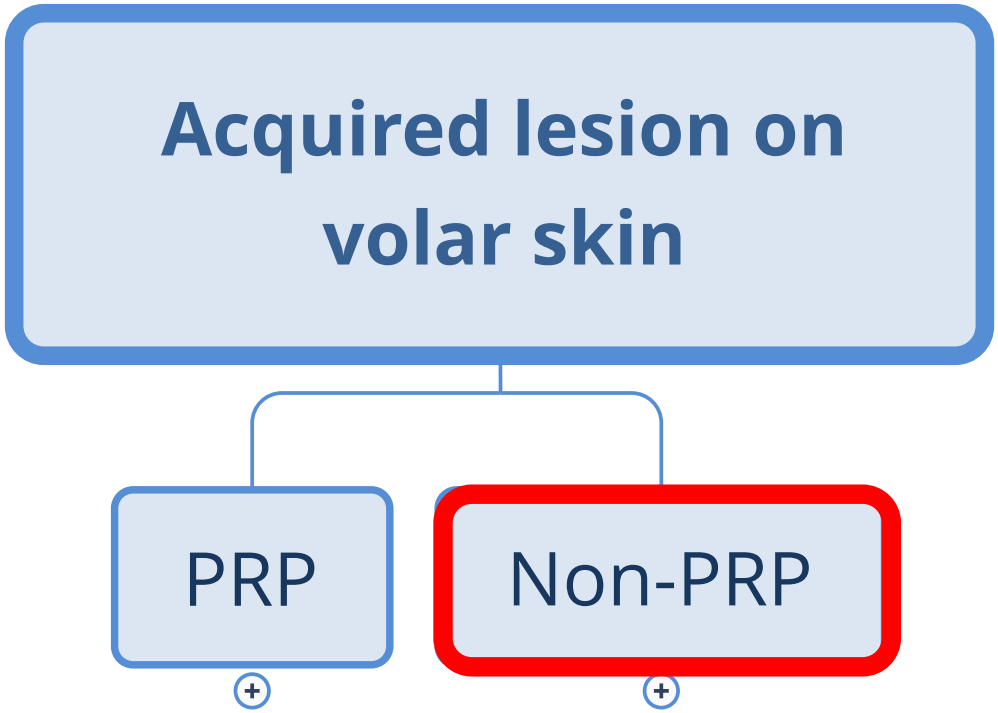
Subcorneal or intracutaneous haematoma in acral skin	Dark red to black homogeneous areas with some black-reddish globules at the periphery. In black heel, black-reddish globules on the ridges (resembling pebbles) are characteristic	




ridges
ridges
Eccrine
openings
Stratum
corneum
Epidermis

Scrape off stratum corneum


Subcorneal hemorrhage:
Cracks are another clue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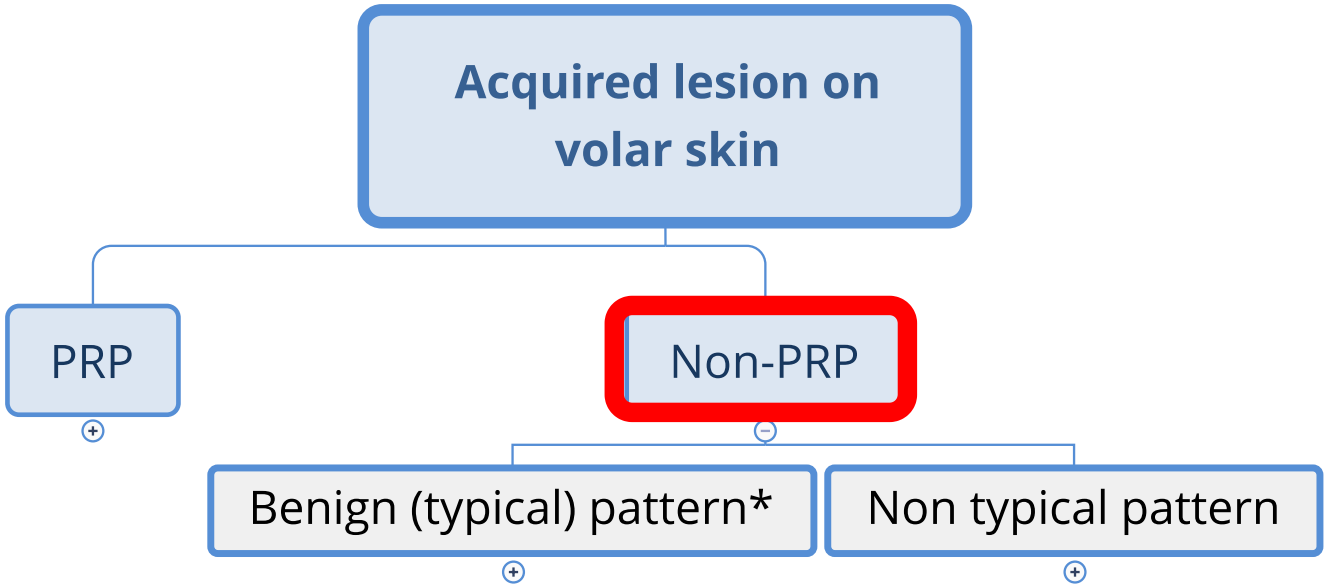
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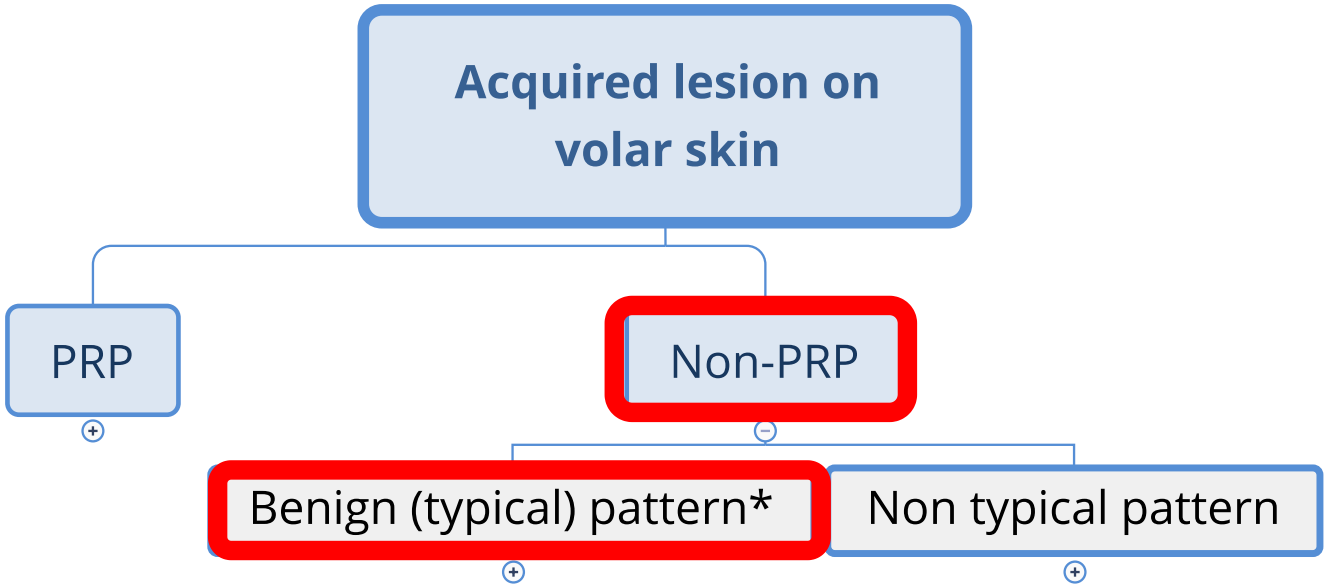
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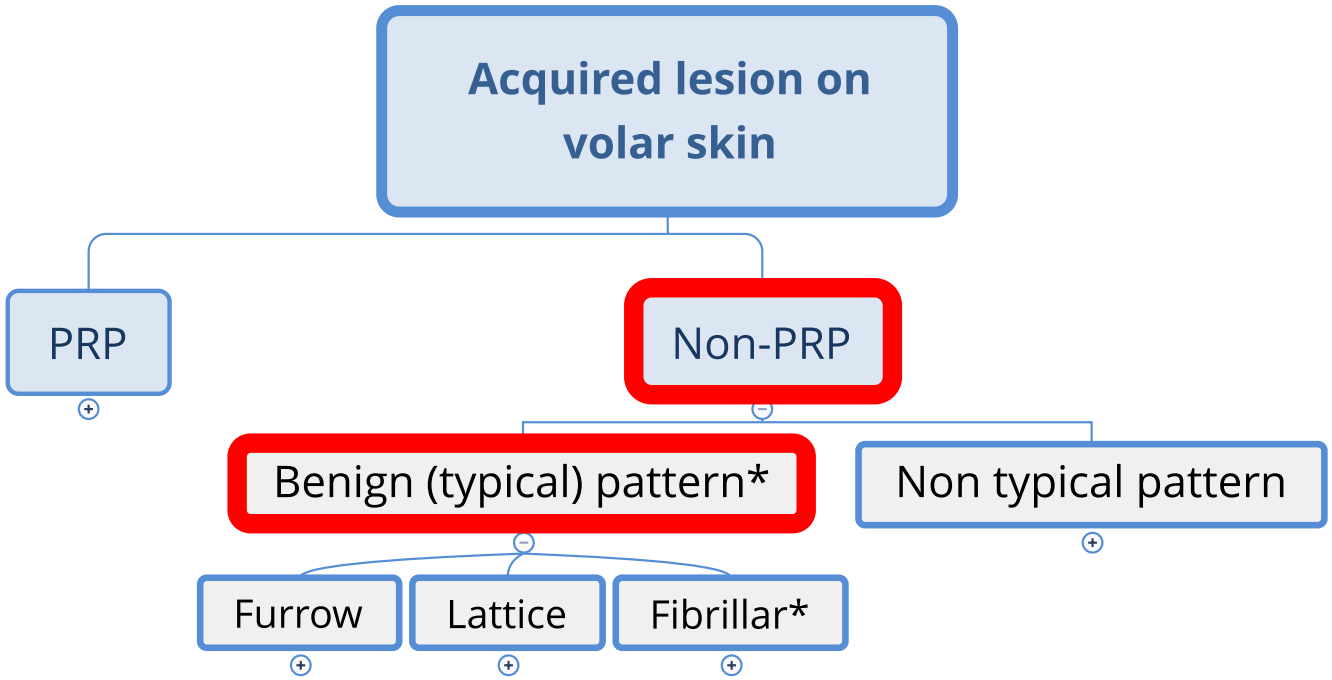
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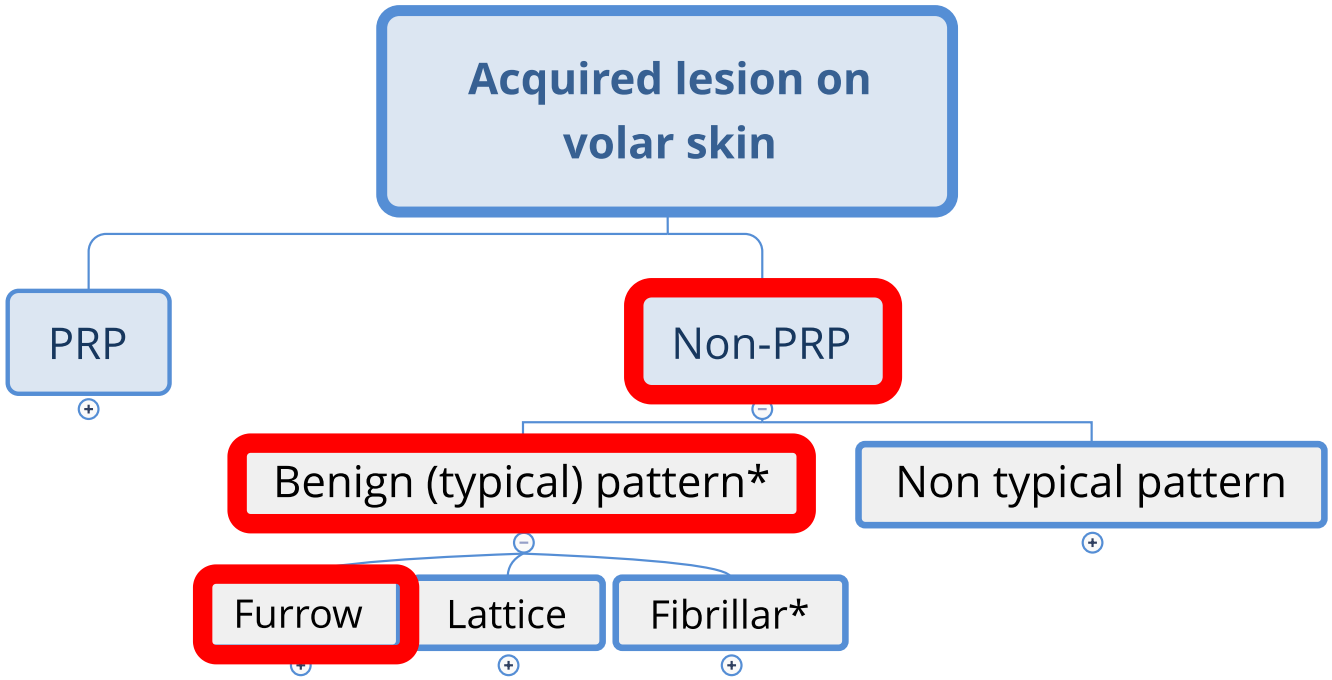
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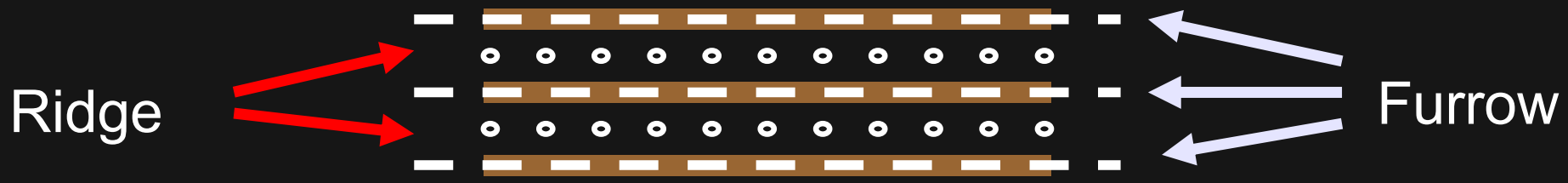
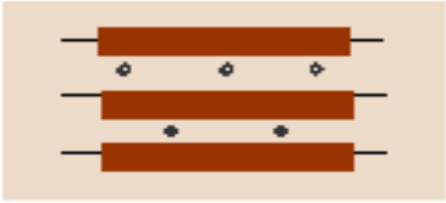
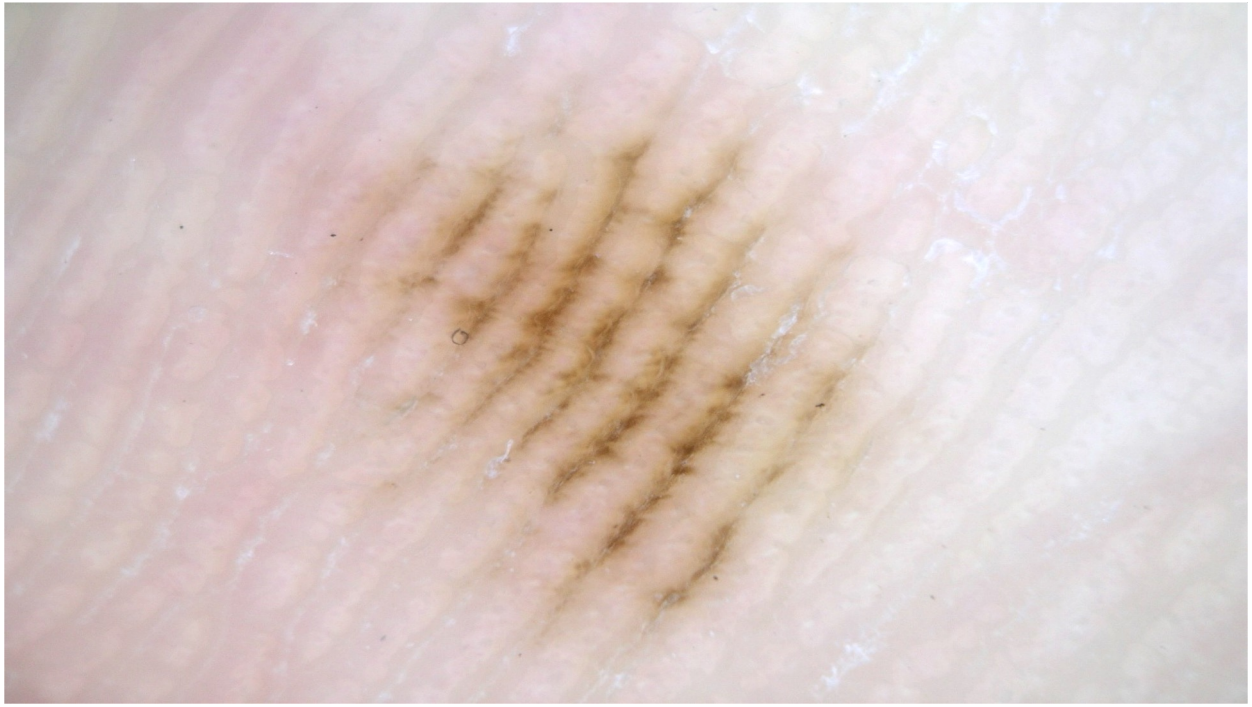
Parallel-furrow pattern

- linear pigmentation in the furrows



Dermoscopy patterns	Definition	Schema
Benign patterns		
Parrallel furrow pattern	Pigmentation following the furrows	

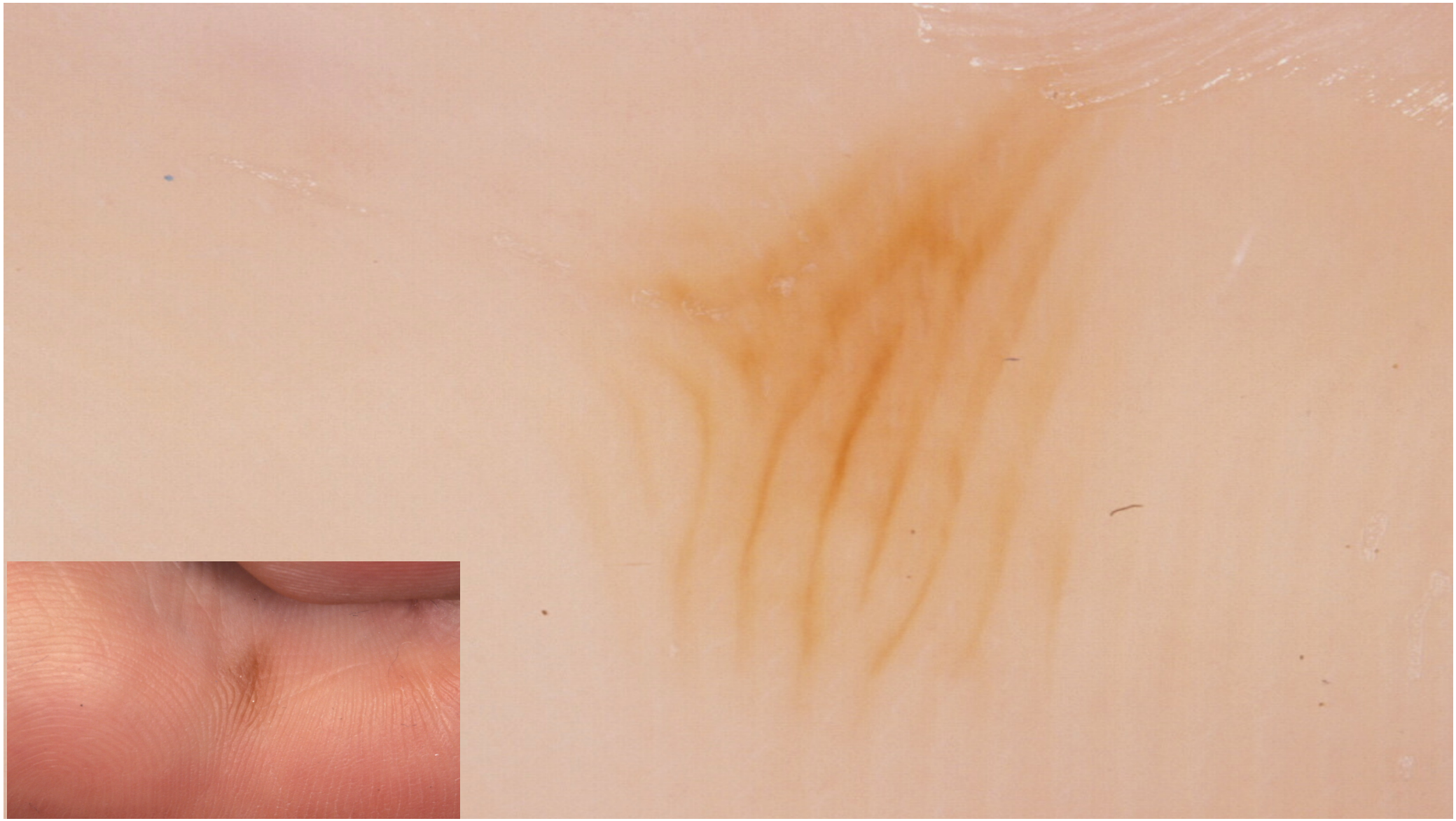


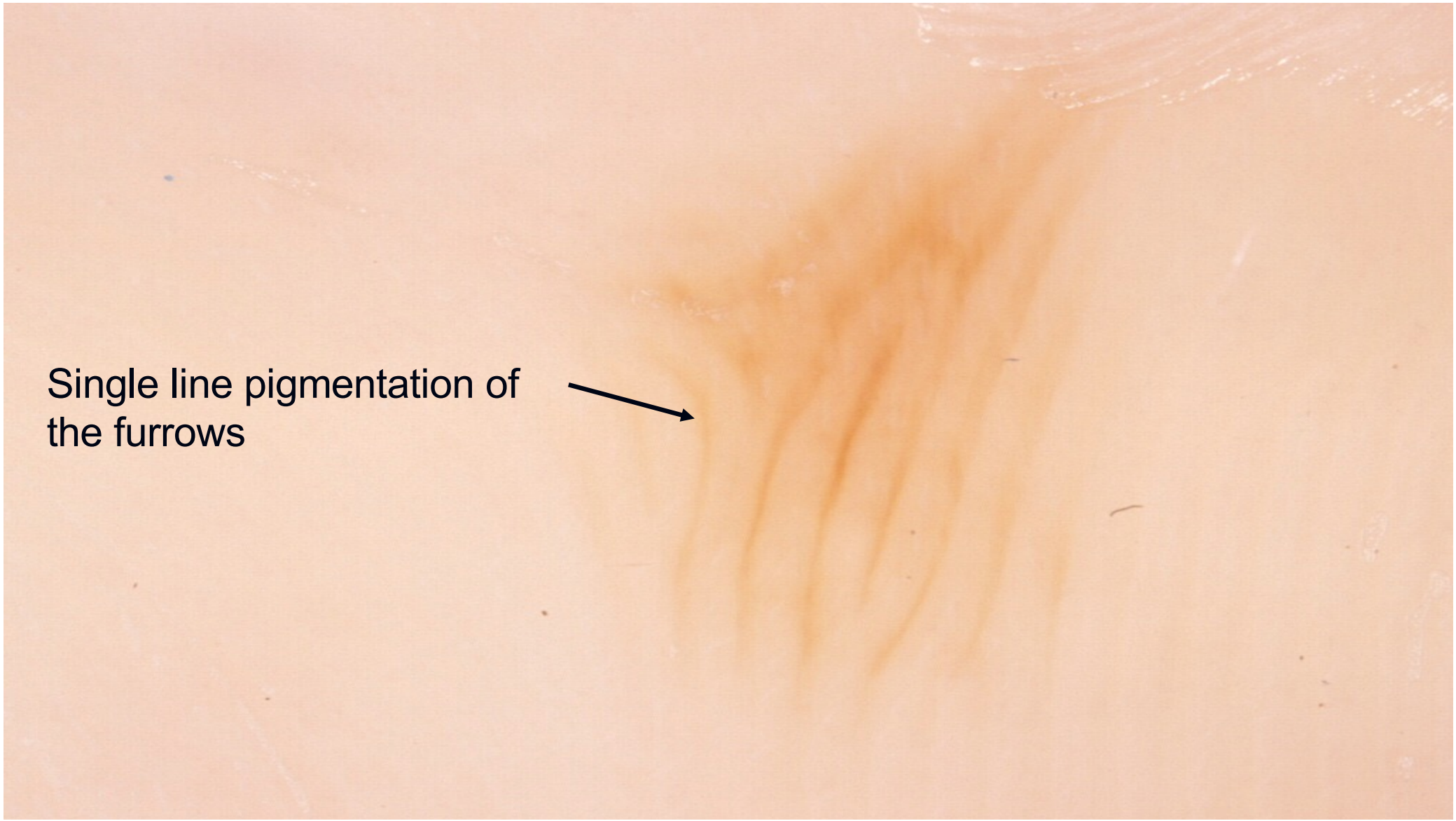
9% of melanomas

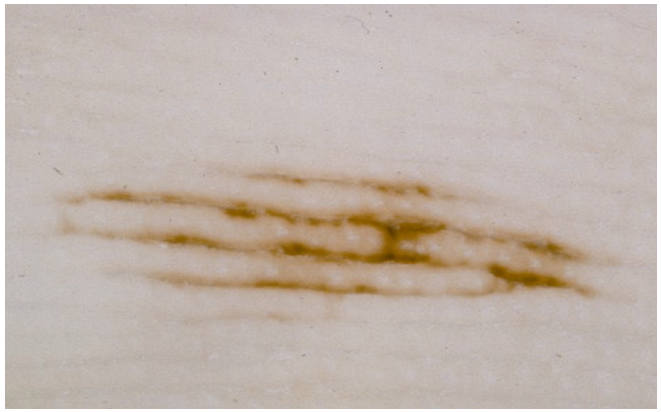
(focally located & not predominant pattern)

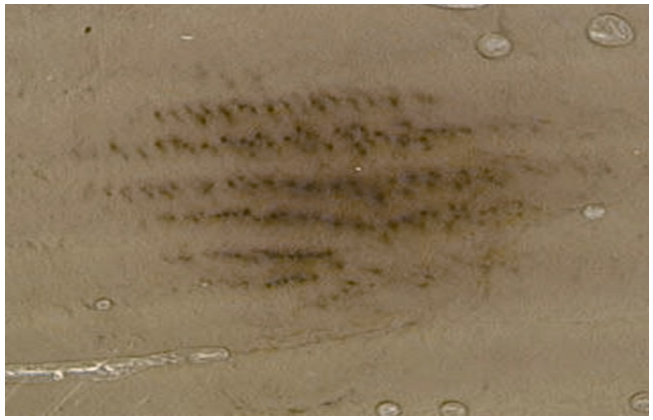
42% of nevi

(throughout & predominant pattern)

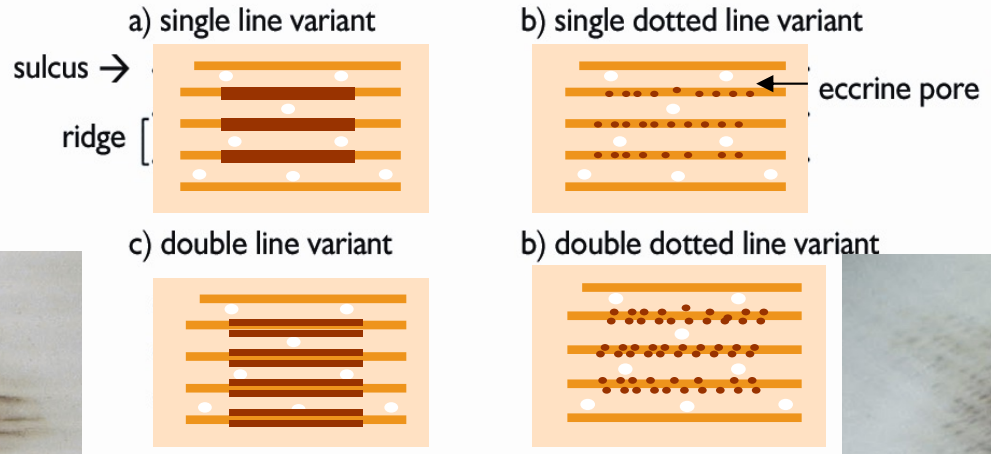


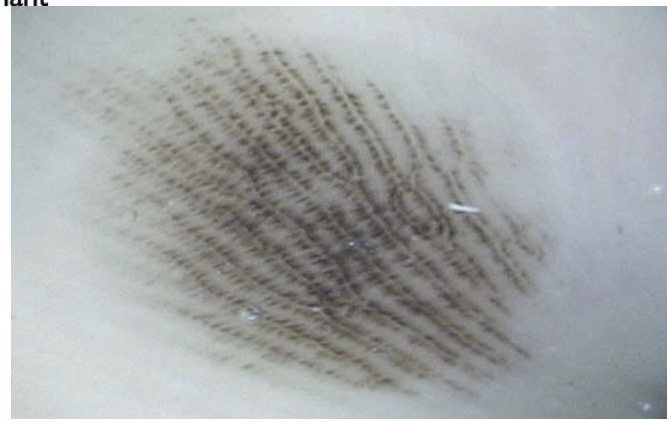

Single line pigmentation of
the furrows



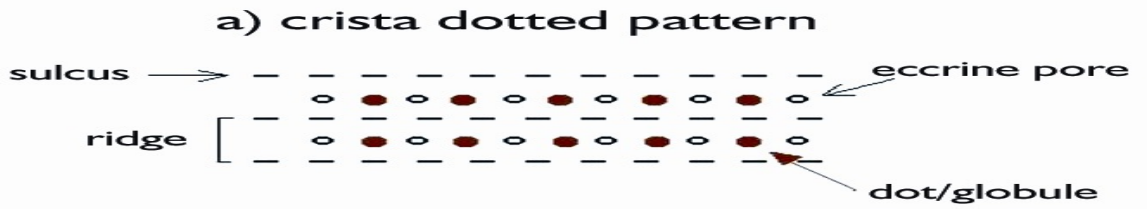


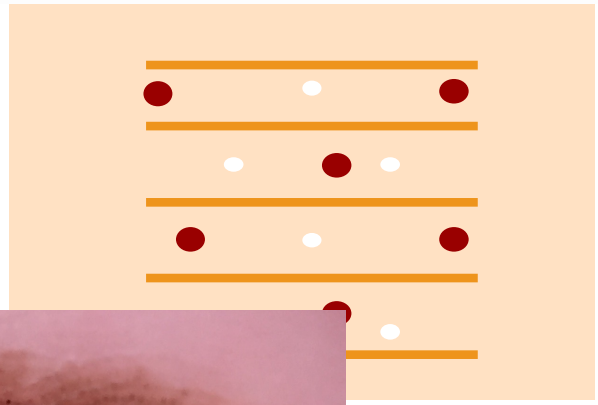
- Parallel furrow pattern

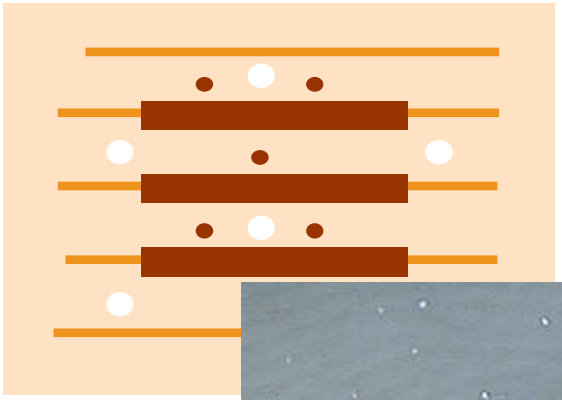


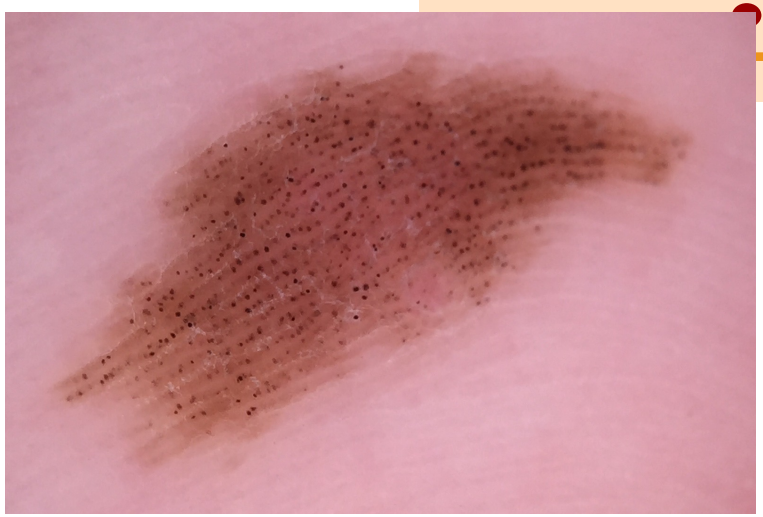


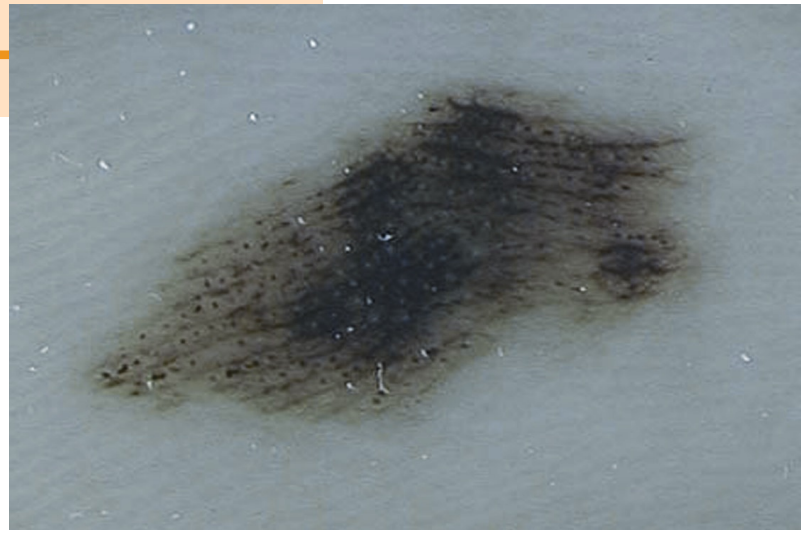
Minor Dermoscopic Patterns of Melanocytic Lesions of Volar Skin

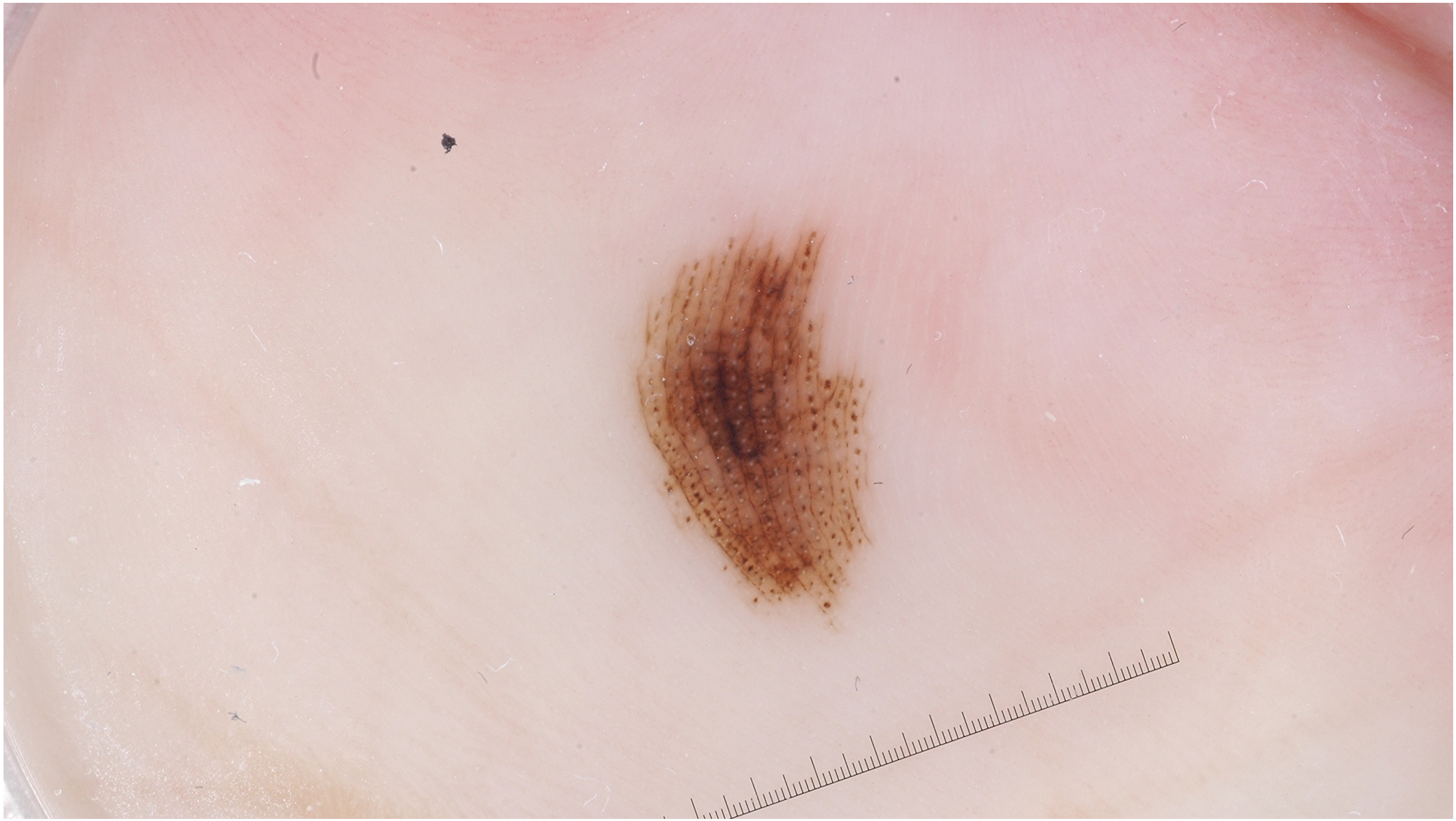


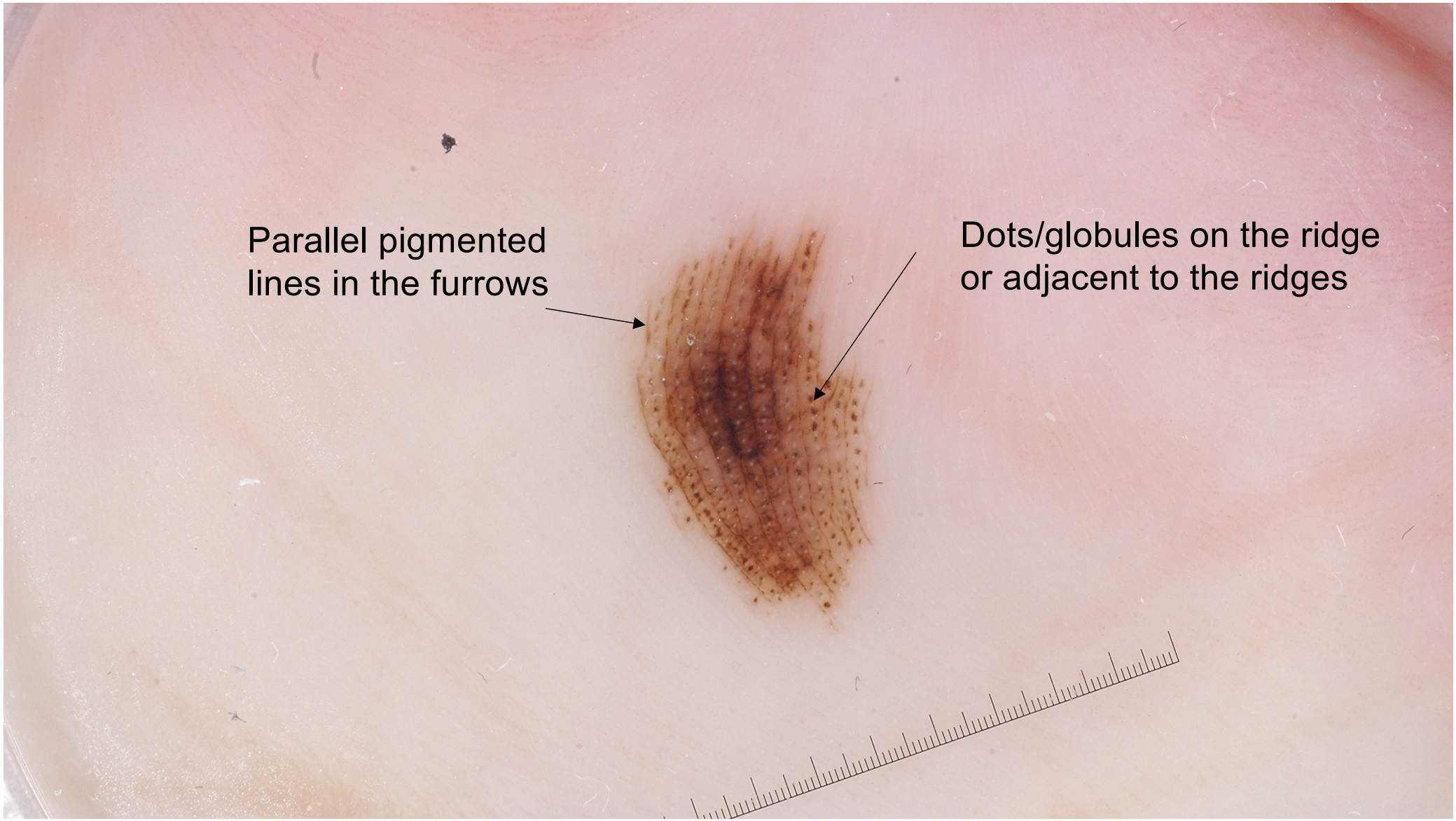


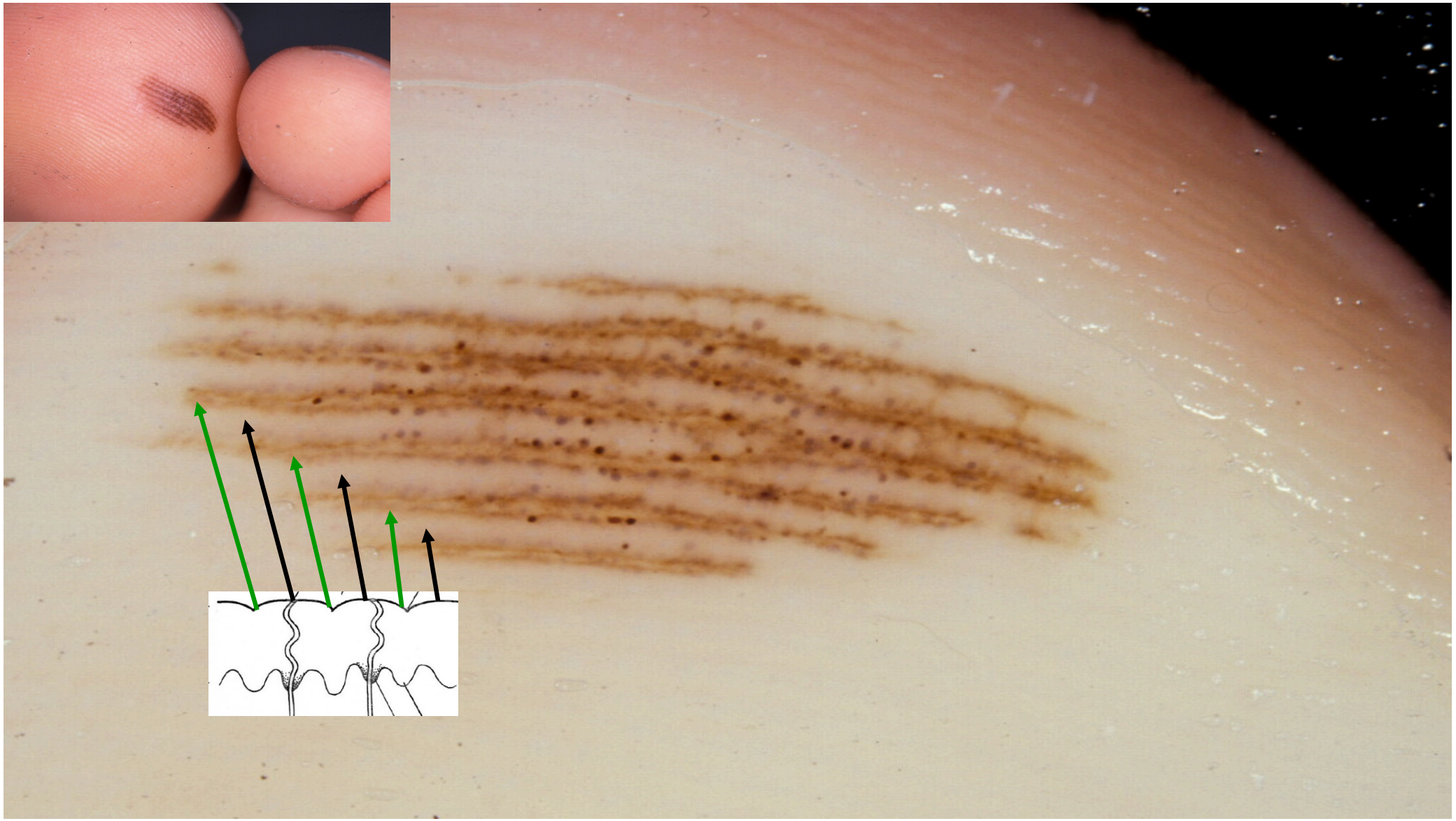




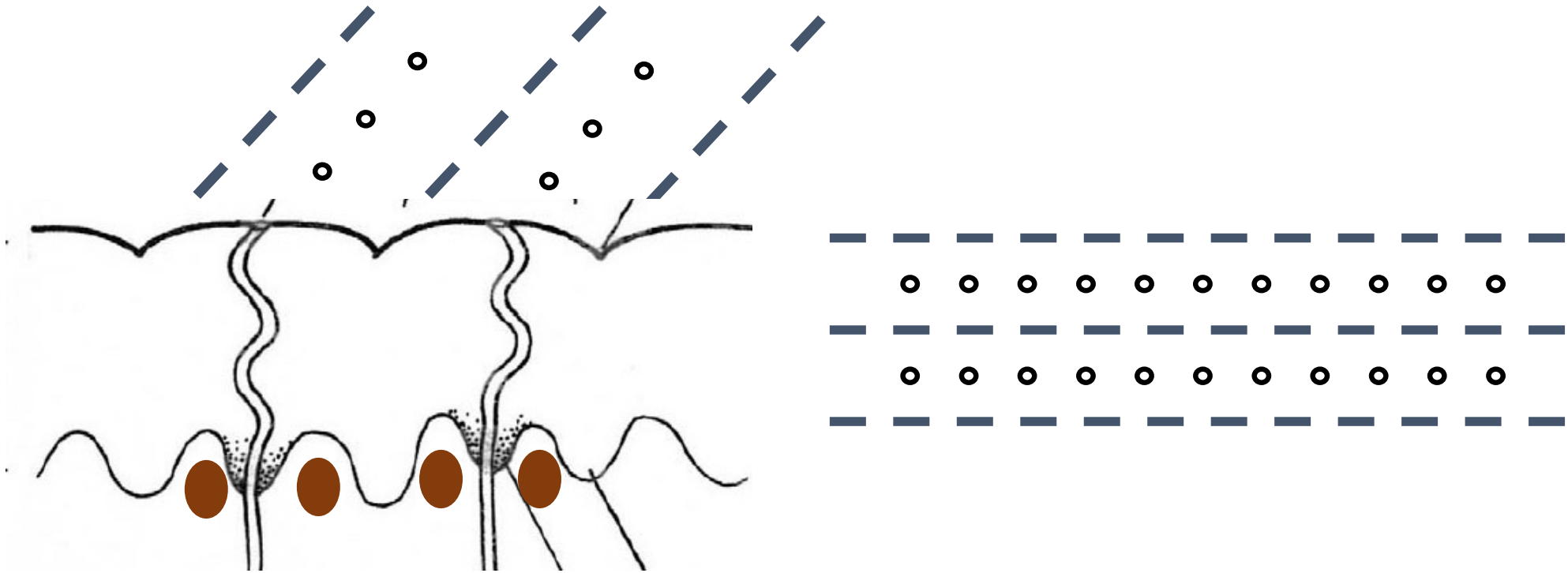





Parallel pigmented lines in the furrows
Dots/globules on the ridge or adjacent to the ridges

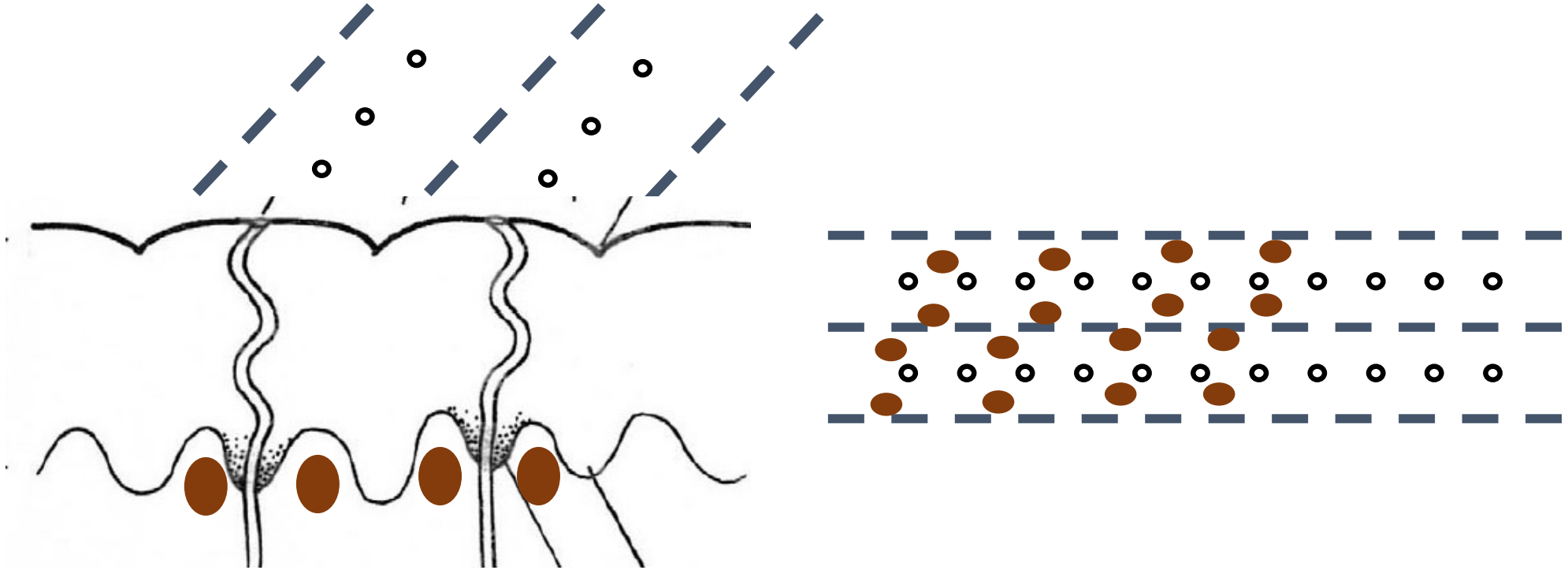


Anatomy



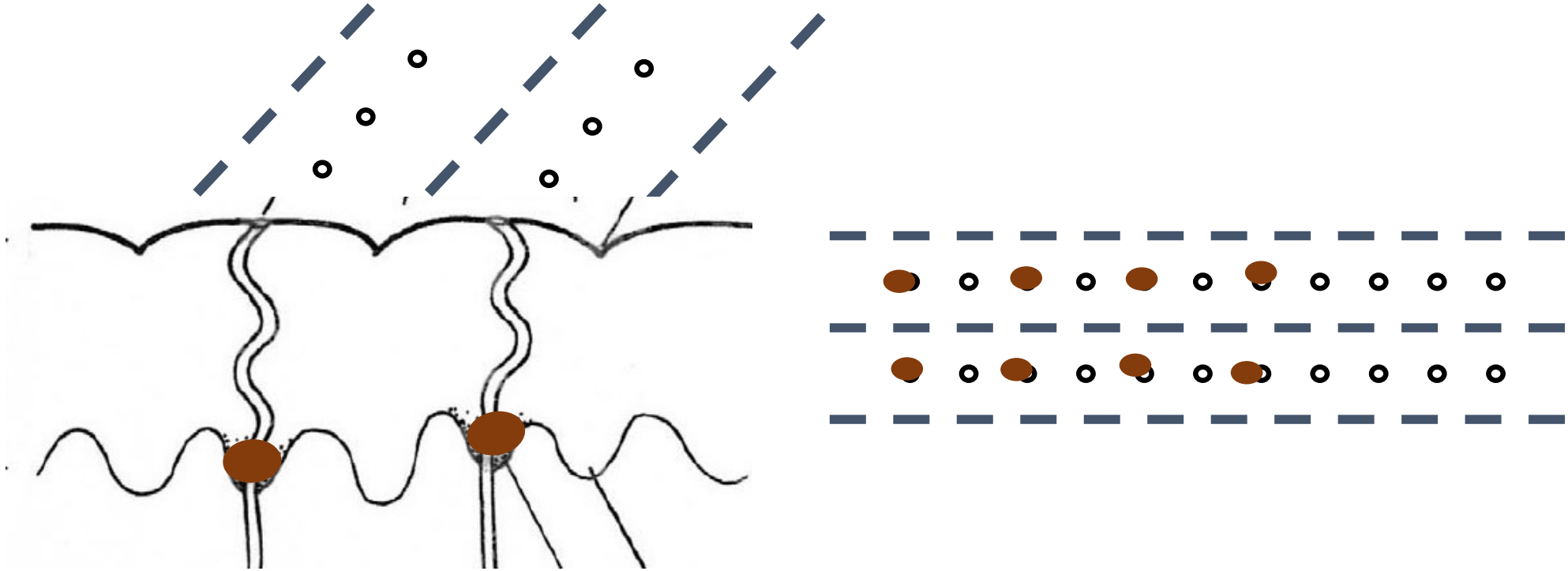
Nevomelanocytic nests in the papillary dermis

Anatomy



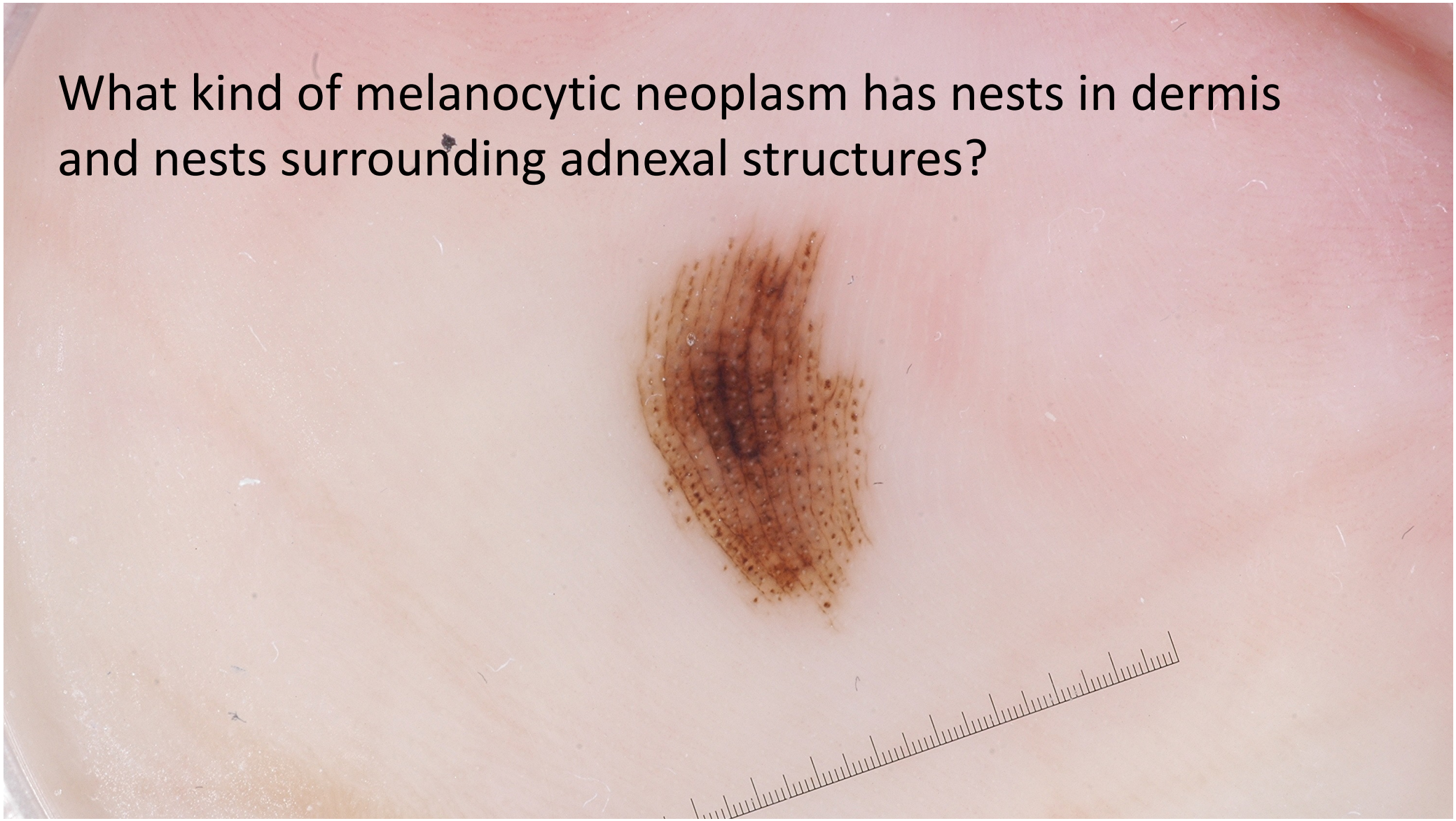
Nevomelanocytic nests in the papillary dermis

Anatomy



Nevomelanocytic nests surrounding adnexal structures

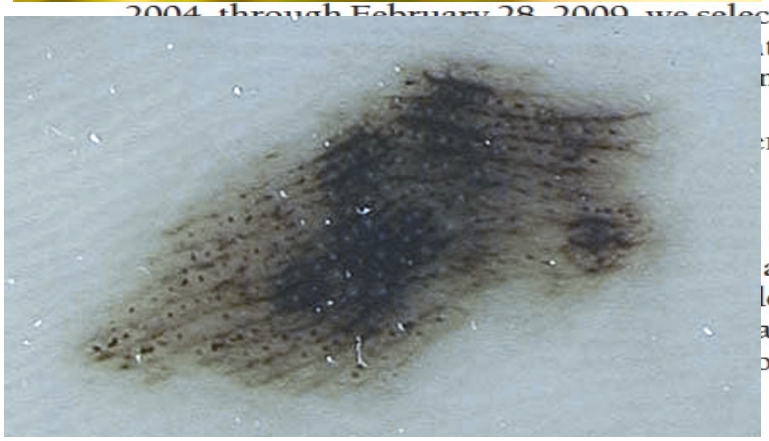
What kind of melanocytic neoplasm has nests in dermis and nests surrounding adnexal structures?



Dermoscopic Characteristics of Congenital Melanocytic Nevi Affecting Acral Volar Skin

Akane Minagawa, MD; Hiroshi Koga, MD; Toshiaki Saida, MD, PhD

Tardive CMN



pic features of
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CMN lesions.
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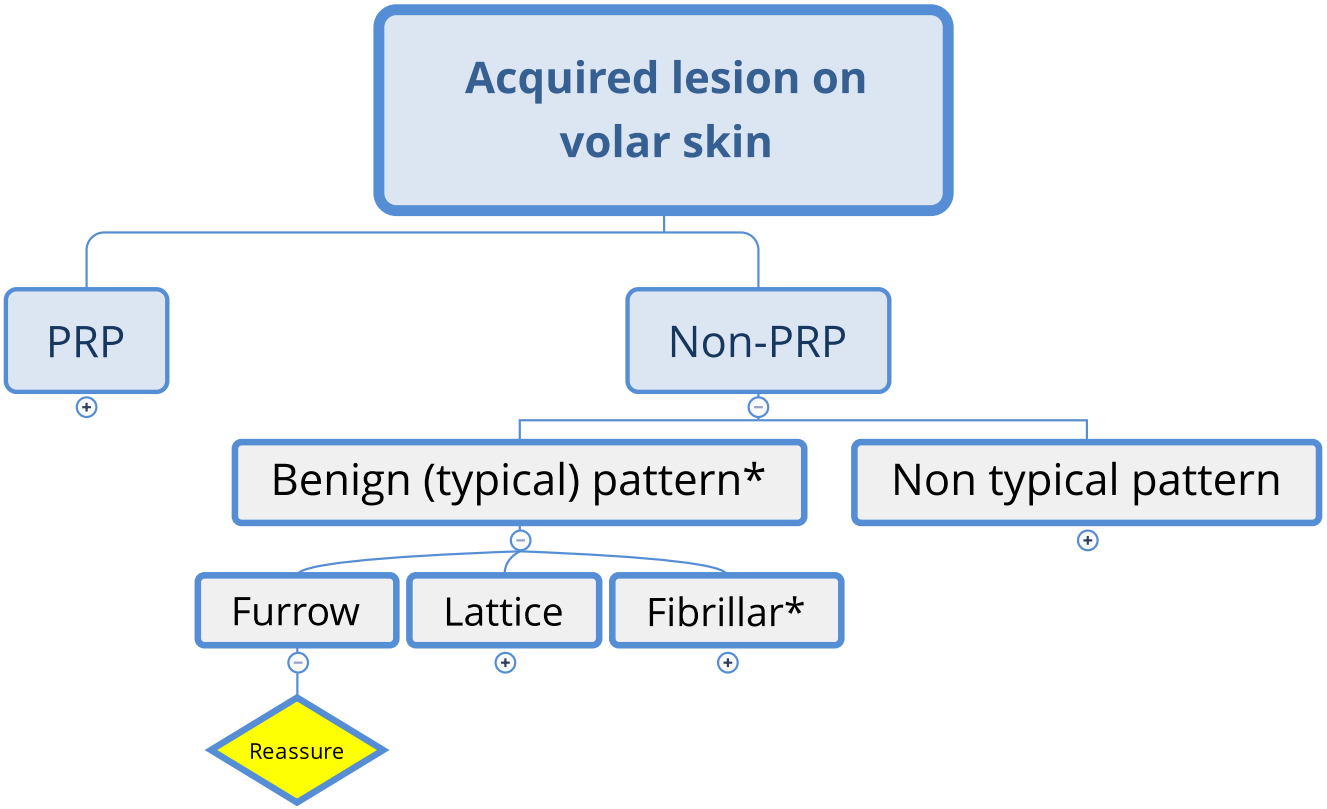
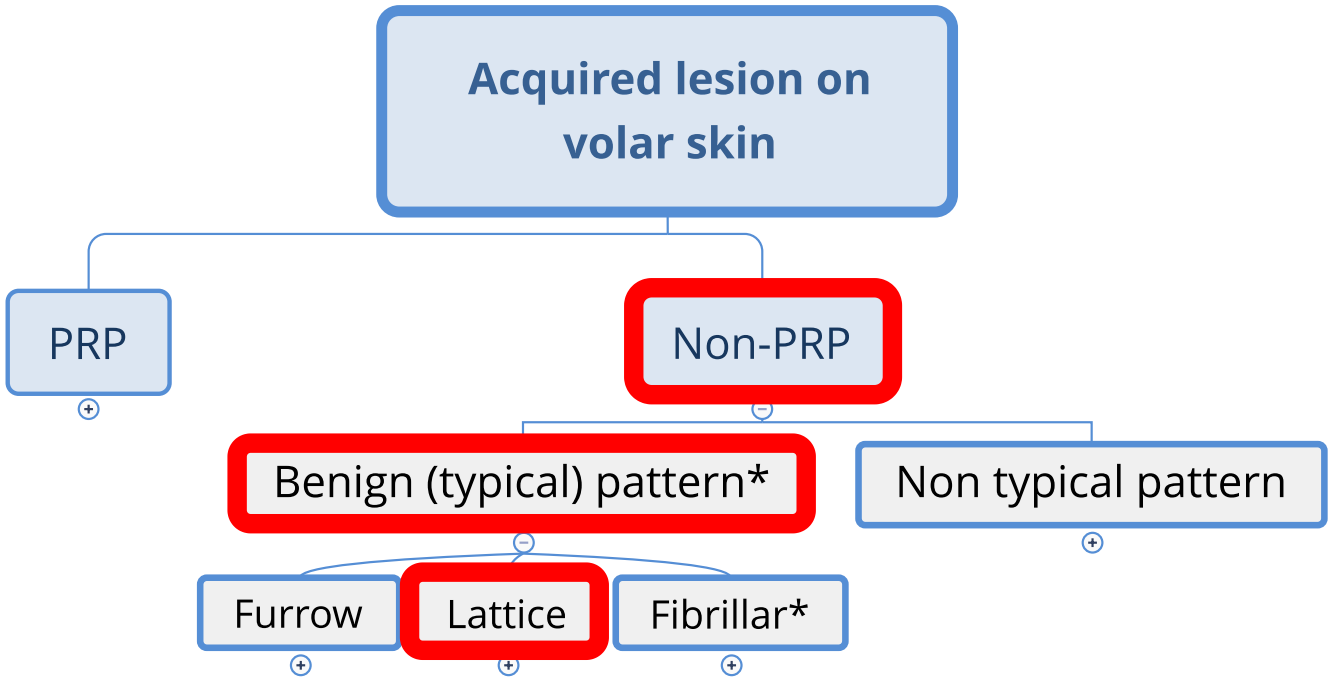
ar pattern. The
owing single-

component patterns: the parallel furrow pattern in 6 (25%), the crista dotted pattern in 3 (12%), the fibrillar pattern in 2 (8%), and the globular, globulostreaklike, nontypical, and parallel ridge patterns in 1 each (4%). We also followed up 6 lesions for several years. Changes in the dermoscopic features were observed in 4 CMN lesions from patients younger than 14 years. Three lesions had a combination of the crista dotted and parallel furrow patterns on the first visit that changed to the nontypical pattern; in addition, the degrees of pigmentation decreased during follow-up. In the remaining lesion, the globulostreaklike pattern changed to the parallel furrow pattern.

Conclusions: Most CMN lesions affecting acral volar skin show characteristic dermoscopic features distinguishable from acral melanoma. The combination of the crista dotted and parallel furrow patterns (ie, peas-in-a-pod pattern) is the most common feature in acral CMN. Some lesions of acral CMN fade during childhood.

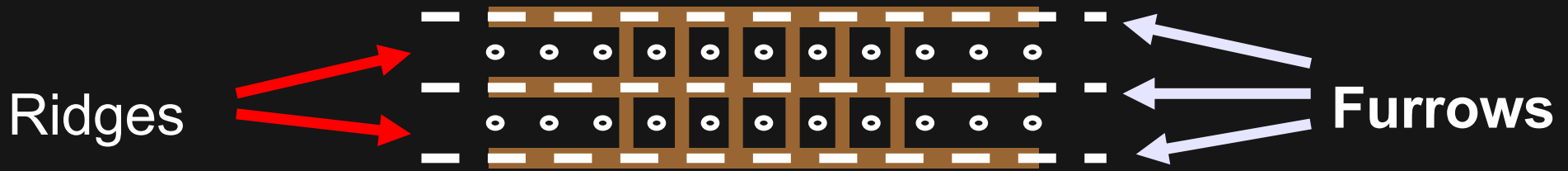
Arch Dermatol. 2011;147(7):809-813


Acquired lesion on volar skin
PRP
Non-PRP
Benign (typical) pattern*
Non typical pattern
Furrow
Lattice
Fibrillar*
Reassure


Acquired lesion on volar skin
PRP
Non-PRP
Benign (typical) pattern*
Non typical pattern
Furrow
Lattice
Fibrillar*

Lattice-like pattern

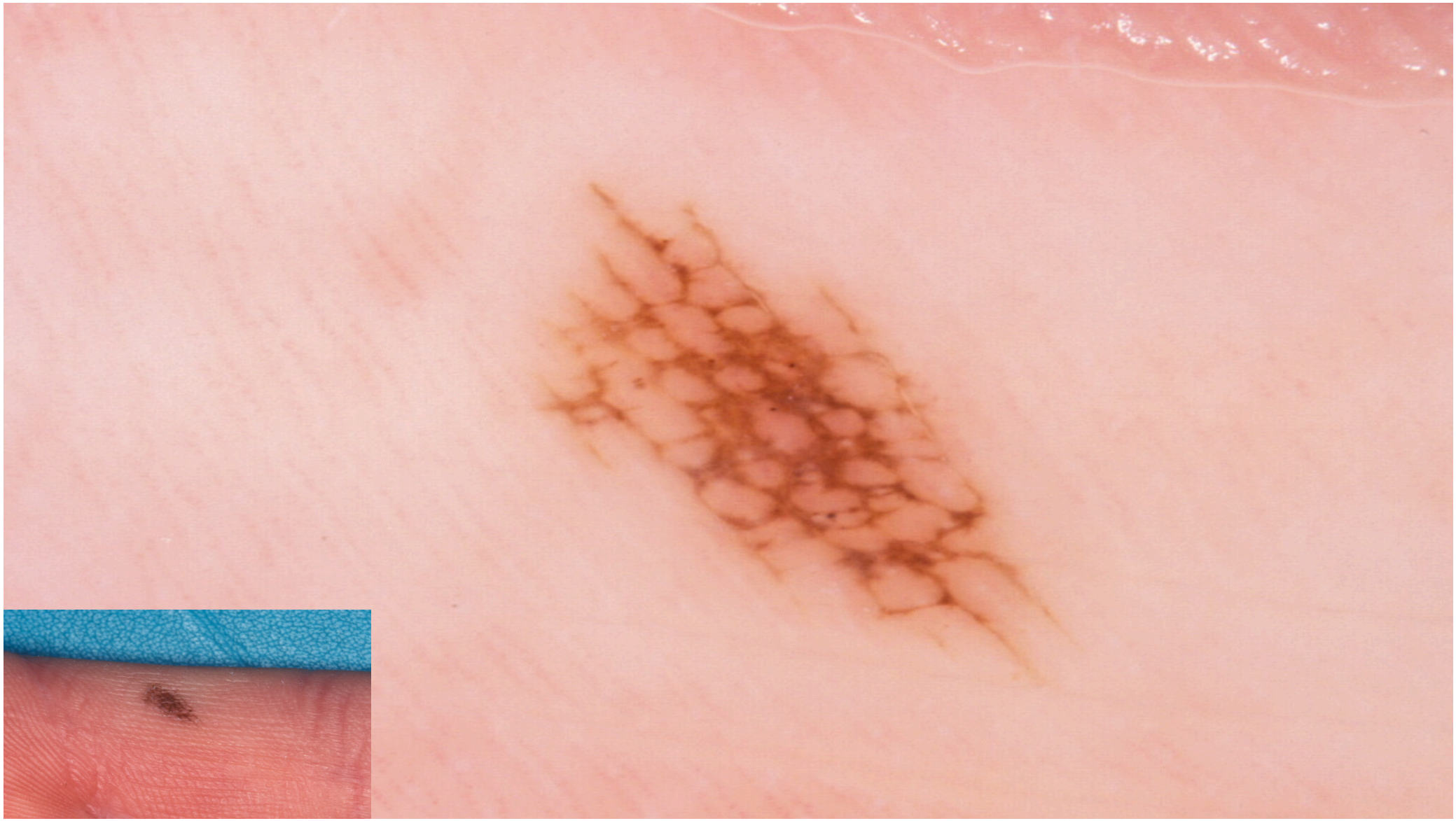
- linear pigmentation in the furrows
- with cross striations across the ridges

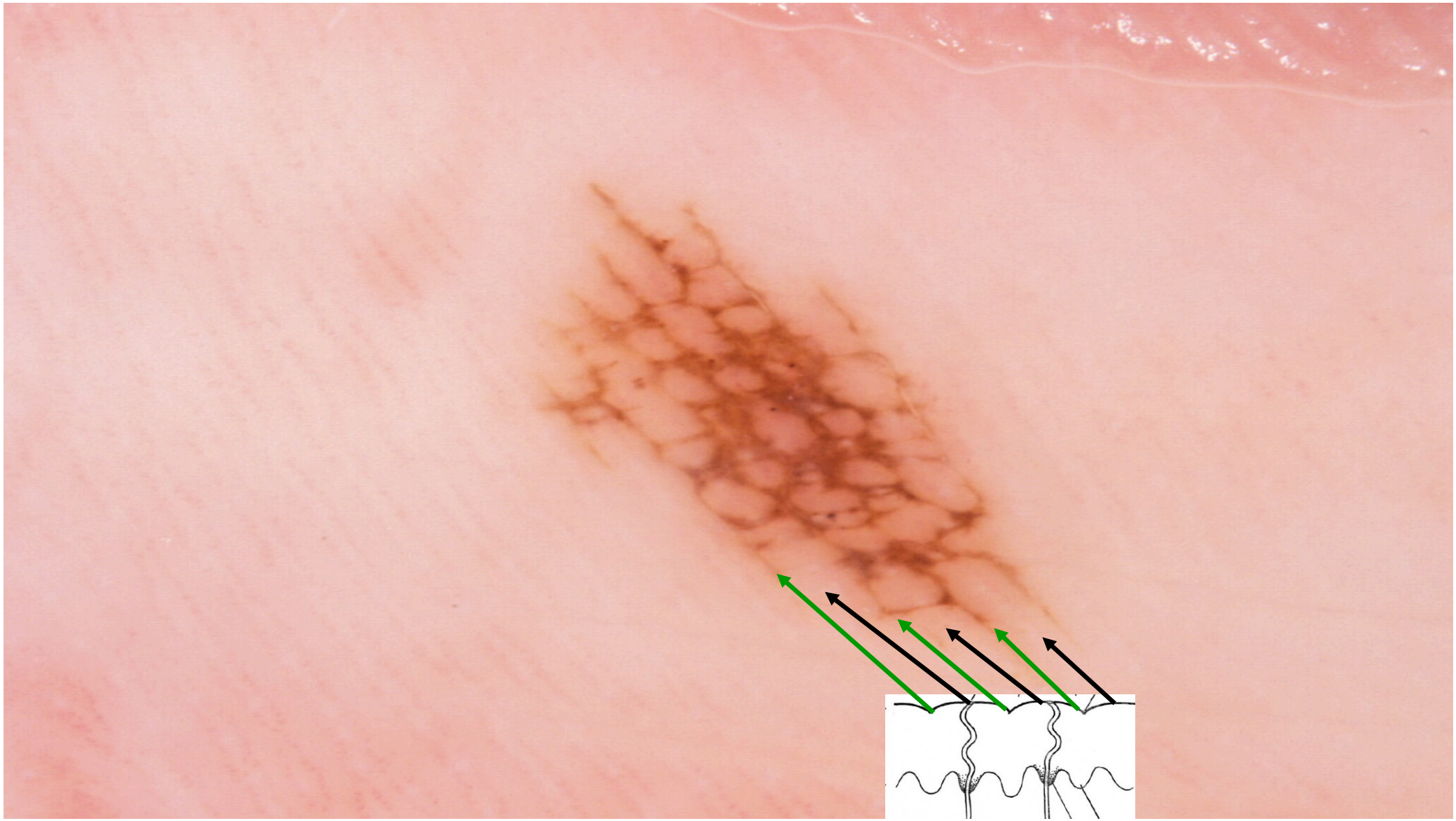


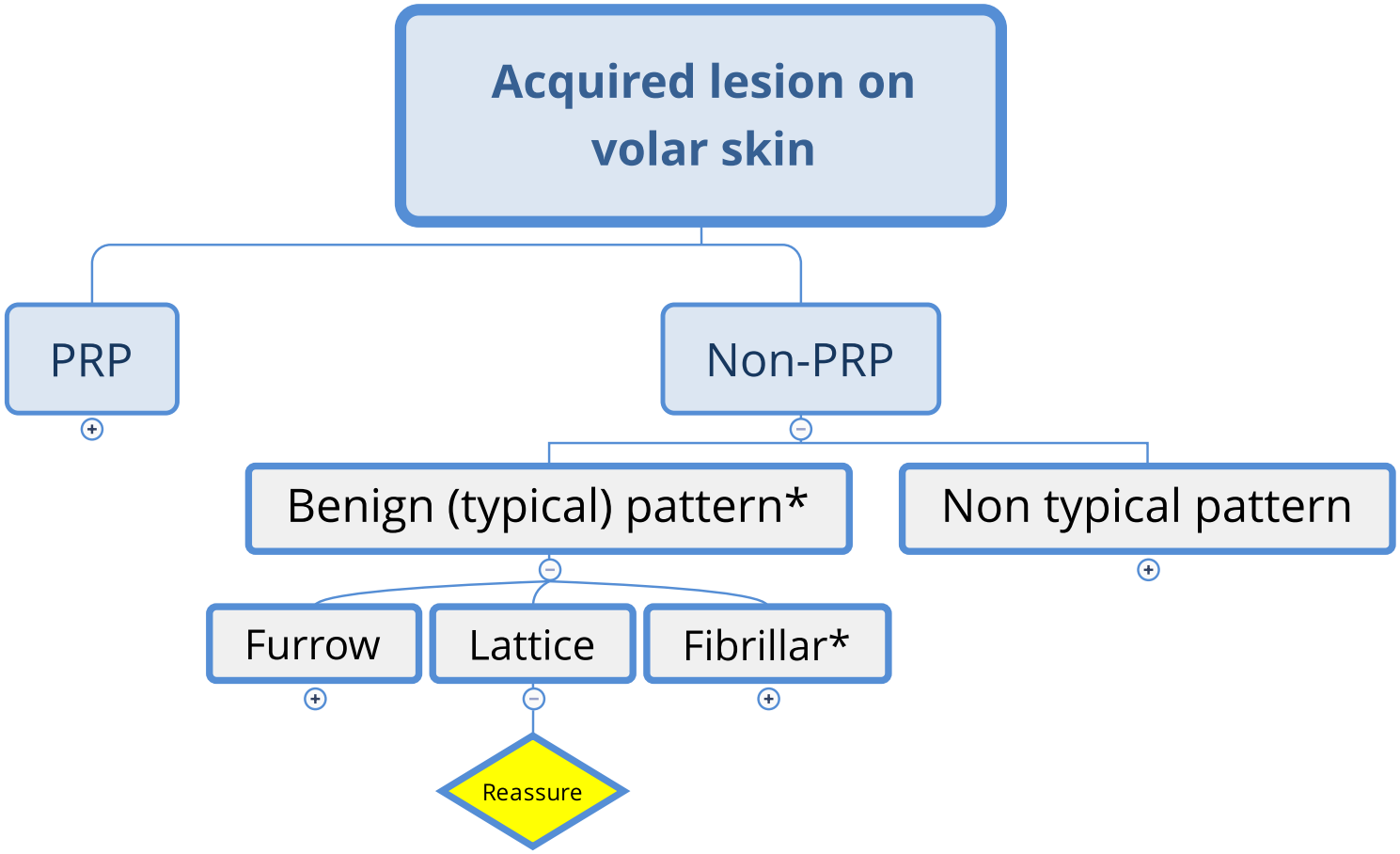
Lattice-like pattern

7% melanomas (focally located and not predominant pattern)

19% of nevi (throughout and predominant pattern)






Acquired lesion on volar skin
PRP
Non-PRP
Benign (typical) pattern*
Non typical pattern
Furrow
Lattice
Fibrillar*
Reassure

Significance of Dermoscopic Patterns in Detecting Malignant Melanoma on Acral Volar Skin

Results of a Multicenter Study in Japan

Toshiaki Saida, MD, PhD; Atsushi Miyazaki, MD; Shinji Oguchi, MD, PhD; Yasushi Ishihara, MD; Yoriko Yamazaki, MD; Sumio Murase, MD, PhD; Shusuke Yoshikawa, MD; Tetsuya Tsuchida, MD, PhD; Yasuhiro Kawabata, MD, PhD; Kunihiko Tamaki, MD, PhD

Objective: To determine diagnostic variables such as sensitivity and specificity of the major dermoscopic patterns observed in melanocytic lesions on acral volar skin, with particular attention to the significance of the parallel ridge pattern and irregular diffuse pigmentation in detecting acral melanoma.

Design: Multicenter, retrospective study.

Setting: University hospitals in Japan.

Patients: Patients with melanocytic lesions on acral volar skin. A total of 712 melanocytic lesions (103 malignant melanomas, including 36 in situ lesions, and 609 melanocytic nevi) were consecutively collected from the files of 3 hospitals. Diagnoses of all the lesions had been determined histopathologically.

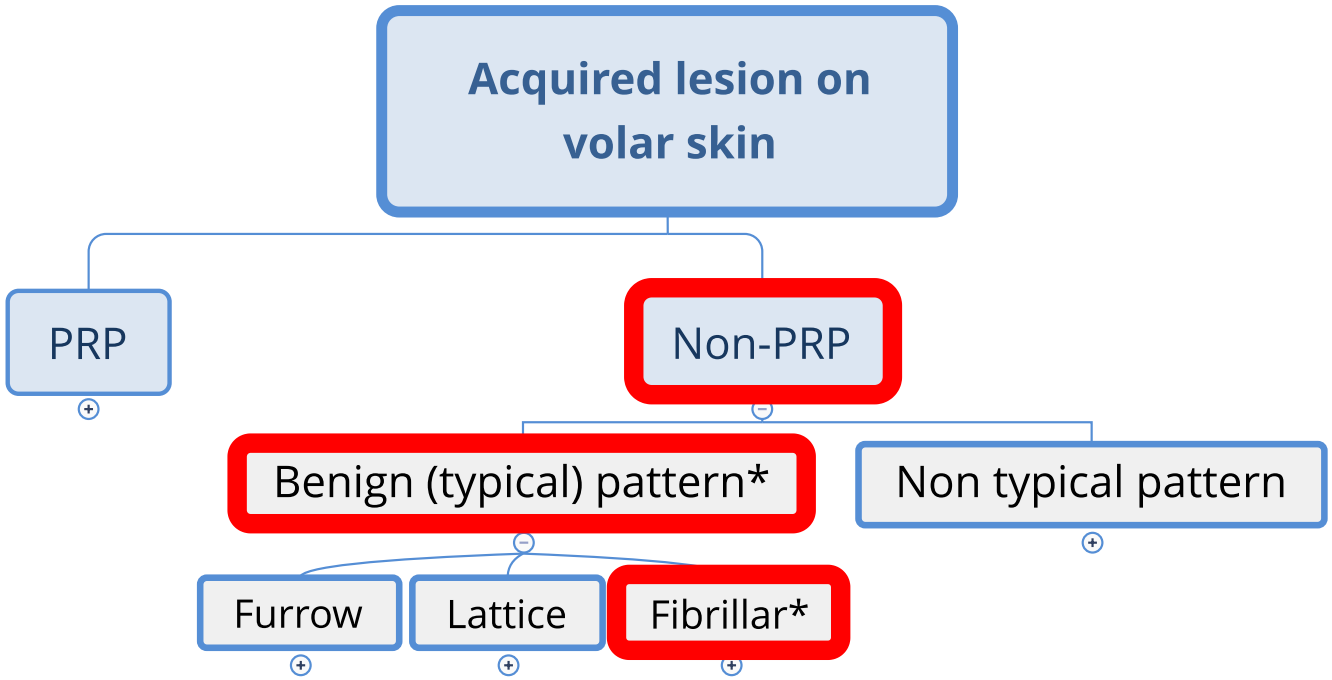
Interventions: Dermoscopic examination.

Main Outcome Measures: The sensitivity, specificity, positive predictive value, negative predictive value, and diagnostic accuracy of the major dermoscopic patterns seen in benign and malignant melanocytic lesions on acral volar skin.

Results: The parallel ridge pattern and irregular diffuse pigmentation showed extremely high specificity (99.0% and 96.6%, respectively) and very high negative predictive value (97.7% and 97.5%, respectively) in malignant melanoma. For melanoma in situ, the positive predictive value and diagnostic accuracy of the parallel ridge pattern were significantly higher than those of irregular diffuse pigmentation ($P=.009$ and $P=.006$, respectively). In melanocytic nevi, the specificity and positive predictive value of the parallel furrow pattern and/or the latticelike pattern were found to be very high (93.2% and 98.3%, respectively).

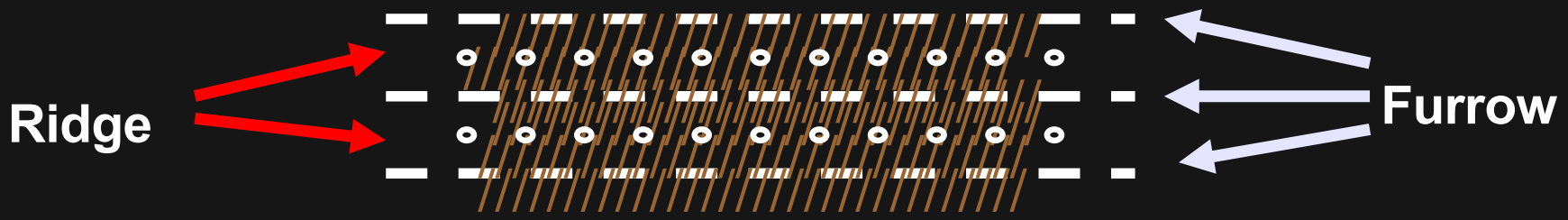
Conclusions: Dermoscopy is immensely helpful in differentiating malignant melanomas from melanocytic nevi on acral volar skin. Moreover, the parallel ridge pattern aids in detecting acral melanomas in early, curable stages.

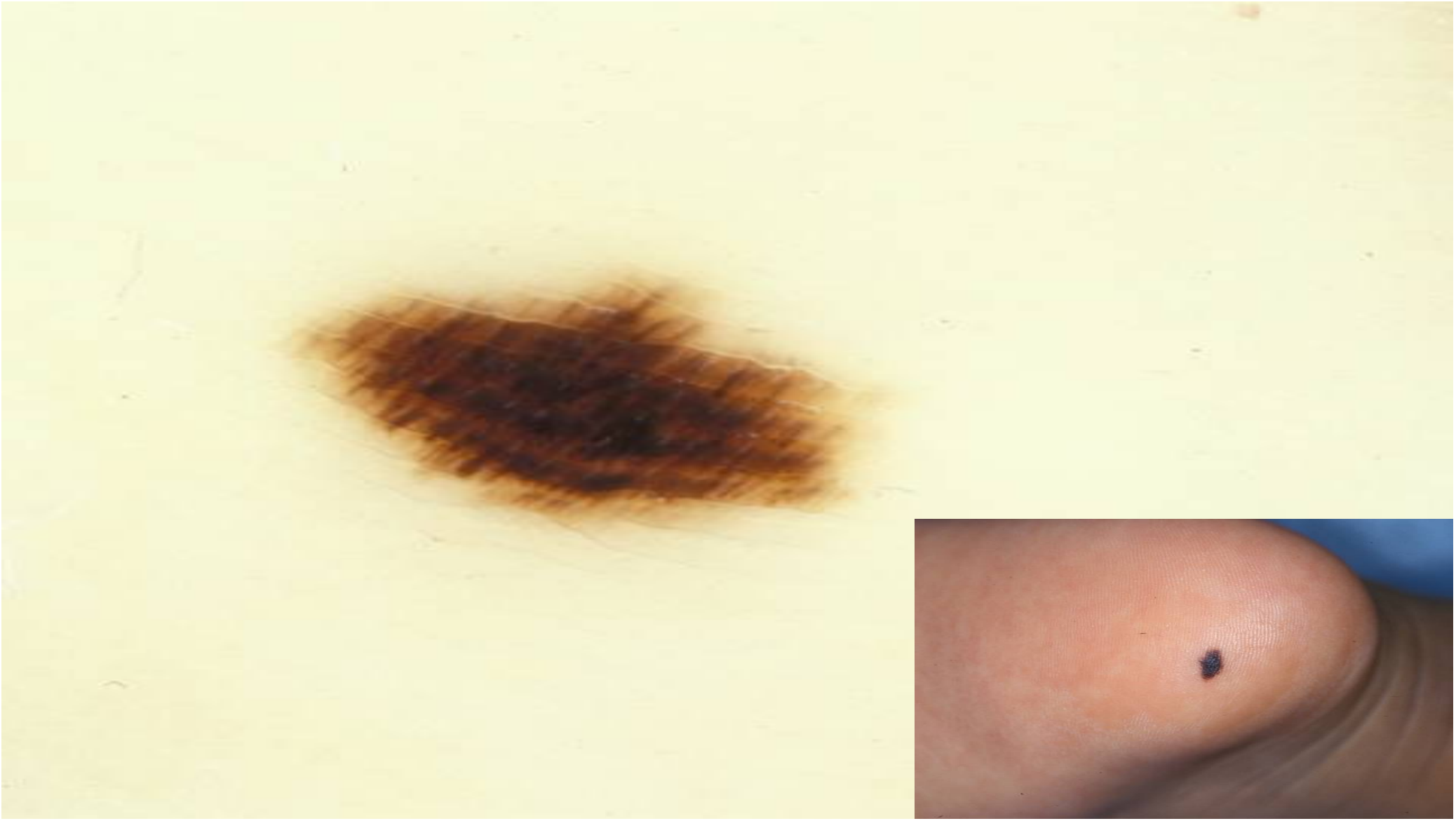
Arch Dermatol. 2004;140:1233-1238


Acquired lesion on volar skin
PRP
Non-PRP
Benign (typical) pattern*
Non typical pattern
Furrow
Lattice
Fibrillar*

Fibrillar pattern

- Lines crossing at an angle across both the furrows and ridges



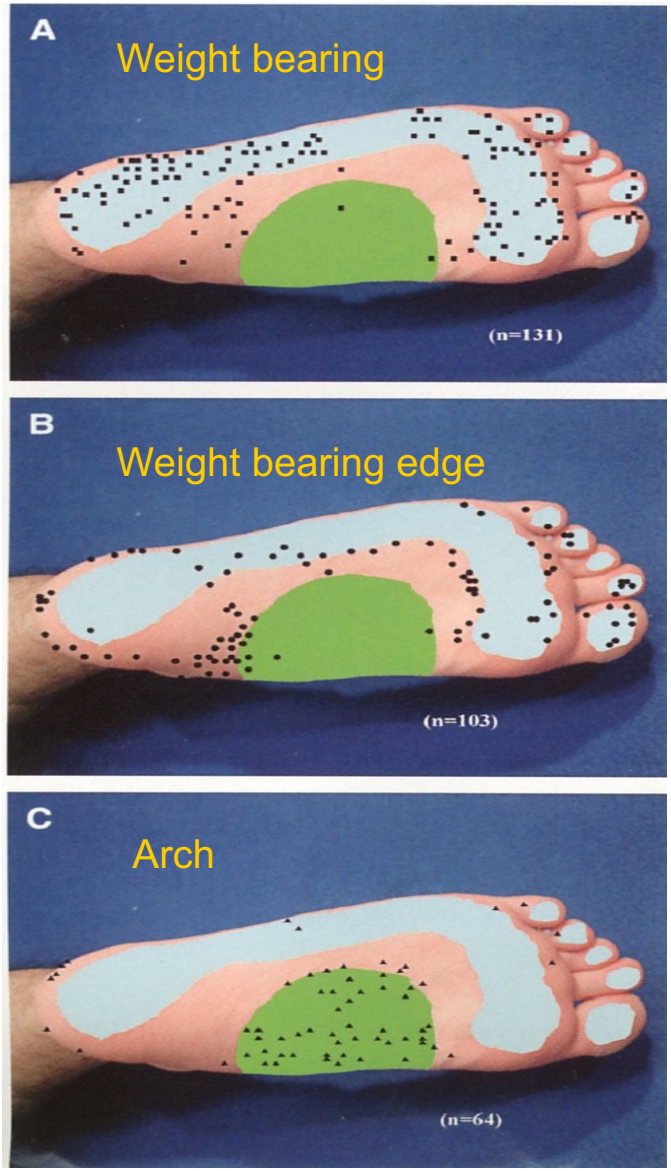


Fibrillar pattern

Furrow pattern

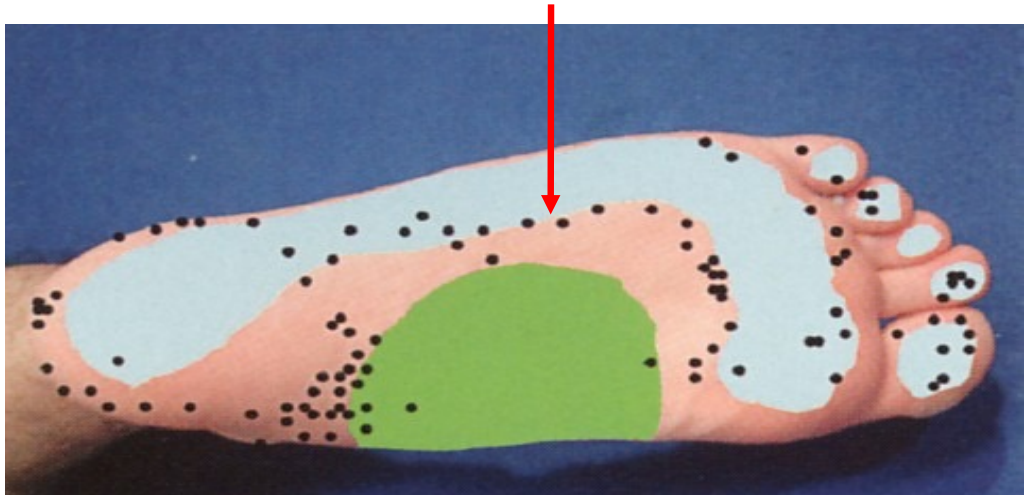
Lattice pattern

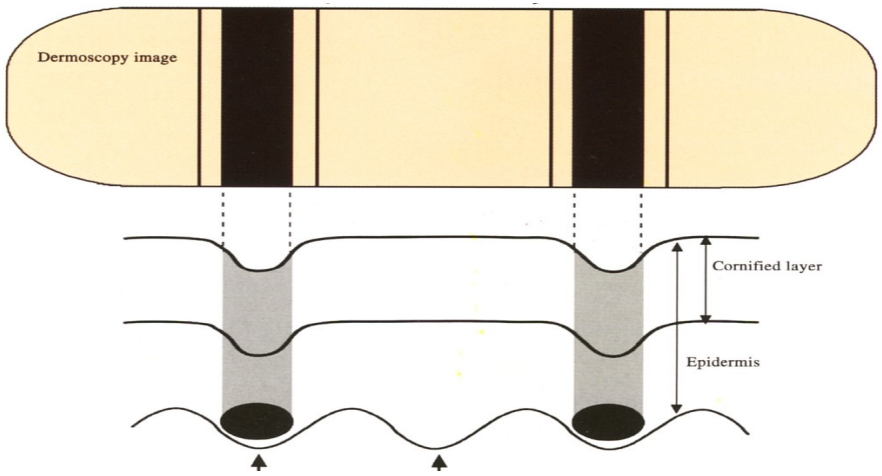
Ref: Myazaki A et al.: JAAD 53:230, 2005



Histology parallel furrow pattern:

Edge of weight bearing sole



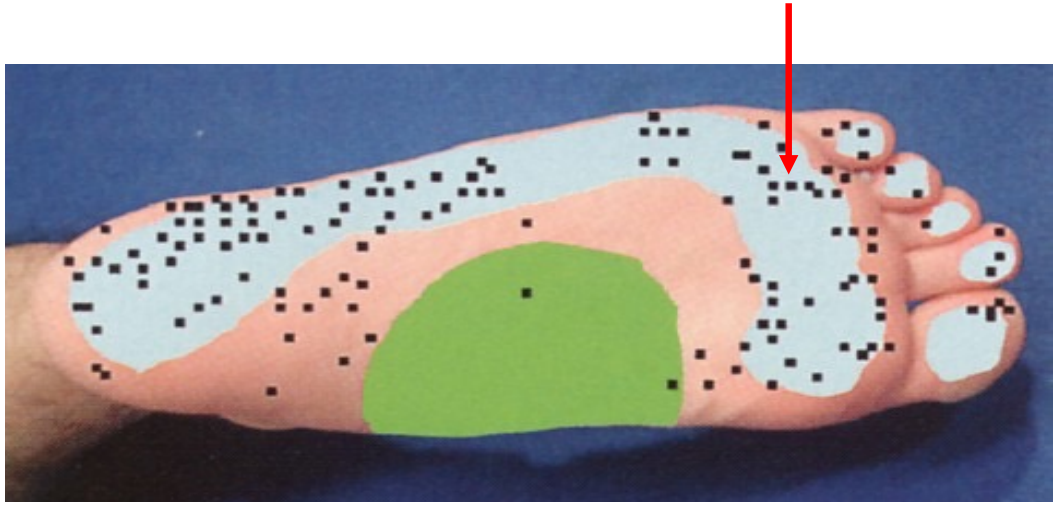


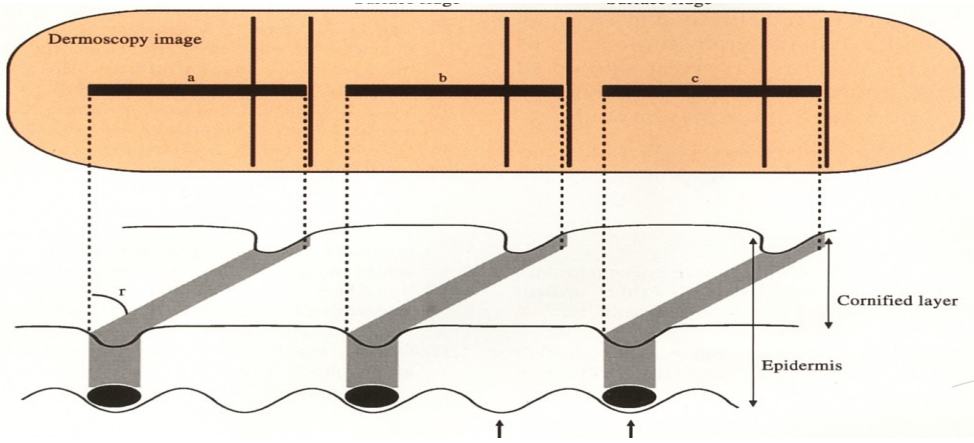
column straight

Ref: Myazaki A et al.: JAAD 53:230, 2005

Histology fibrillar pattern:

Weight bearing sole





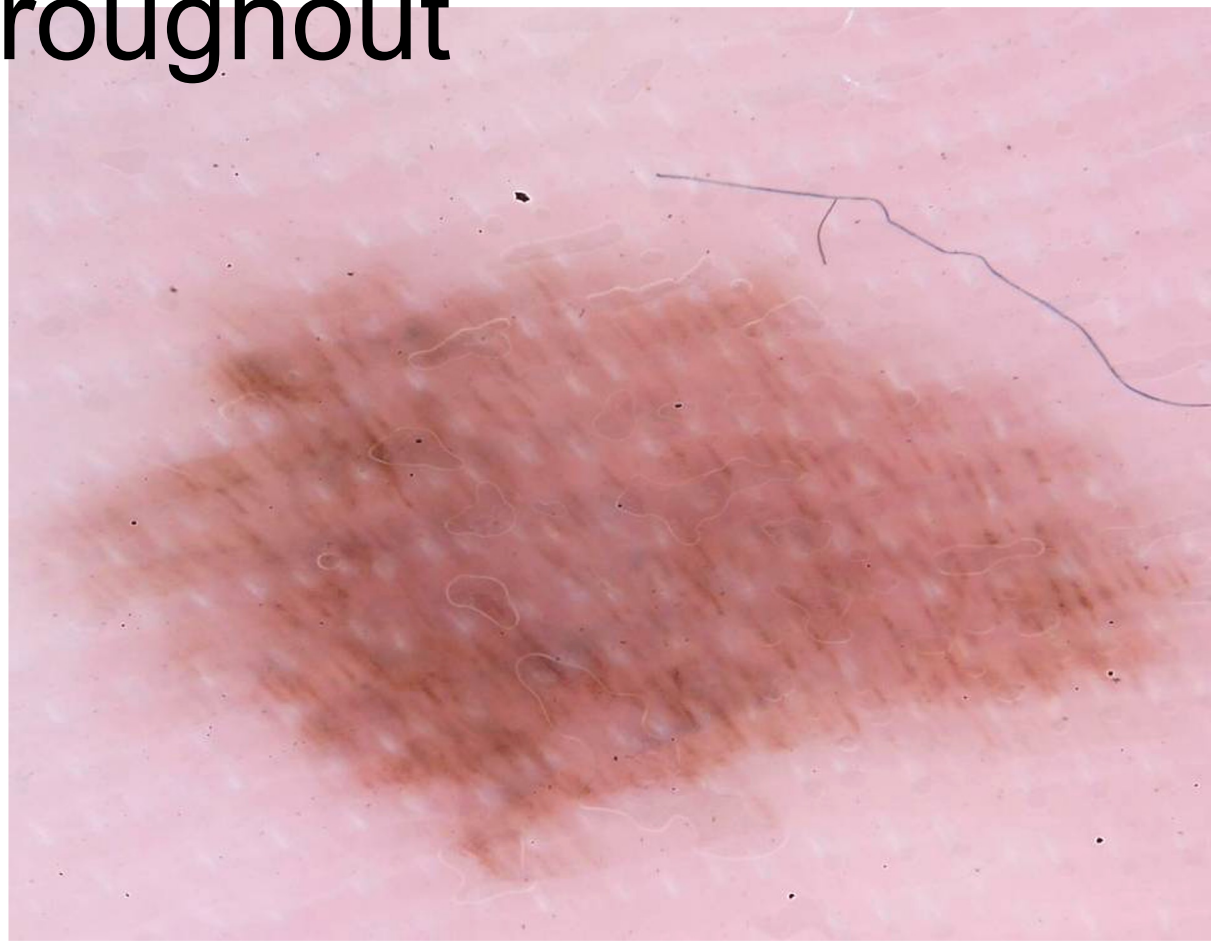
column slants

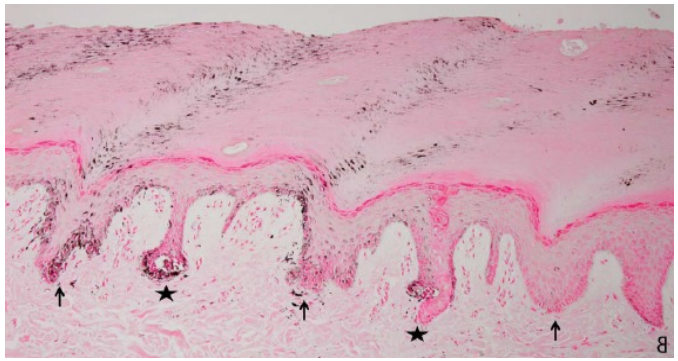
Ref: Myazaki A et al.: JAAD 53:230, 2005

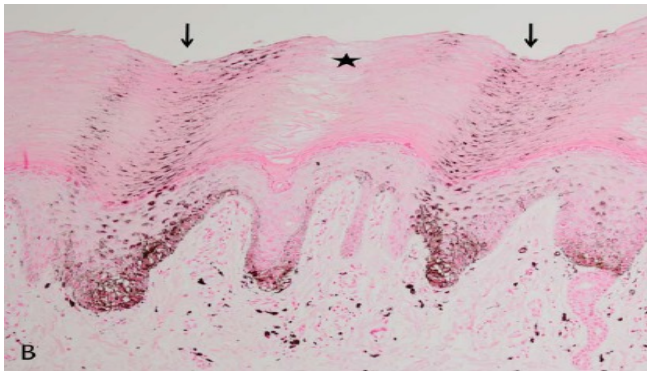
Fibrillar pattern: predominant pattern throughout

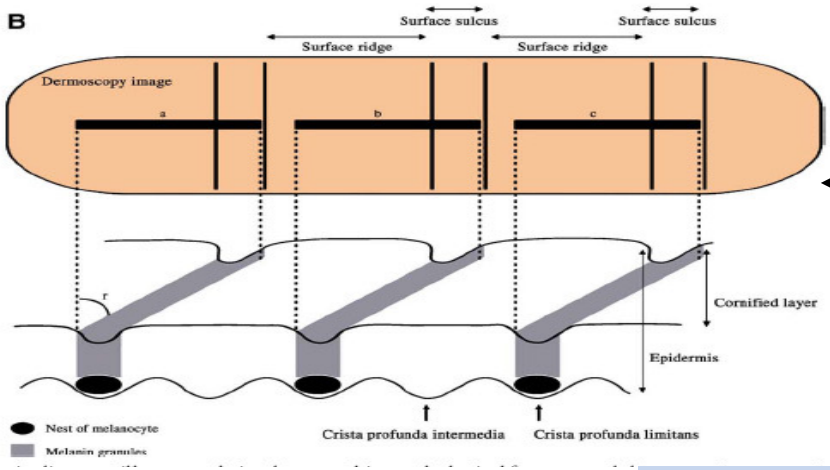
35% of melanomas

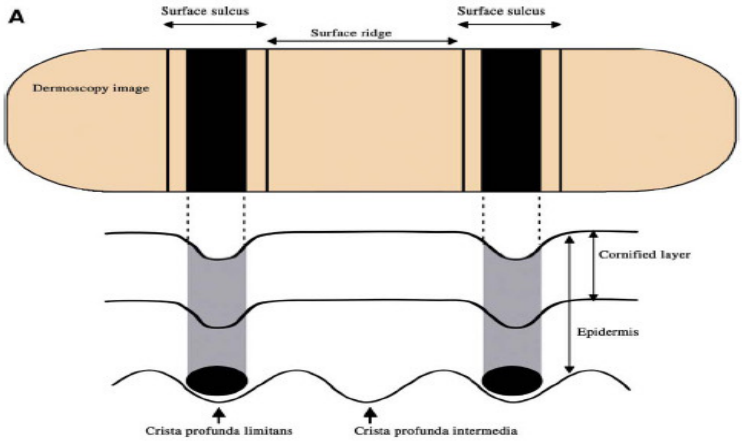
33% of nevi

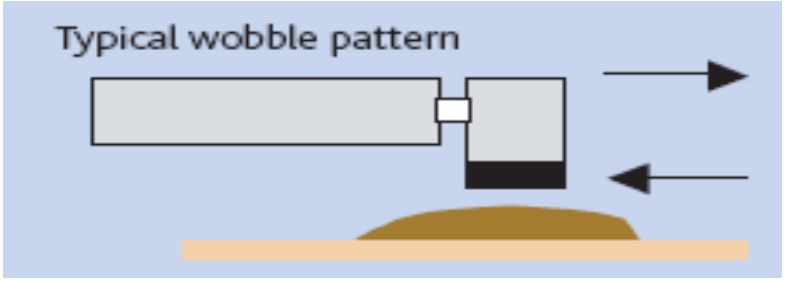




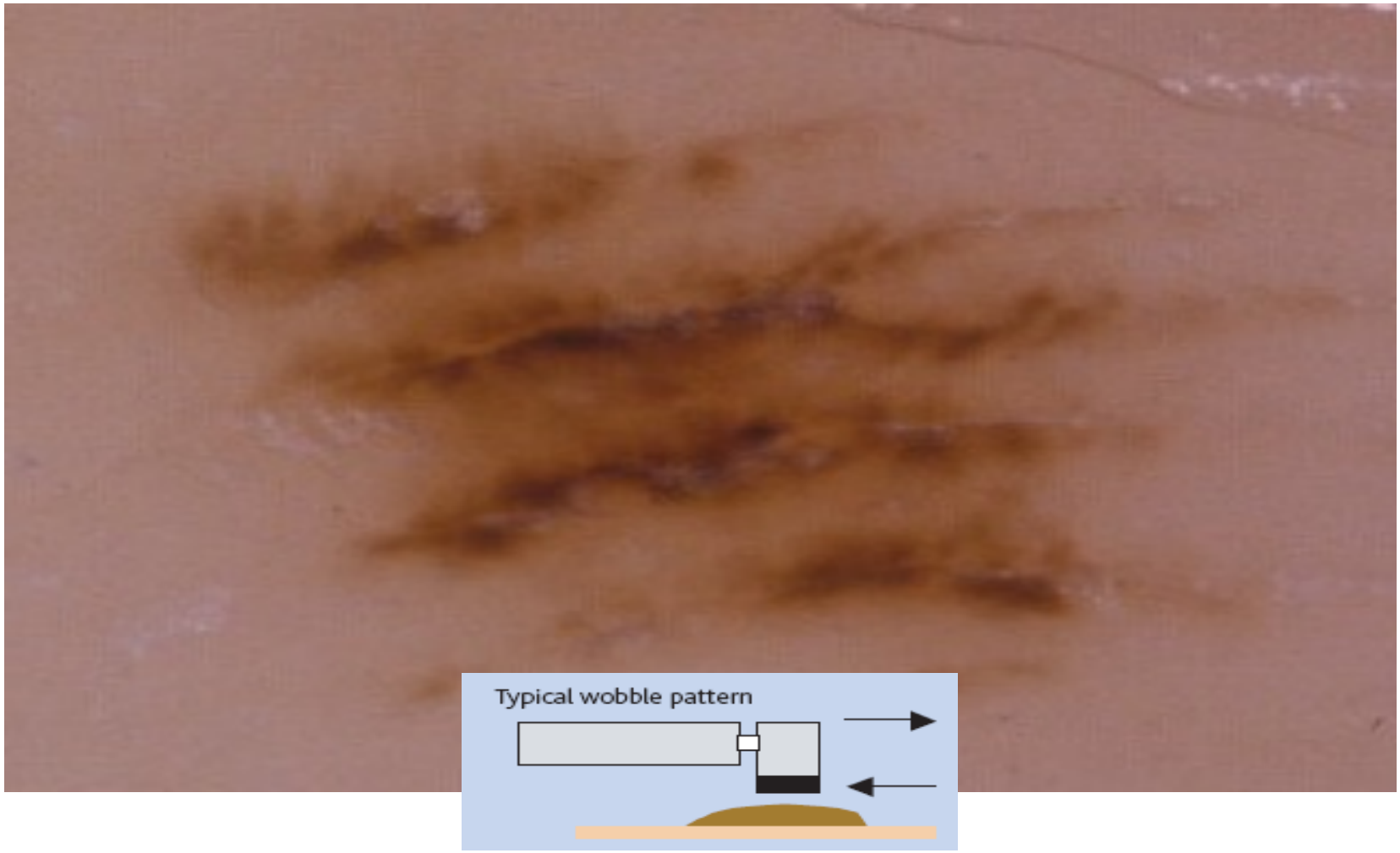

B


B
Surface sulcus
Surface sulcus
Surface ridge
Surface ridge
Dermoscopy image
a
b
c
r
Cornified layer
Epidermis
Nest of melanocyte
Melanin granules
Crista profunda intermedia
Crista profunda limitans

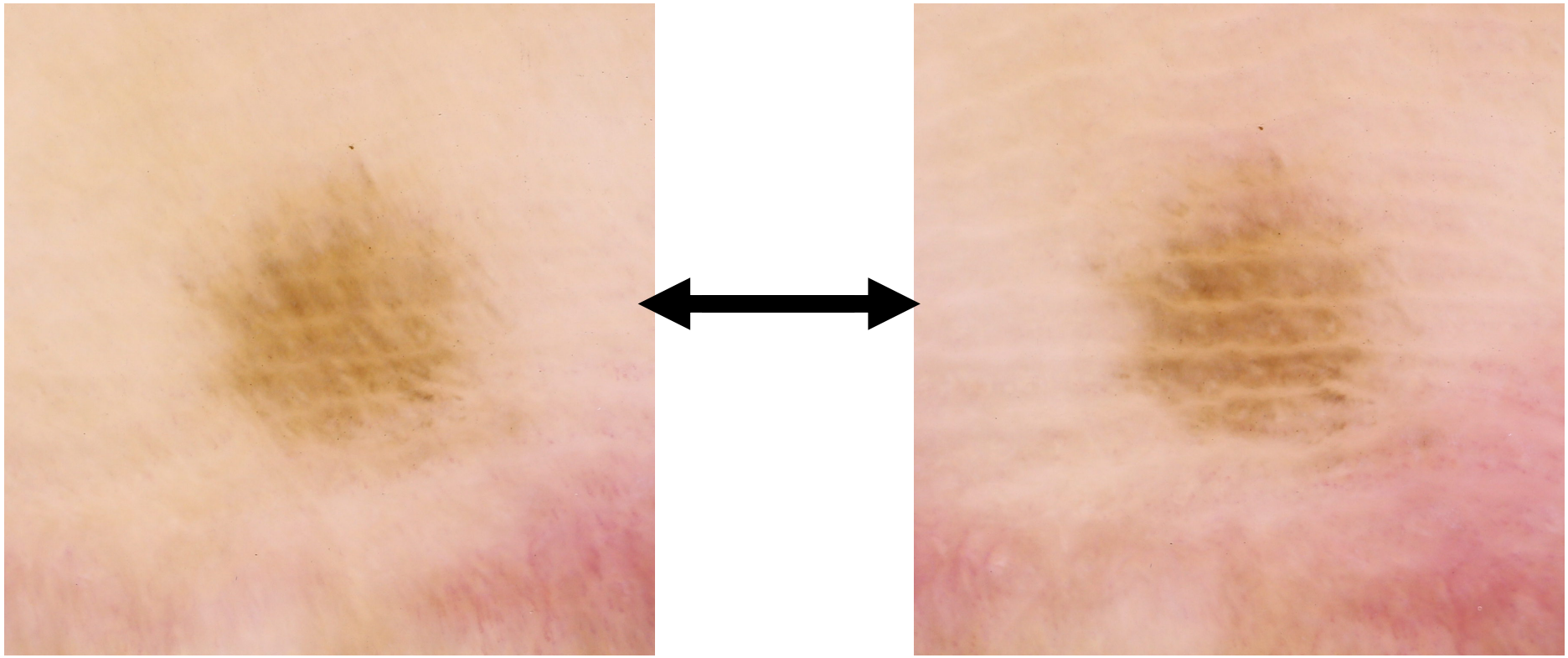

A
Surface sulcus
Surface sulcus
Surface ridge
Dermoscopy image
Cornified layer
Epidermis
Crista profunda limitans
Crista profunda intermedia

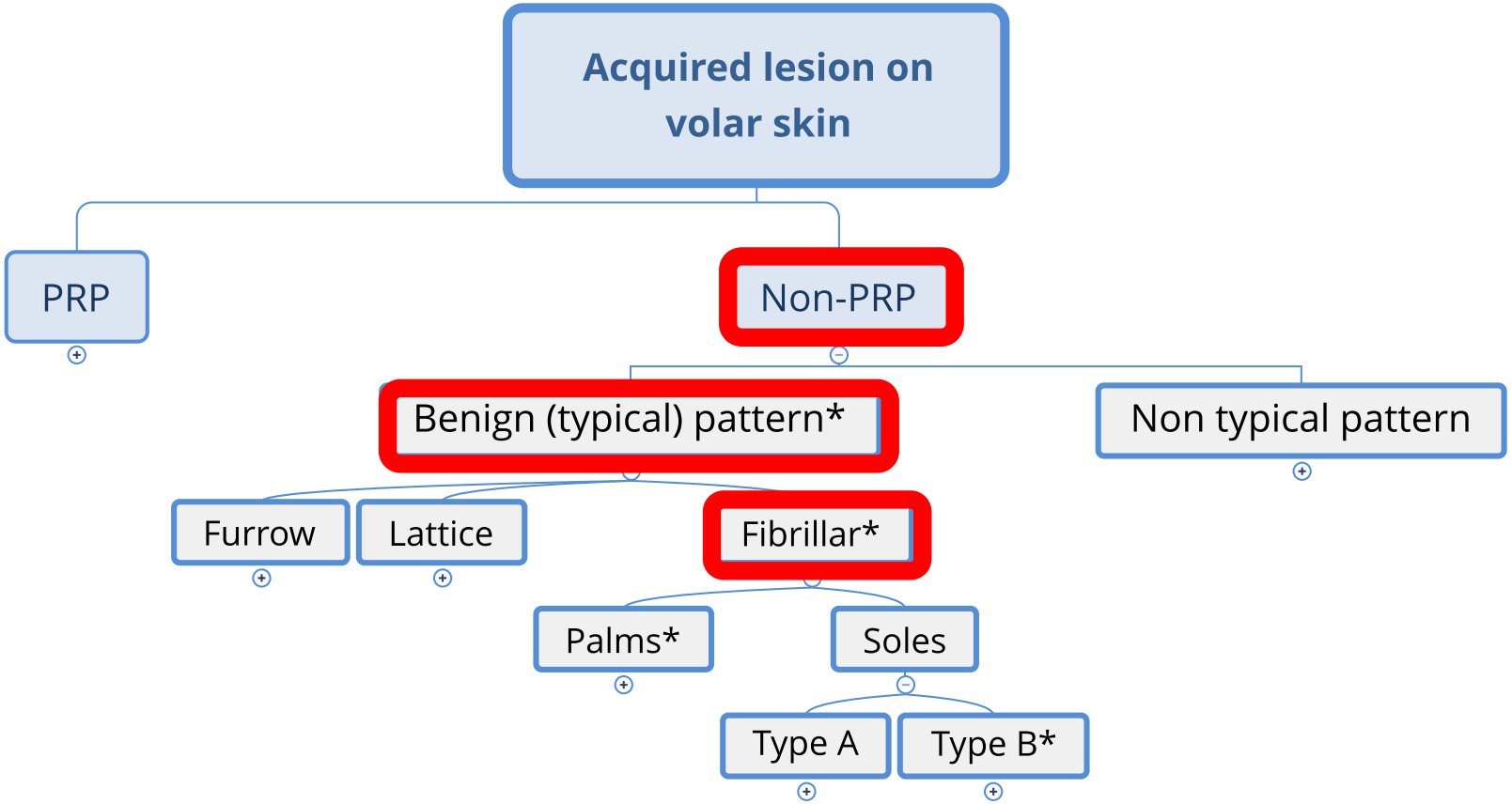

Typical wobble pattern

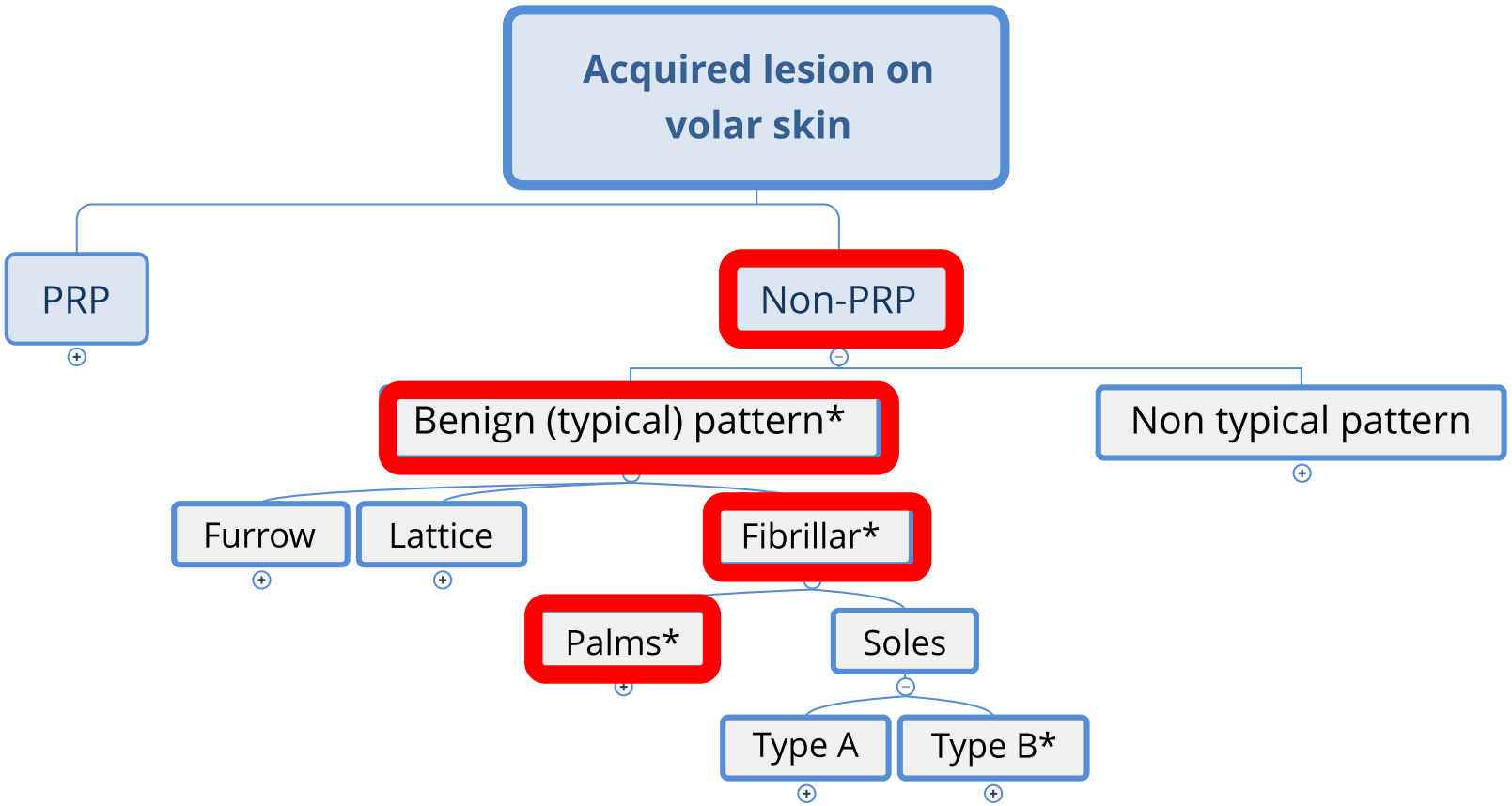
Fibrillar pattern anchored in the furrows



Fibrillar pattern anchored on the ridges




Acquired lesion on volar skin
PRP
Non-PRP
Benign (typical) pattern*
Non typical pattern
Furrow
Lattice
Fibrillar*
Palms*
Soles
Type A
Type B*

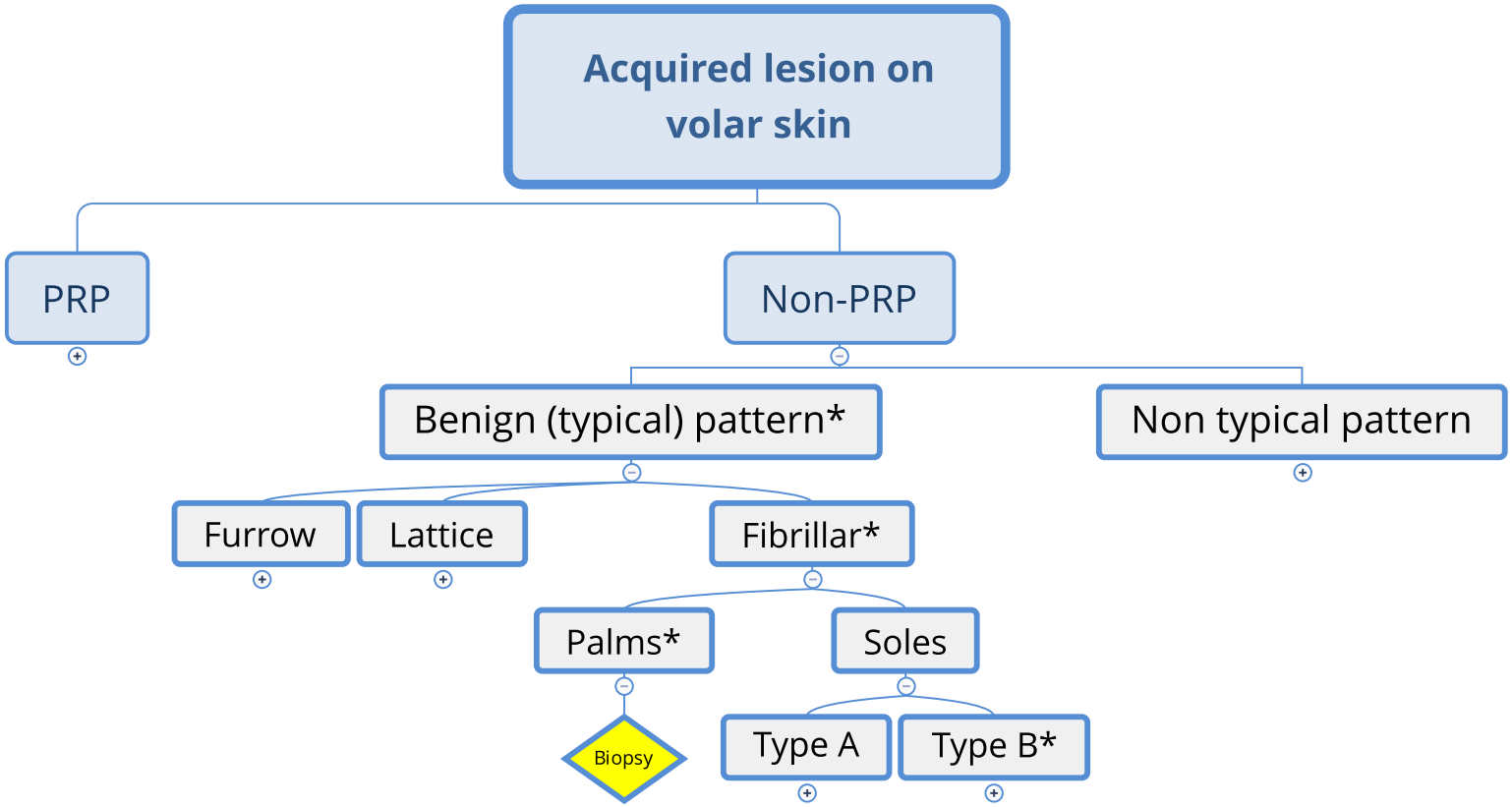

Acquired lesion on volar skin
PRP
Non-PRP
Benign (typical) pattern*
Non typical pattern
Furrow
Lattice
Fibrillar*
Palms*
Soles
Type A
Type B*

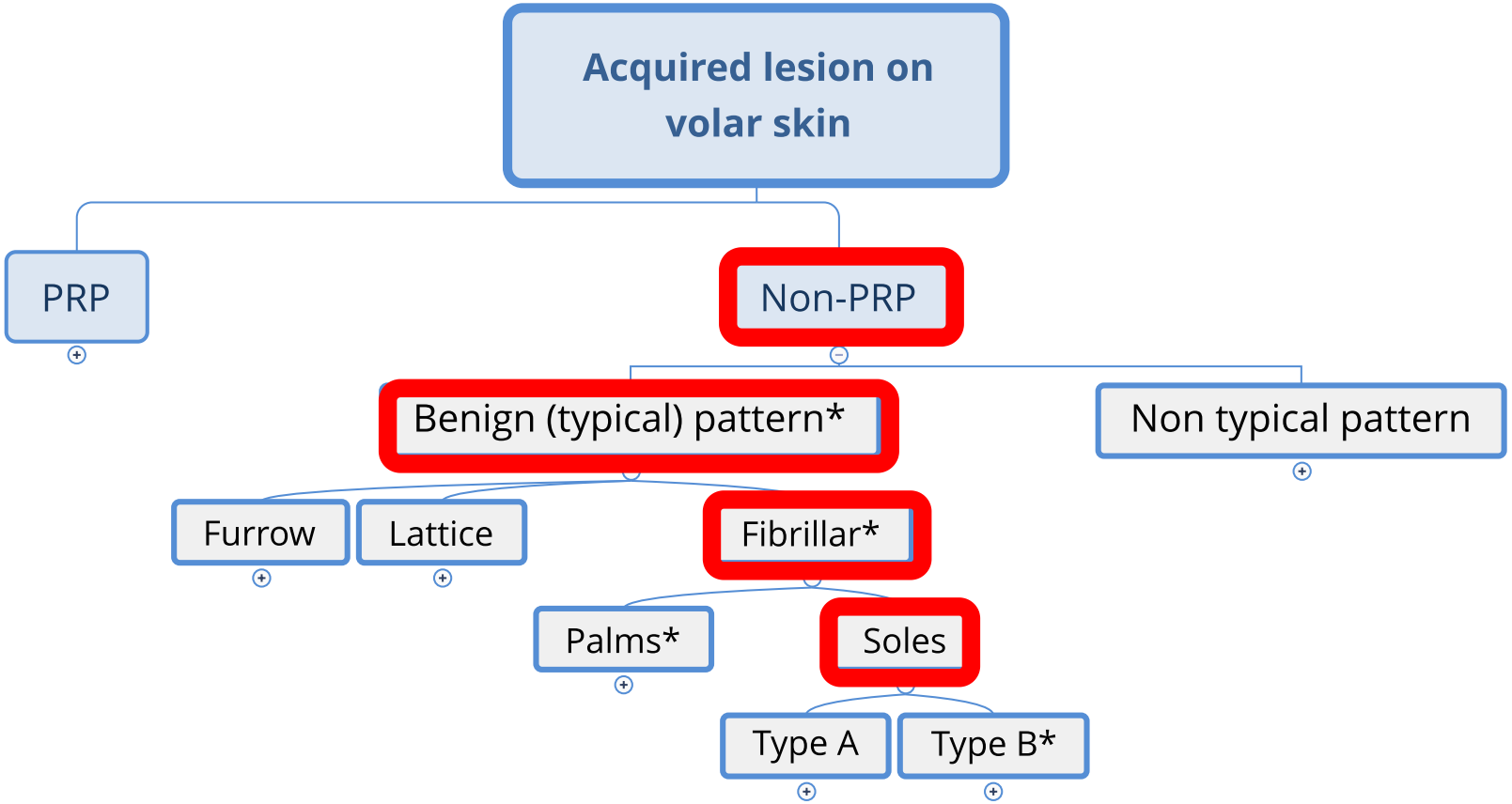
Benign Dermoscopic volar patterns

Pattern	Soles N=165	Palms N=45	Total N=210
“Parallel furrow* “	81 (49%)	29 (64%)	110 (52,4%)
“Lattice-like”	17 (10%)	9 (20%)	26 (12%)
“Fibrillar”	13 (7,9%)	0	13 (6%)

J. Malvehy, S. Puig. Dermoscopic patterns of benign volar melanocytic lesions in patients with atypical mole syndrome. Arch Dermatol, 2004


NB: All fibrillar lesions on the palm are considered suspect!


Acquired lesion on volar skin
PRP
Non-PRP
Benign (typical) pattern*
Non typical pattern
Furrow
Lattice
Fibrillar*
Palms*
Soles
Biopsy
Type A
Type B*


Acquired lesion on volar skin
PRP
Non-PRP
Benign (typical) pattern*
Non typical pattern
Furrow
Lattice
Fibrillar*
Palms*
Soles
Type A
Type B*

Dermoscopy for Acral Melanocytic Lesions: Revision of the 3-step Algorithm and Refined Definition of the Regular and Irregular Fibrillar Pattern

Toshiaki Saida[1], Hiroshi Koga[1], Hisashi Uhara[2]

Regular FP of acral nevus

The fibrils constituting the regular FP are evenly distributed throughout the lesion and mostly same in color and thickness (Figure 2A). The endpoints (deeper color ends) of the fibrils tend to line up on the sulci of the skin markings. In addition, not infrequently, the FP is combined with the PFP and/or changes to the PFP at the periphery. In most cases, the oblique dermoscopy demonstrates that the FP is originally the PFP (Figure 2B).

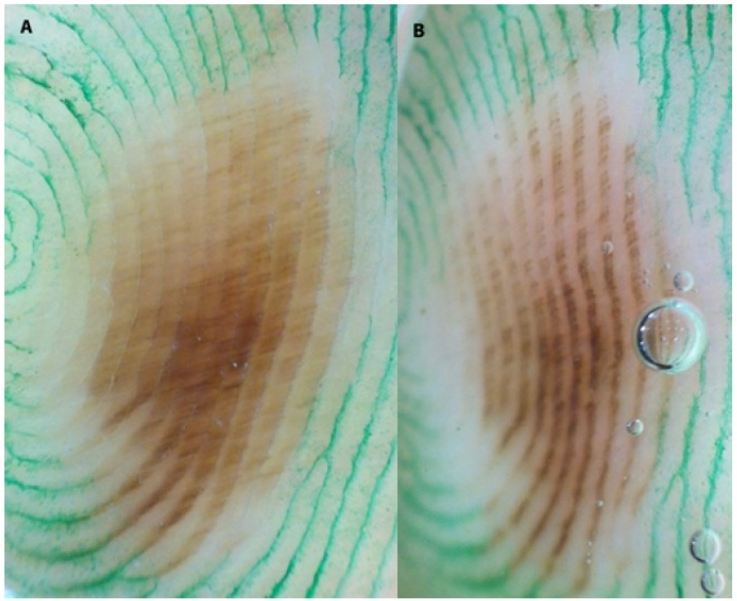
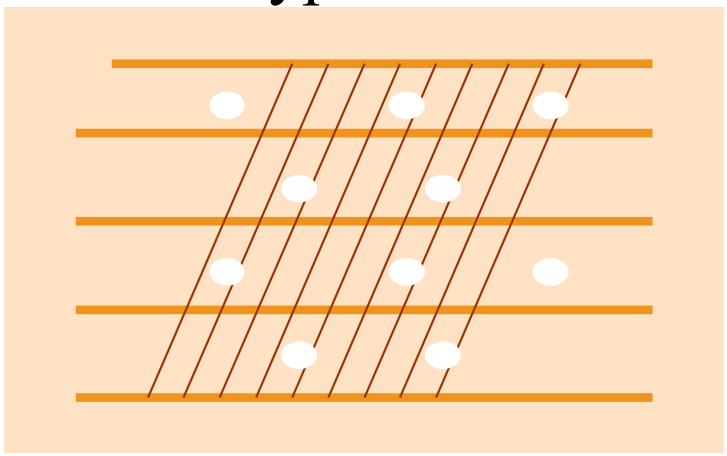


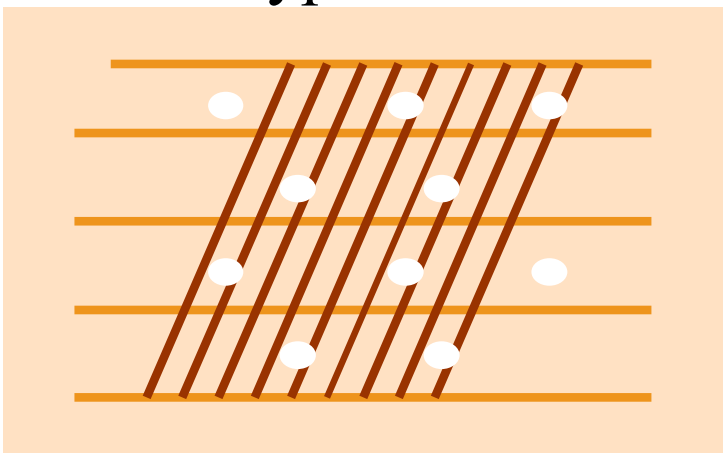
Figure 2. Regular fibrillar pattern of acral nevus (dermoscopy with the furrow ink test). (A) The fibrils constituting the pattern are regular in color, thickness and distribution. All the endpoints of the fibrils line up on the sulci of the skin markings. The pattern changes to the parallel furrow pattern in the lower portion. (B) The oblique dermoscopy reveals that this is originally the parallel furrow pattern.

Fibrillar pattern (soles only)

Type A

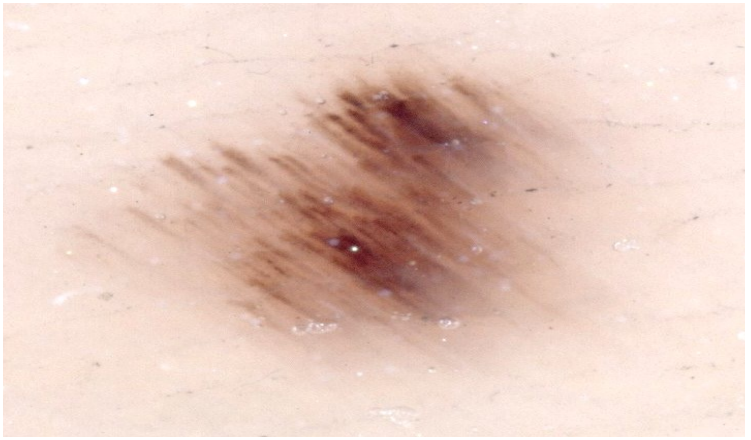


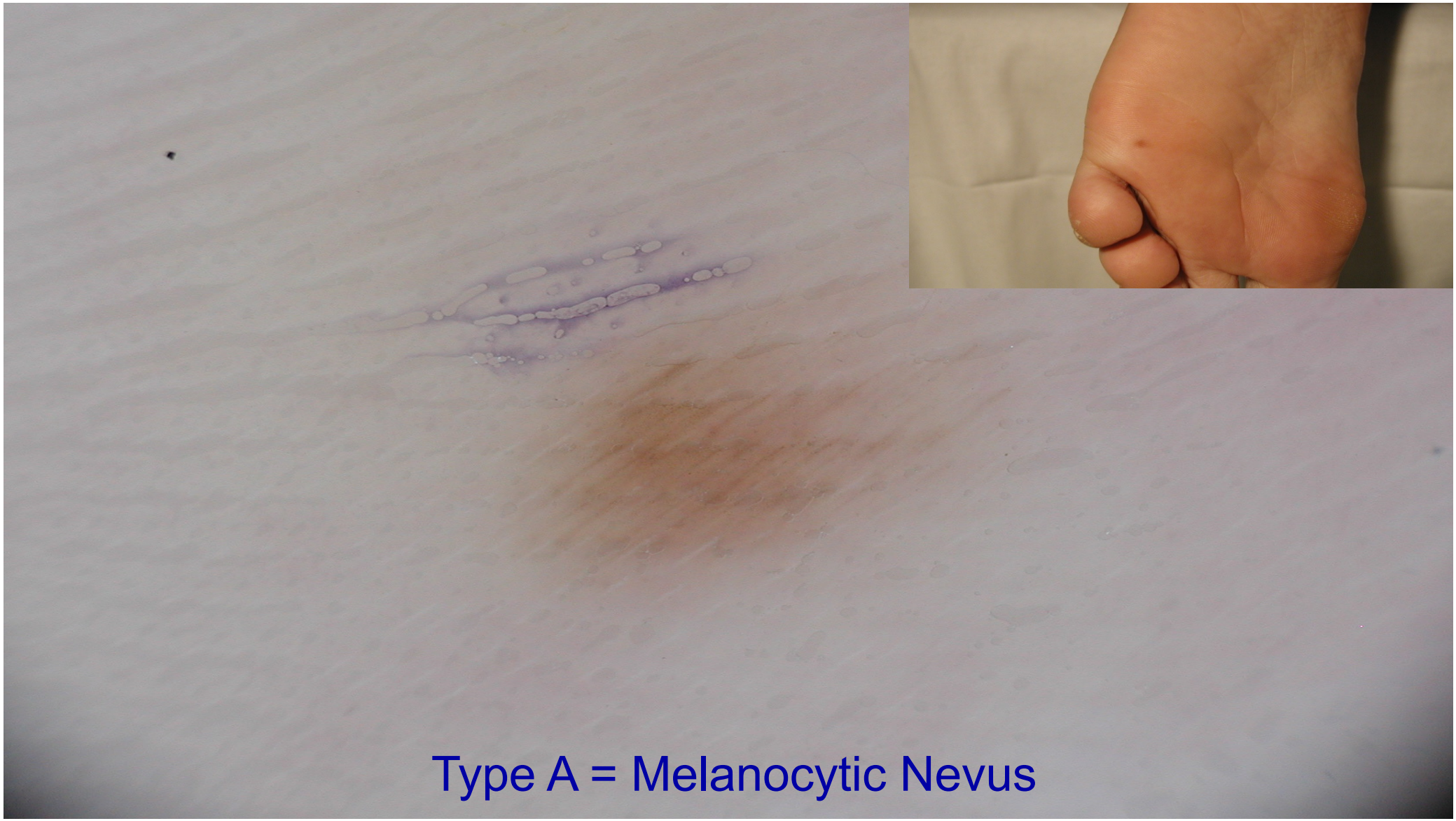
Type B



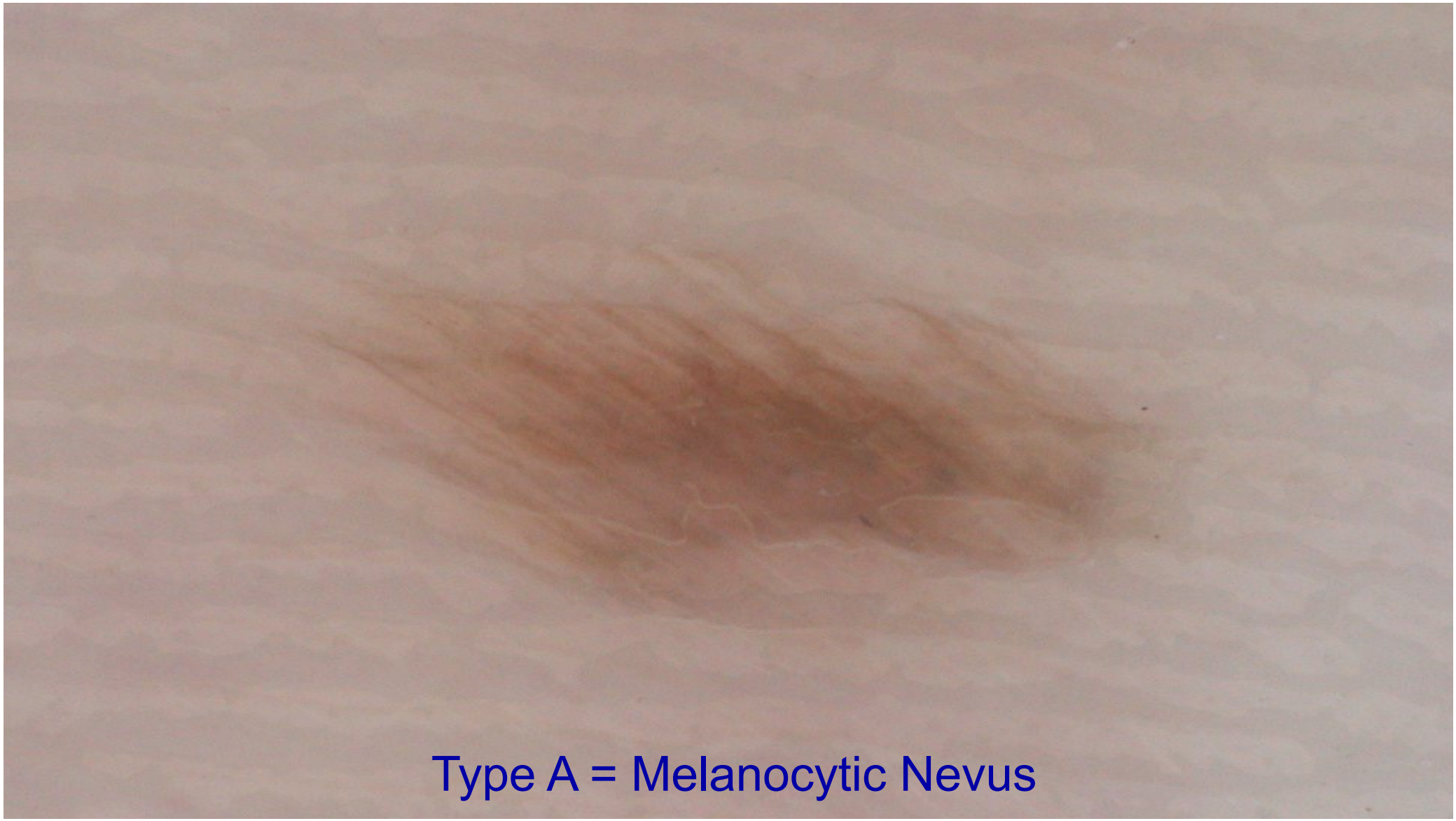
Junctional/compound nevus

Melanoma in situ

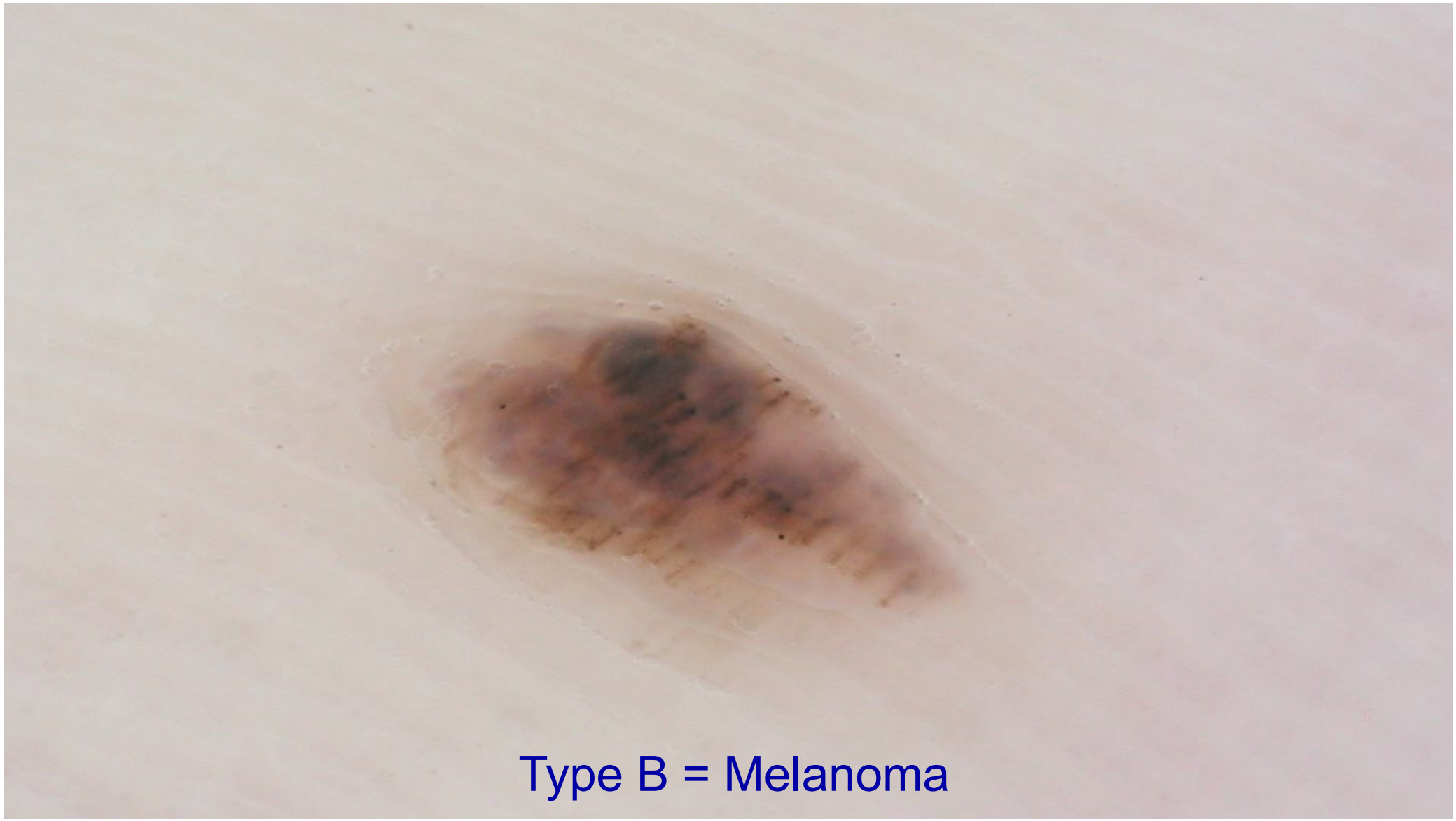




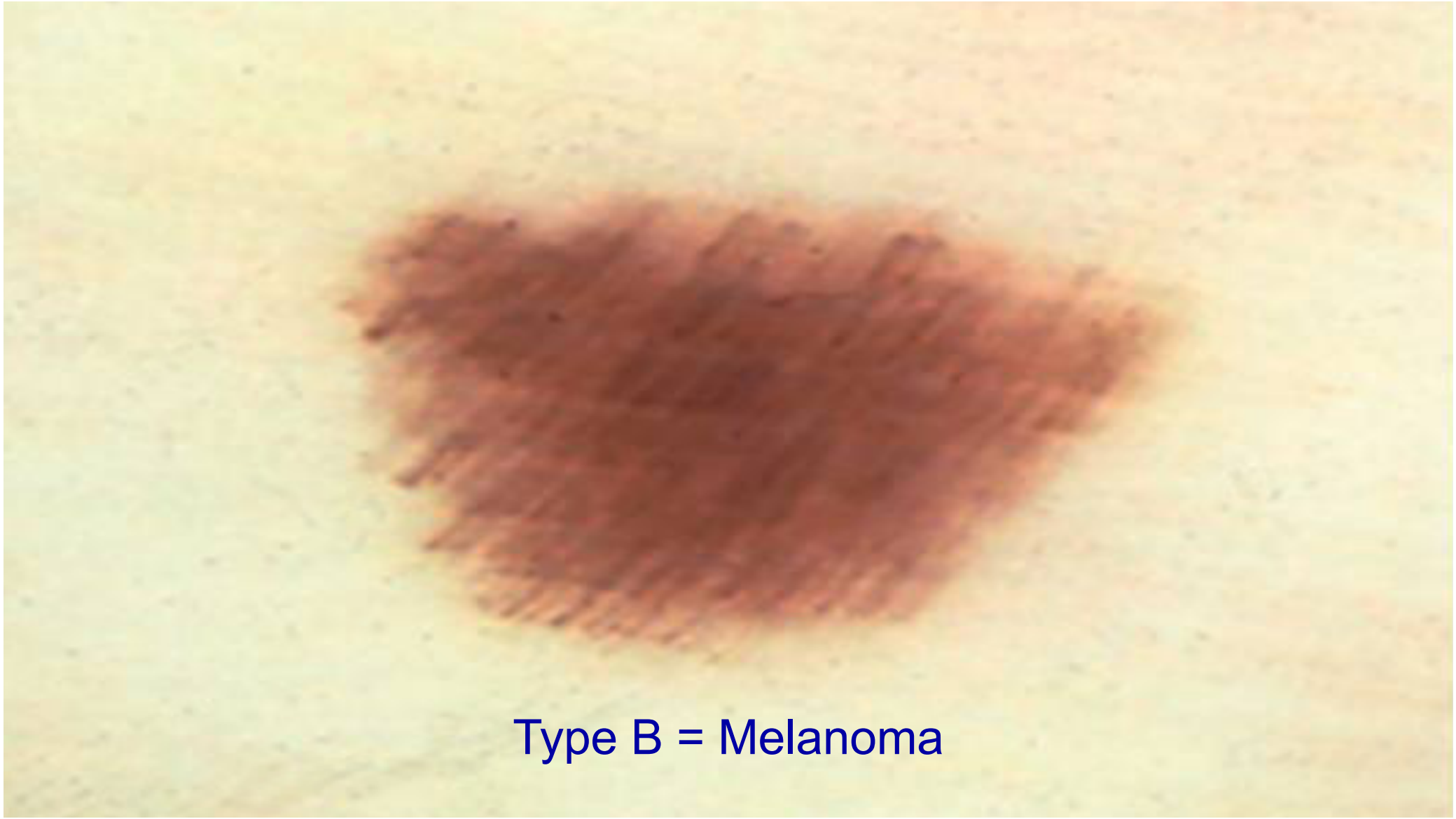
Type A = Melanocytic Nevus



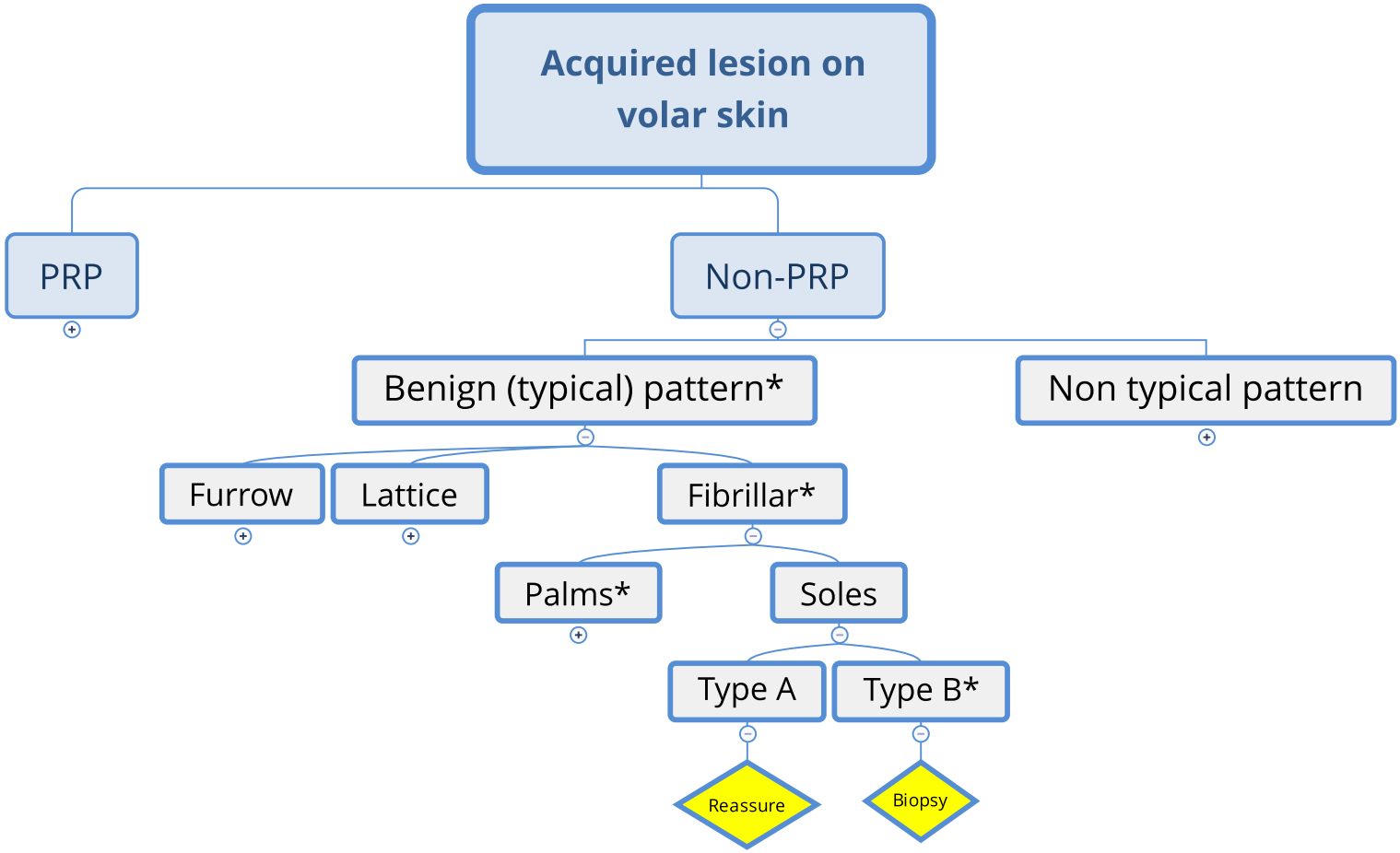
Type A = Melanocytic Nevus

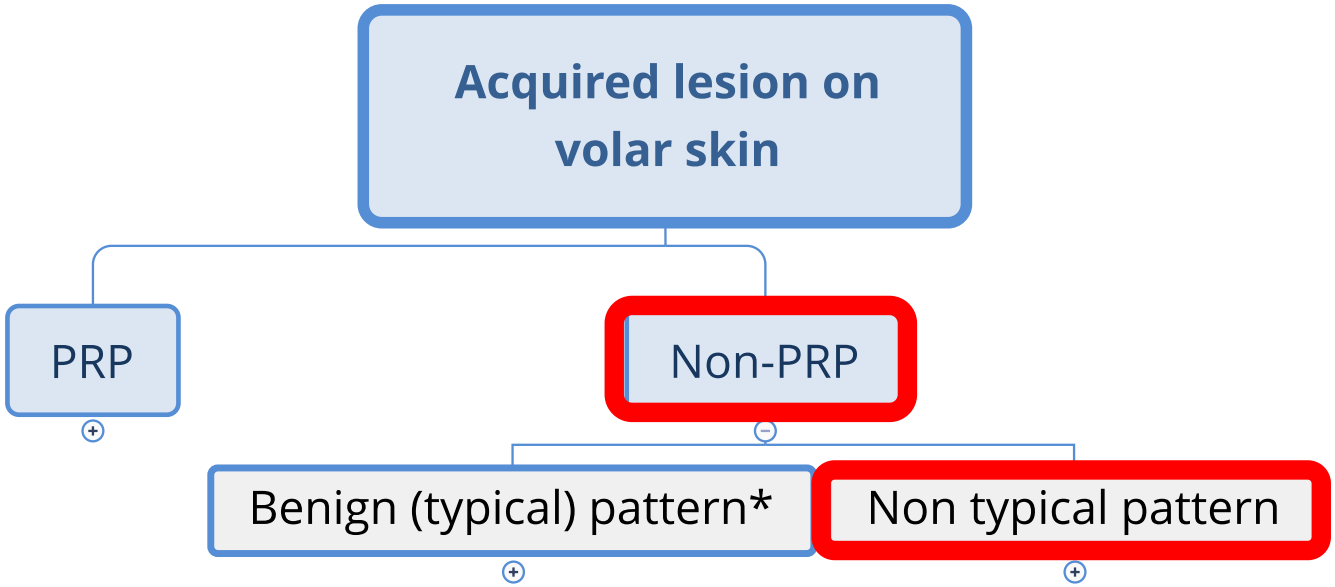


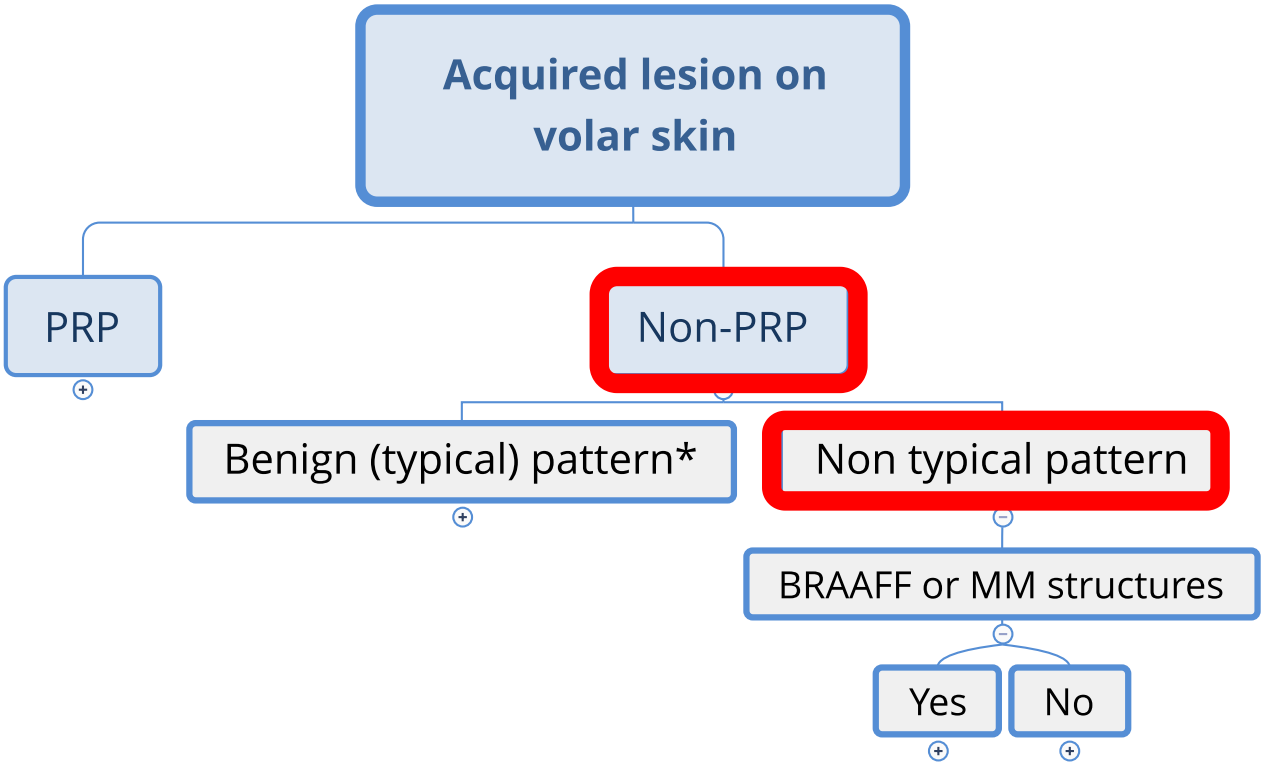
Type B = Melanoma



Type B = Melanoma


Acquired lesion on volar skin
PRP
Non-PRP
Benign (typical) pattern*
Non typical pattern
Furrow
Lattice
Fibrillar*
Palms*
Soles
Type A
Type B*
Reassure
Biopsy


Acquired lesion on volar skin
PRP
Non-PRP
Benign (typical) pattern*
Non typical pattern


Acquired lesion on volar skin
PRP
Non-PRP
Benign (typical) pattern*
Non typical pattern
BRAAFF or MM structures
Yes
No

Significance of Dermoscopic Patterns in Detecting Malignant Melanoma on Acral Volar Skin

Results of a Multicenter Study in Japan

Toshiaki Saida, MD, PhD; Atsushi Miyazaki, MD; Shinji Oguchi, MD, PhD; Yasushi Ishihara, MD; Yoriko Yamazaki, MD; Sumio Murase, MD, PhD; Shusuke Yoshikawa, MD; Tetsuya Tsuchida, MD, PhD; Yasuhiro Kawabata, MD, PhD; Kunihiko Tamaki, MD, PhD

Objective: To determine diagnostic variables such as sensitivity and specificity of the major dermoscopic patterns observed in melanocytic lesions on acral volar skin, with particular attention to the significance of the parallel ridge pattern and irregular diffuse pigmentation in detecting acral melanoma.

Design: Multicenter, retrospective study.

Setting: University hospitals in Japan.

Patients: Patients with melanocytic lesions on acral volar skin. A total of 712 melanocytic lesions (103 malignant melanomas, including 36 in situ lesions, and 609 melanocytic nevi) were consecutively collected from the files of 3 hospitals. Diagnoses of all the lesions had been determined histopathologically.

Interventions: Dermoscopic examination.

Main Outcome Measures: The sensitivity, specificity, positive predictive value, negative predictive value, and diagnostic accuracy of the major dermoscopic patterns seen in benign and malignant melanocytic lesions on acral volar skin.

Results: The parallel ridge pattern and irregular diffuse pigmentation showed extremely high specificity (99.0% and 96.6%, respectively) and very high negative predictive value (97.7% and 97.5%, respectively) in malignant melanoma. For melanoma in situ, the positive predictive value and diagnostic accuracy of the parallel ridge pattern were significantly higher than those of irregular diffuse pigmentation ($P=.009$ and $P=.006$, respectively). In melanocytic nevi, the specificity and positive predictive value of the parallel furrow pattern and/or the latticelike pattern were found to be very high (93.2% and 98.3%, respectively).

Conclusions: Dermoscopy is immensely helpful in differentiating malignant melanomas from melanocytic nevi on acral volar skin. Moreover, the parallel ridge pattern aids in detecting acral melanomas in early, curable stages.

Arch Dermatol. 2004;140:1233-1238

JAMA Dermatology | Original Investigation

Clinical and Histopathologic Characteristics of Melanocytic Lesions on the Volar Skin Without Typical Dermoscopic Patterns

Yasutomo Mikoshiba, MD; Akane Minagawa, MD, PhD; Hiroshi Koga, MD, PhD; Yoshiharu Yokokawa, PhD; Hisashi Uhara, MD, PhD; Ryuhei Okuyama, MD, PhD

Figure 2. Dermoscopic Images of Representative Melanocytic Nevus Cases Not Showing Typical Benign Dermoscopic Patterns

VS.

Figure 3. Dermoscopic Images of Representative Melanoma Cases Not Showing Typical Parallel Ridge Pattern by Dermoscopy

- Asymmetry (disorganized distribution of colors & structures)
- ≥3 colors
- Blue-white structures
- Vessels
- Dots
- Streaks
- Abrupt edges

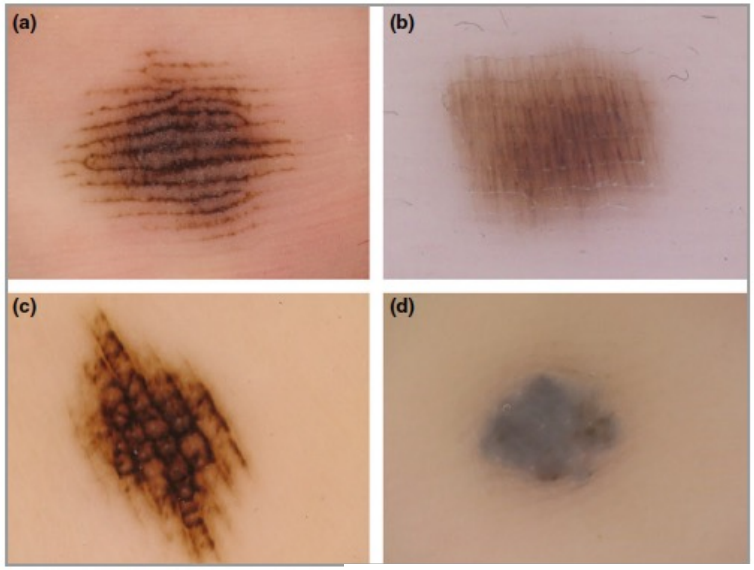
The BRAAFF checklist: a new dermoscopic algorithm for diagnosing acral melanoma

A. Lallas,[1] A. Kyrgidis,[1] H. Koga,[2] E. Moscarella,[1] P. Tschandl,[3] Z. Apalla,[4] A. Di Stefani,[5] D. Ioannides,[2] H. Kittler,[4] K. Kobayashi,[6,7] E. Lazaridou,[2] C. Longo,[1] A. Phan,[8] T. Saida,[3] M. Tanaka,[6] L. Thomas,[8] I. Zalaudek[9] and G. Argenziano[10]

Table 5 The BRAAFF checklist for the diagnosis of acral melanoma

Acronym	Criterion	Points
B	Irregular **b**lotch	+ 1
R	Parallel **r**idge pattern	+ 3
A	**A**symmetry of structures	+ 1
A	**A**symmetry of colours	+ 1
F	Parallel **f**urrow pattern	− 1
F	**F**ibrillar pattern	− 1

A total score of ≥ 1 is needed for a diagnosis of melanoma.



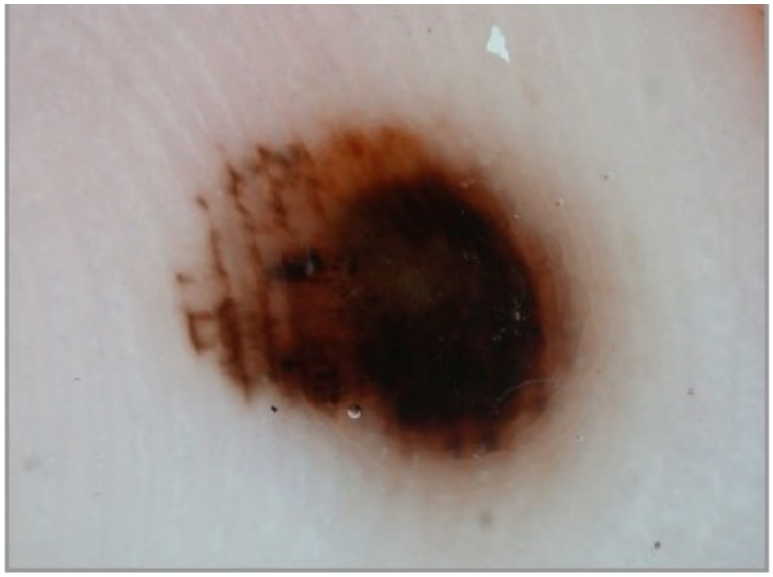
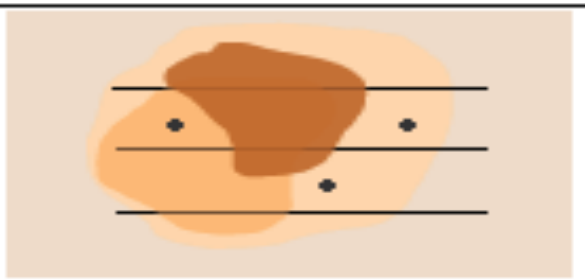
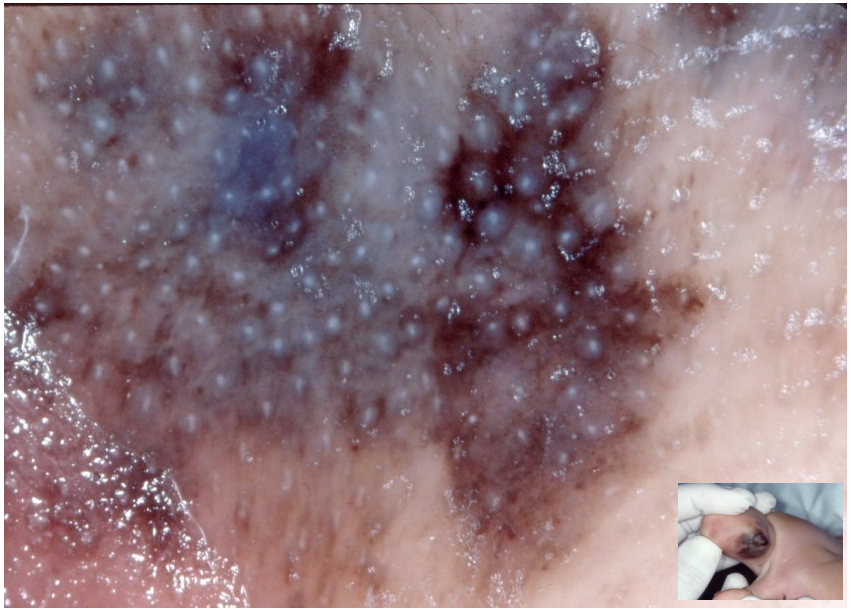


Table 6 Assessment of the accuracy of the BRAAFF checklist for the diagnosis of acral melanoma in different subgroups of lesions

Subgroups	Sensitivity (%)	Specificity (%)
All melanomas vs. all naevi	93·1	86·7
Melanoma *in situ* vs. all naevi	81·0	89·6
Invasive melanoma vs. all naevi	96·6	92·6
All melanomas vs. excised naevi	89·3	86·9
All melanomas vs. nonexcised naevi	91·6	94·5

rallel furrow pattern
t) and asymmetry of
of 1.

Diffuse variegate pigmentation Blue-white-gray areas!	**Pigmented blotches of various shades of brown observed in some portions of the lesion**	

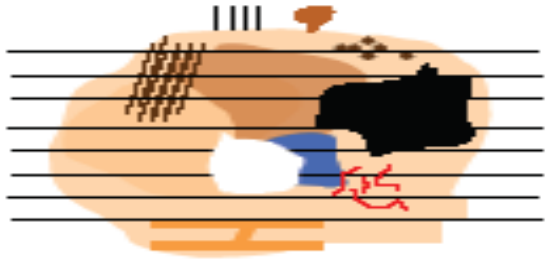


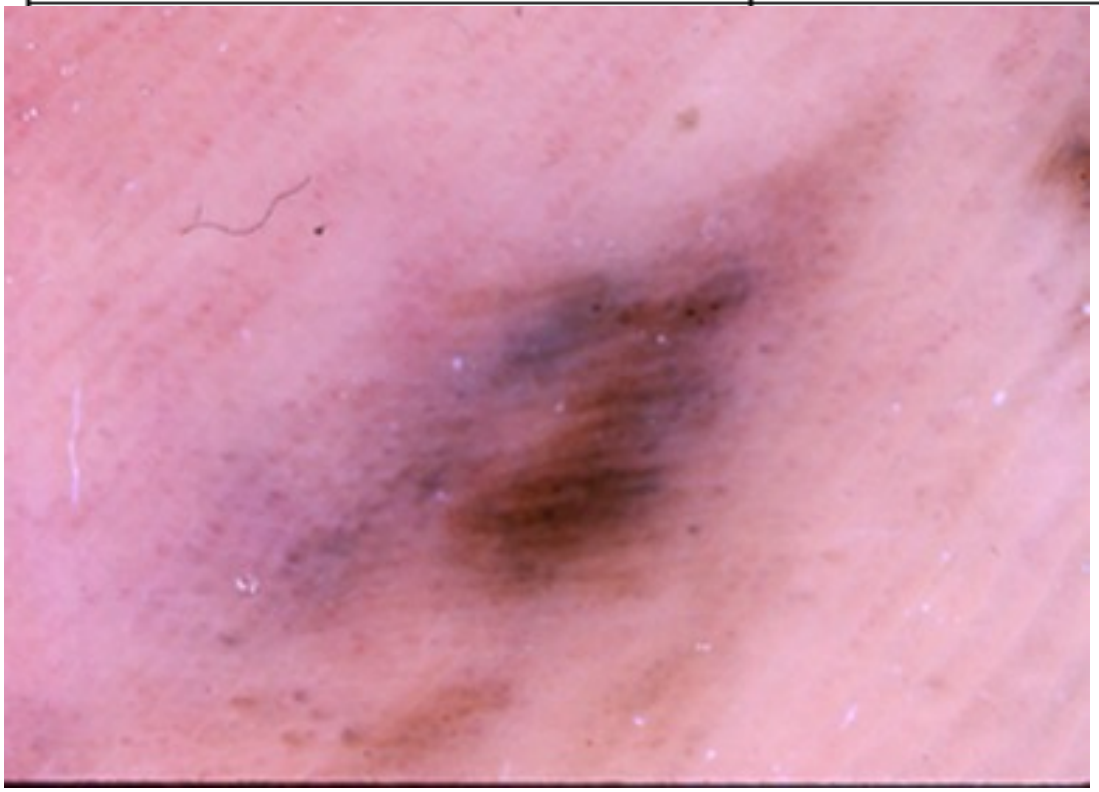
- Asymmetry (disorganized distribution of colors & structures)
- ≥3 colors
- Blue-white structures

Table 5 The BRAAFF checklist for the diagnosis of acral melanoma

Acronym	Criterion	Points
B	Irregular **b**lotch	+ 1
R	Parallel **r**idge pattern	+ 3
A	**A**symmetry of structures	+ 1
A	**A**symmetry of colours	+ 1
F	Parallel **f**urrow pattern	− 1
F	**F**ibrillar pattern	− 1

A total score of ≥ 1 is needed for a diagnosis of melanoma.

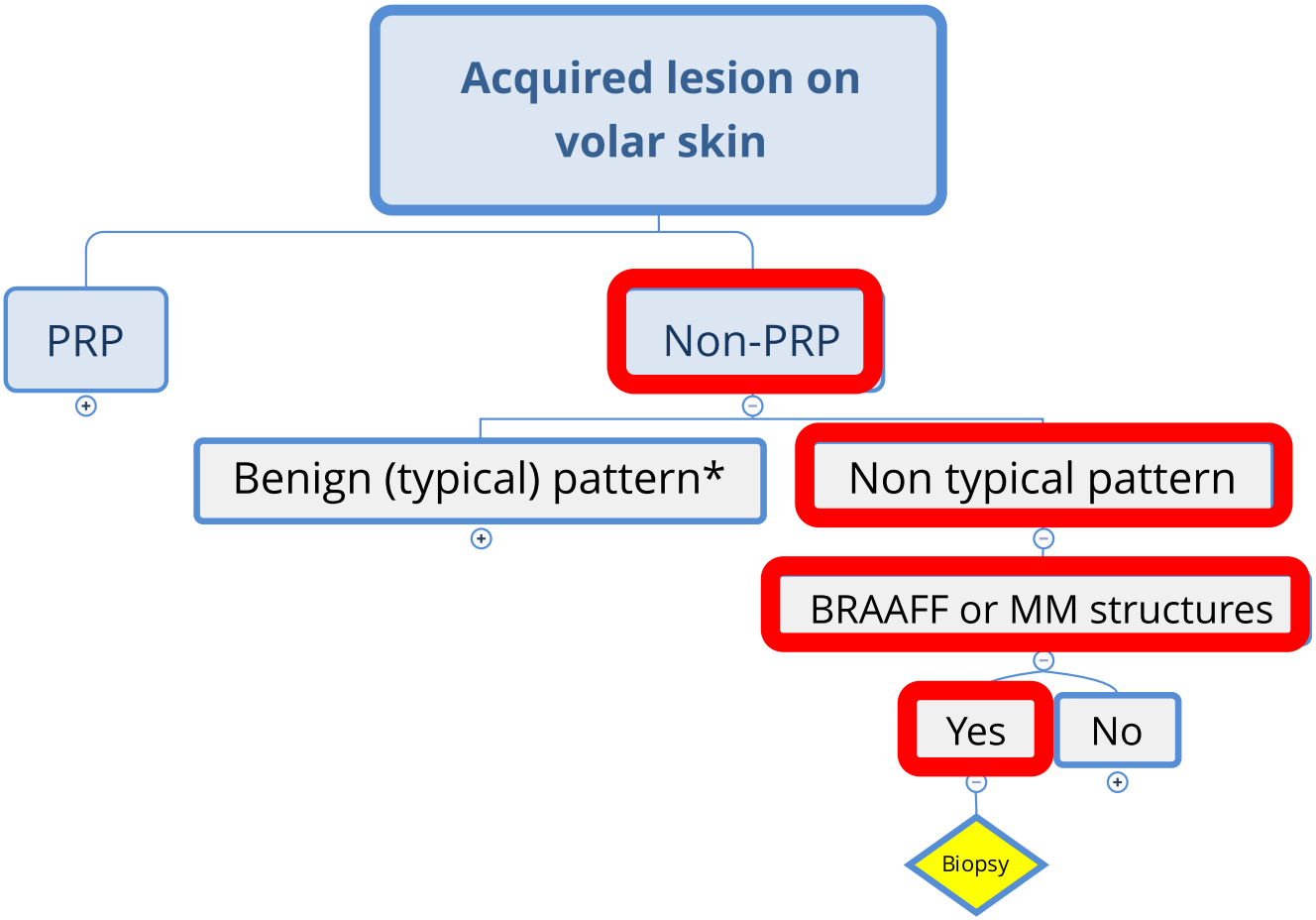
Multi-component pattern	Abrupt edge, diffuse pigmentation, peripheral irregular globules and dots, multiple colors, atypical streaks in combination with localized areas exhibiting benign patterns (fibrillar, parallel furrow or lattice-like)	

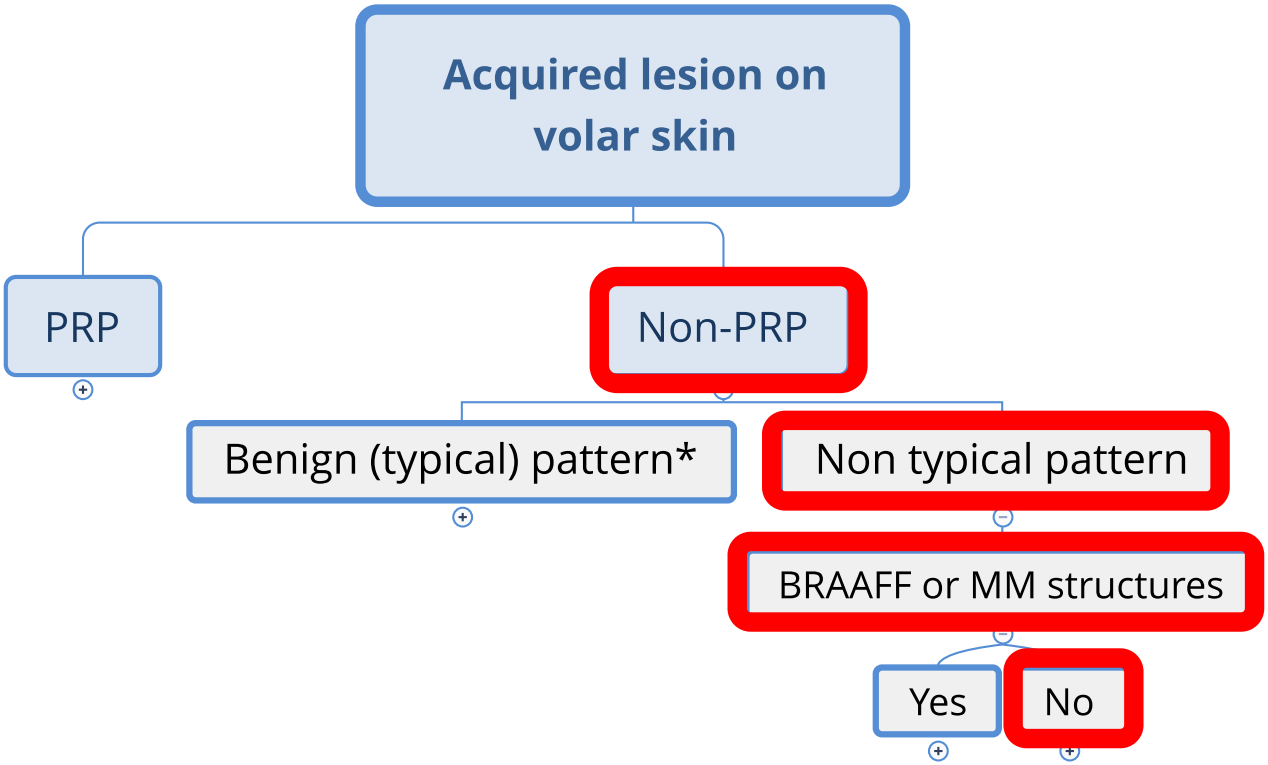


- Asymmetry (disorganized distribution of colors & structures)
- ≥3 colors
- Blue-white structures
- Dots

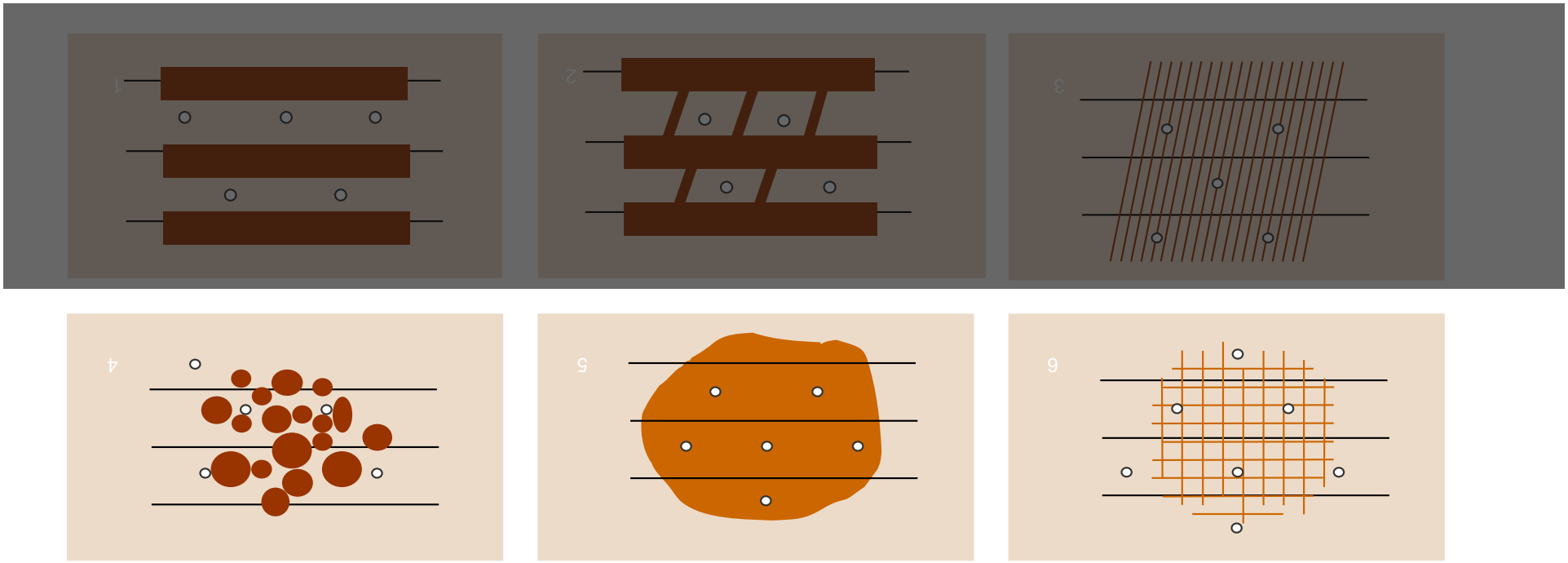
Table 5 The BRAAFF checklist for the diagnosis of acral melanoma

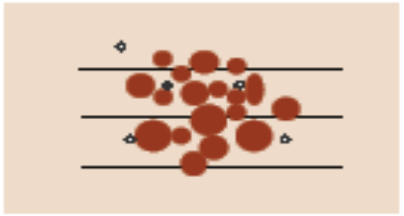
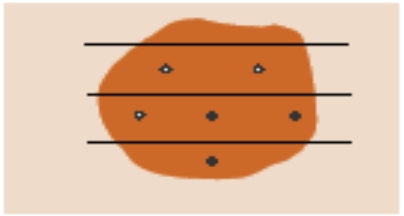
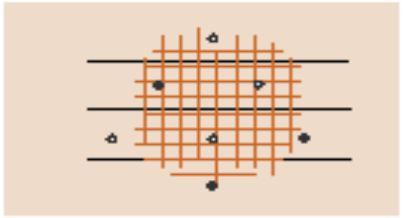
Acronym	Criterion	Points
B	Irregular **b**lotch	+ 1
R	Parallel **r**idge pattern	+ 3
A	**A**symmetry of structures	+ 1
A	**A**symmetry of colours	+ 1
F	Parallel **f**urrow pattern	− 1
F	**F**ibrillar pattern	− 1

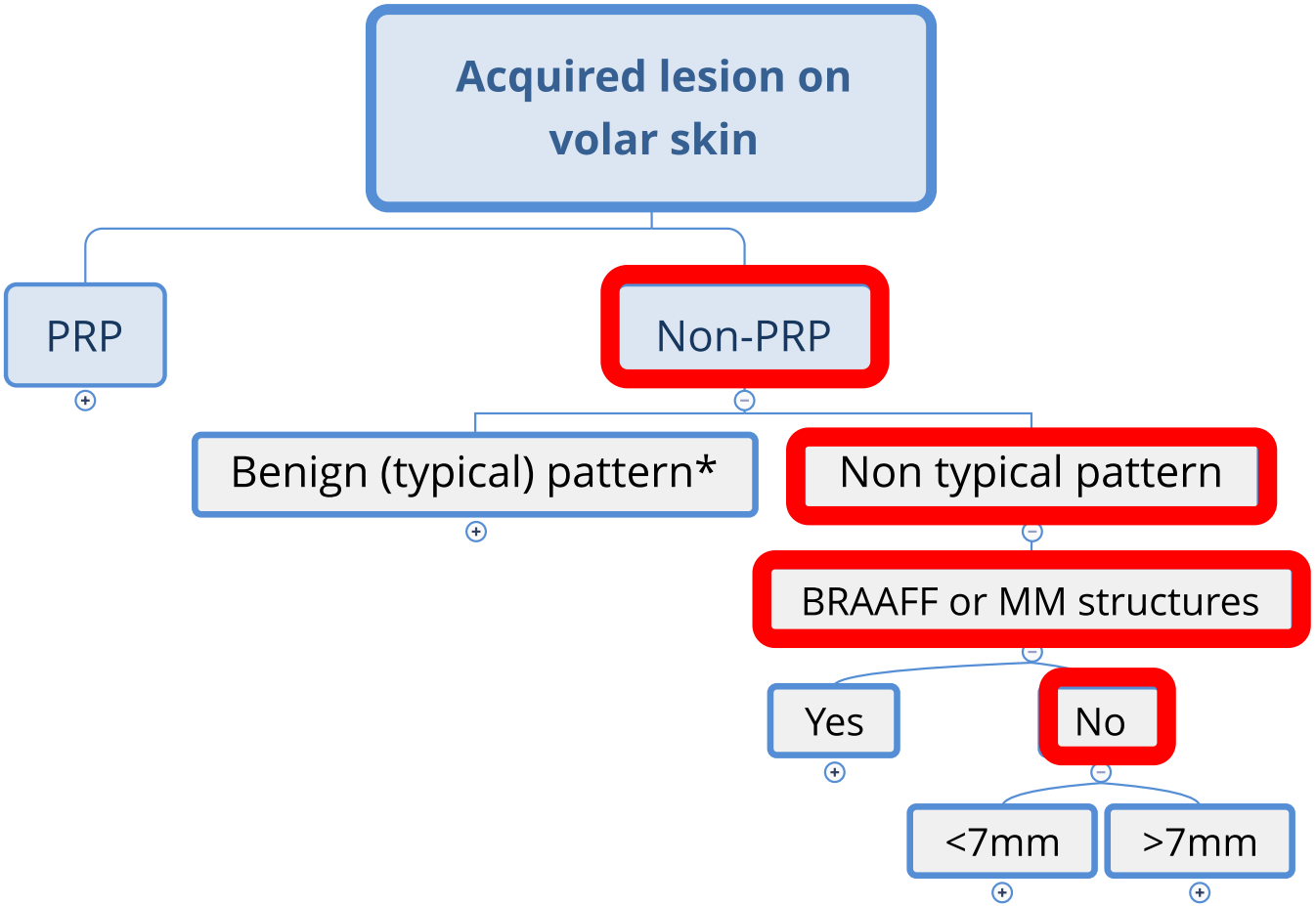

Acquired lesion on volar skin
PRP
Non-PRP
Benign (typical) pattern*
Non typical pattern
BRAAFF or MM structures
Yes
No
Biopsy

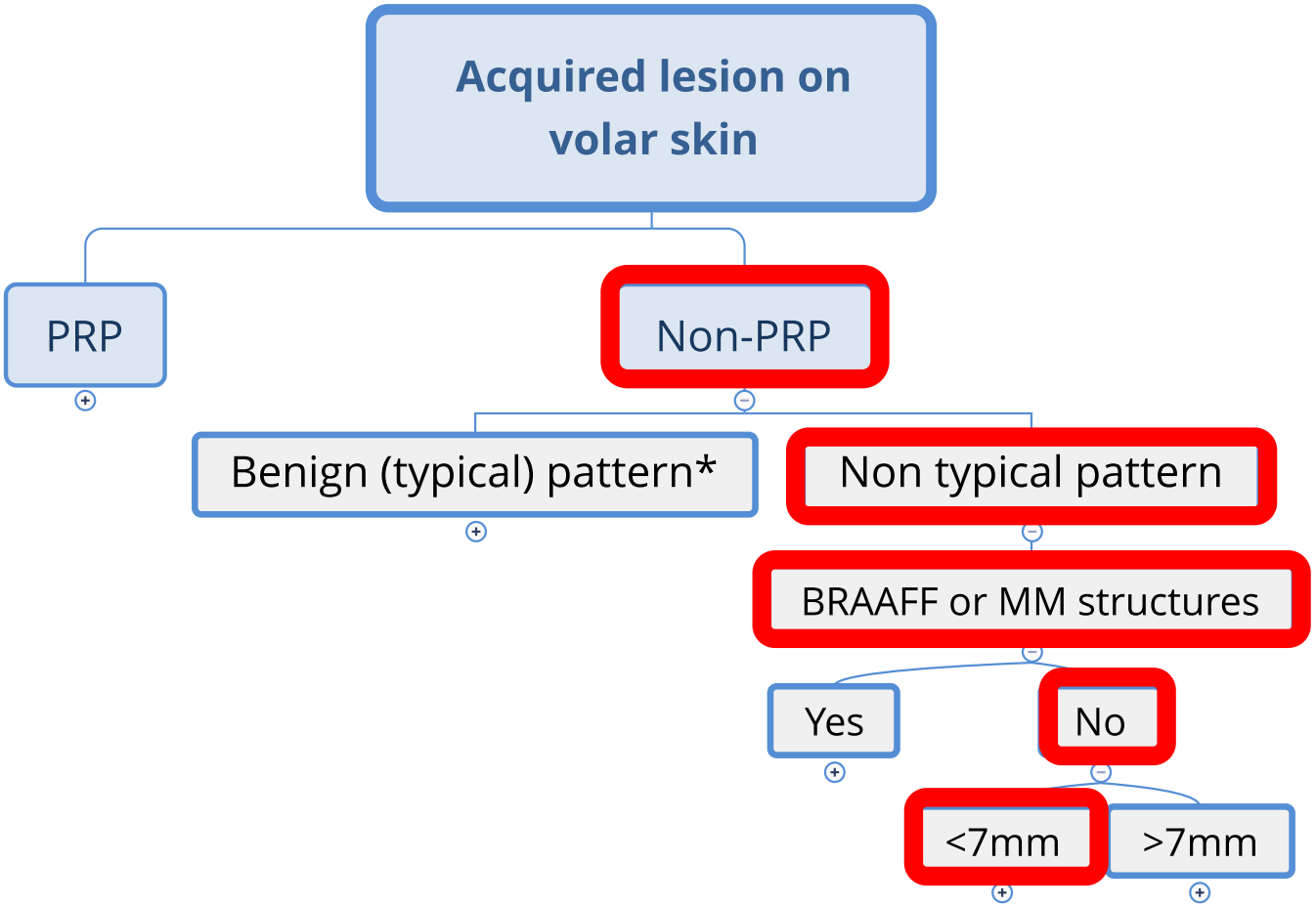

Acquired lesion on volar skin
PRP
Non-PRP
Benign (typical) pattern*
Non typical pattern
BRAAFF or MM structures
Yes
No

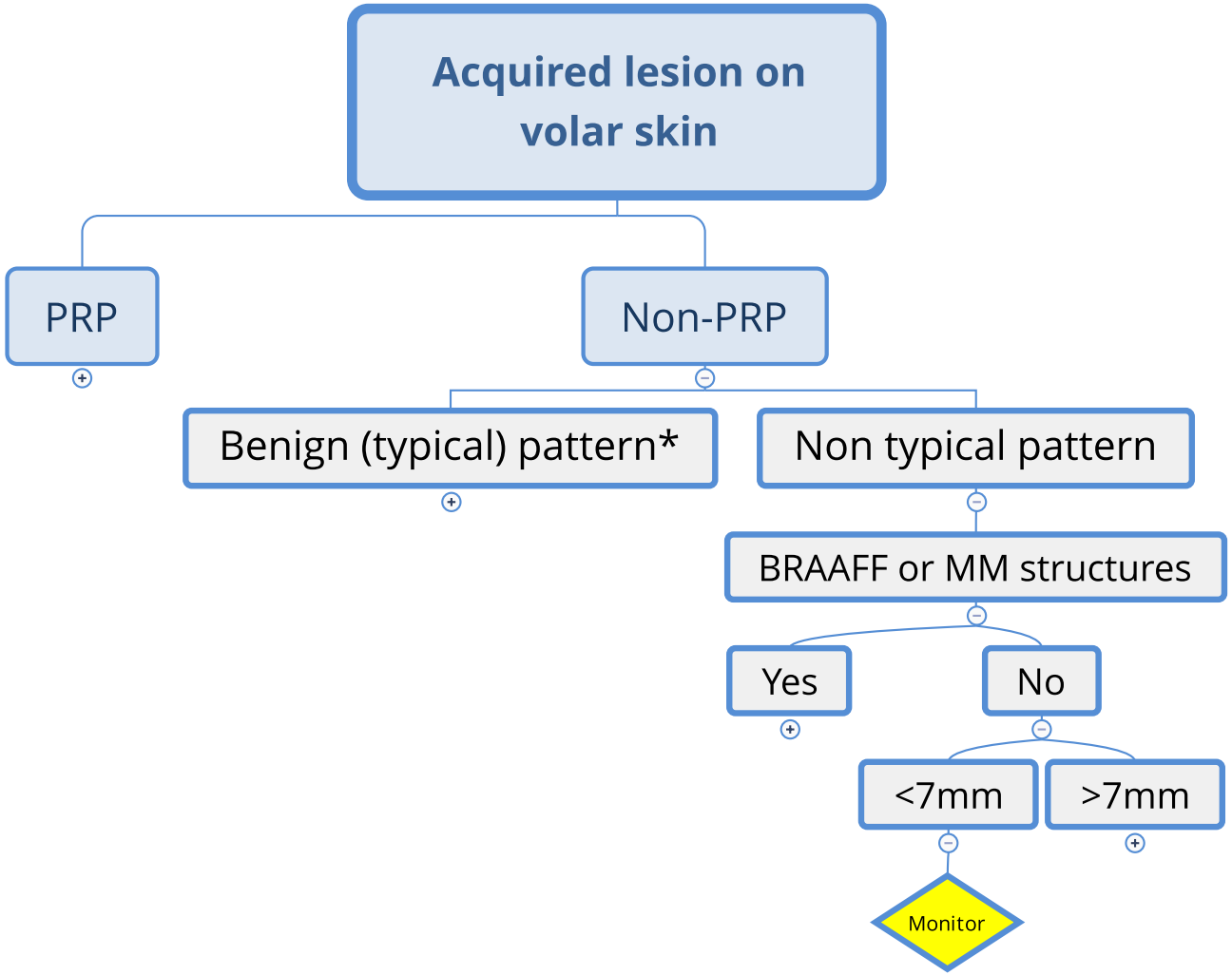
Benign patterns (non-classic)

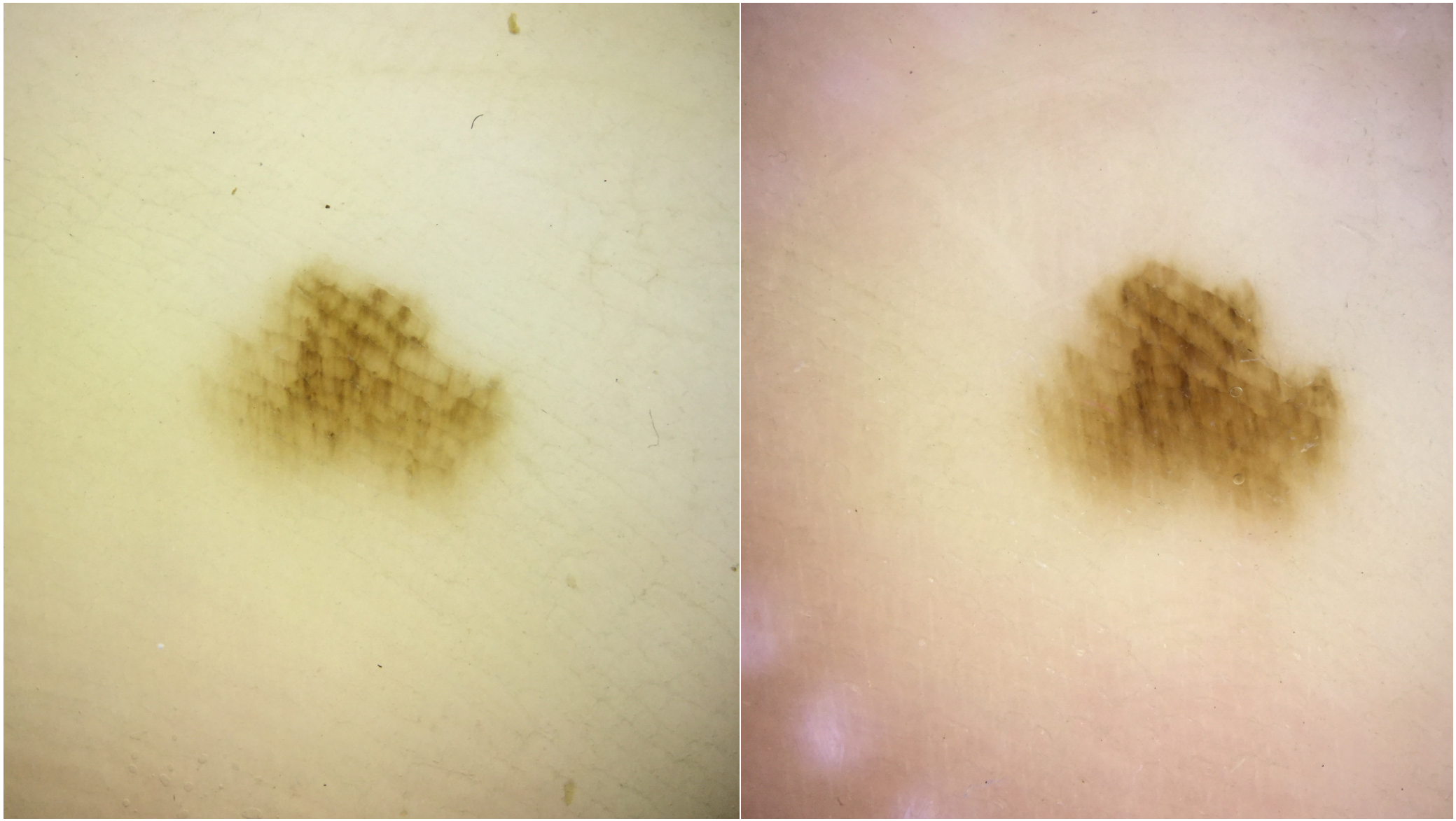


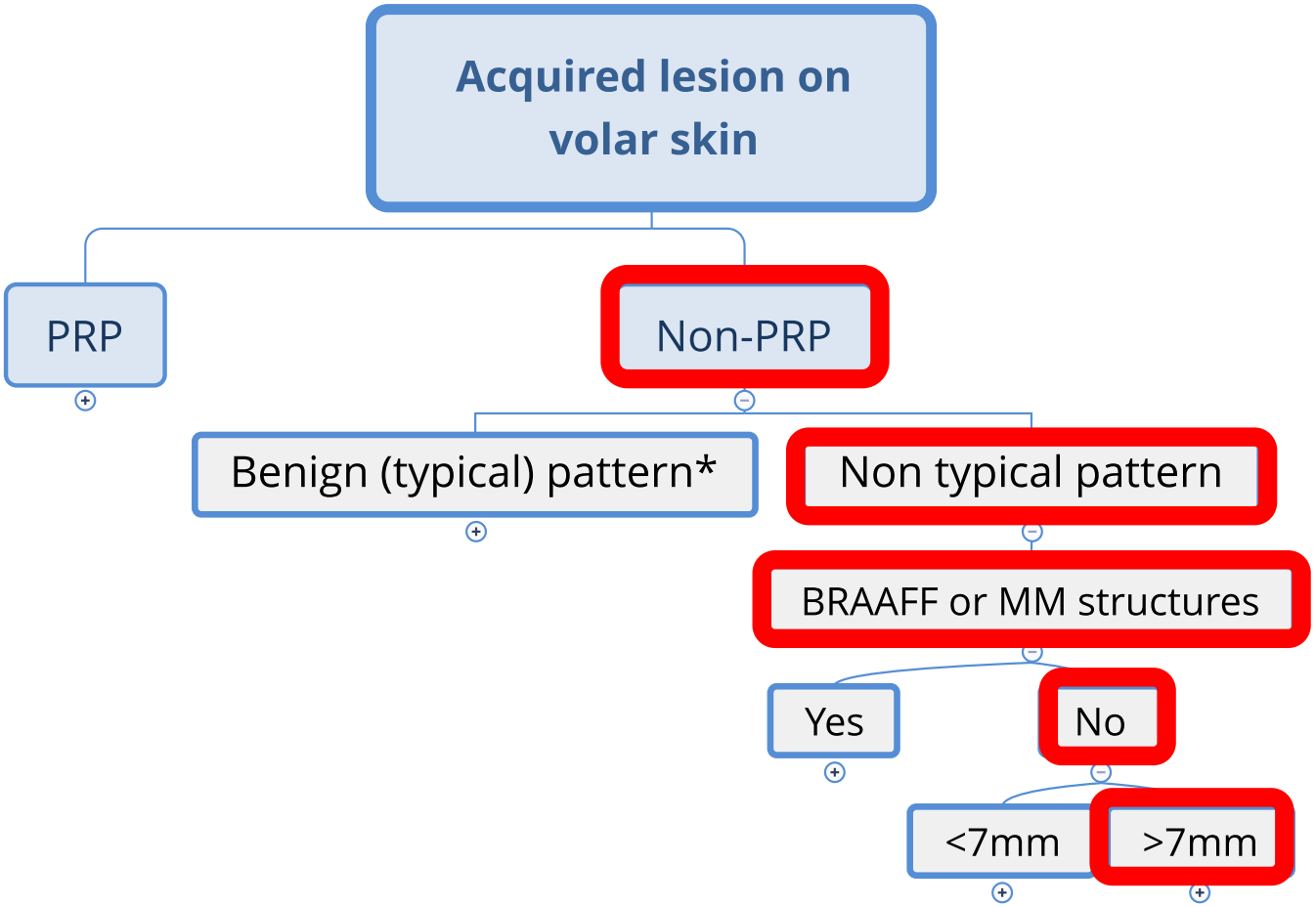
Globular pattern	Globules not associated with a parallel pattern		
Homogeneous pattern	Light brown homogeneous pigmentation with an amorphous appearance		
Acral reticular pattern	Well-defined pigment network not associated with the skin markings		

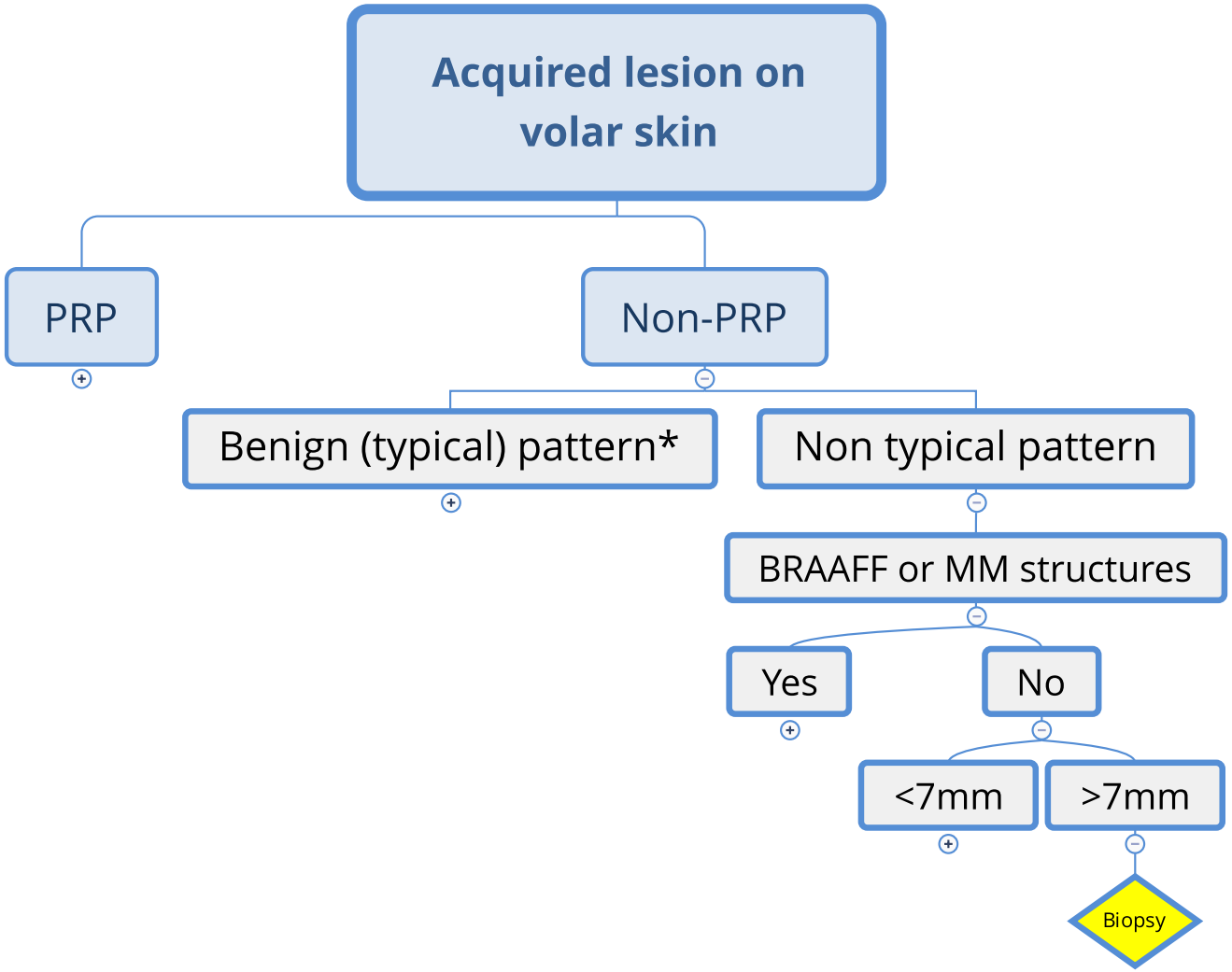

Acquired lesion on volar skin
PRP
Non-PRP
Benign (typical) pattern*
Non typical pattern
BRAAFF or MM structures
Yes
No
<7mm
>7mm

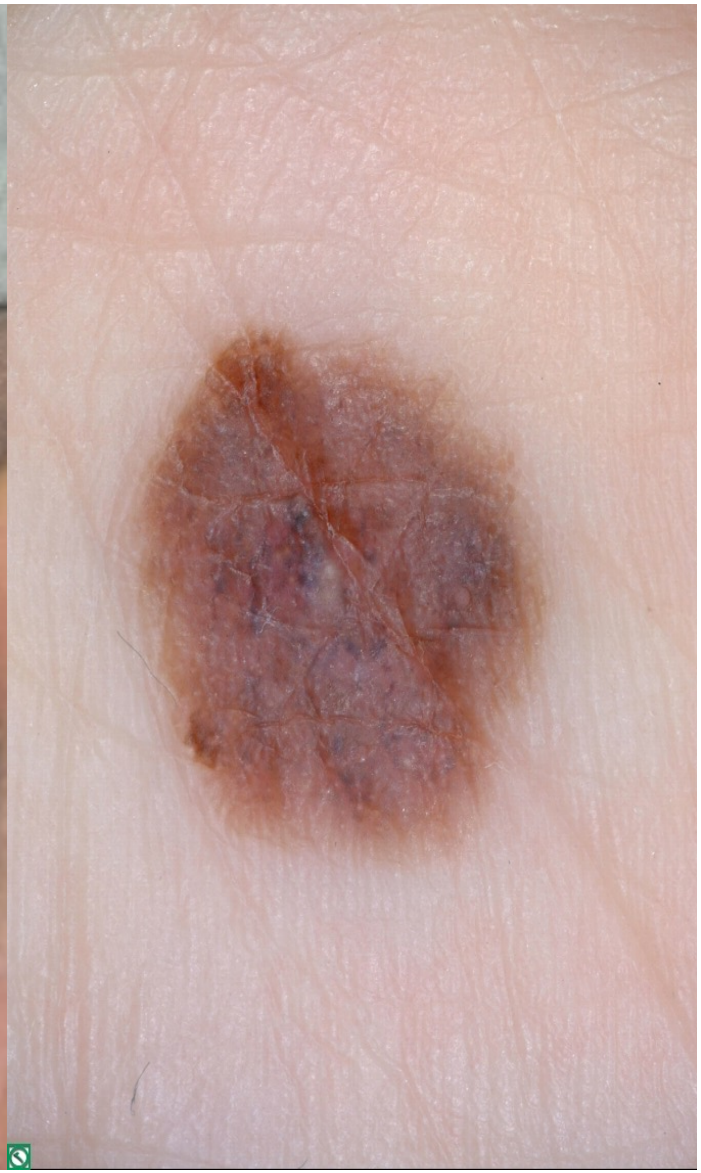

Acquired lesion on volar skin
PRP
Non-PRP
Benign (typical) pattern*
Non typical pattern
BRAAFF or MM structures
Yes
No
<7mm
>7mm


Acquired lesion on volar skin
PRP
Non-PRP
Benign (typical) pattern*
Non typical pattern
BRAAFF or MM structures
Yes
No
<7mm
>7mm
Monitor

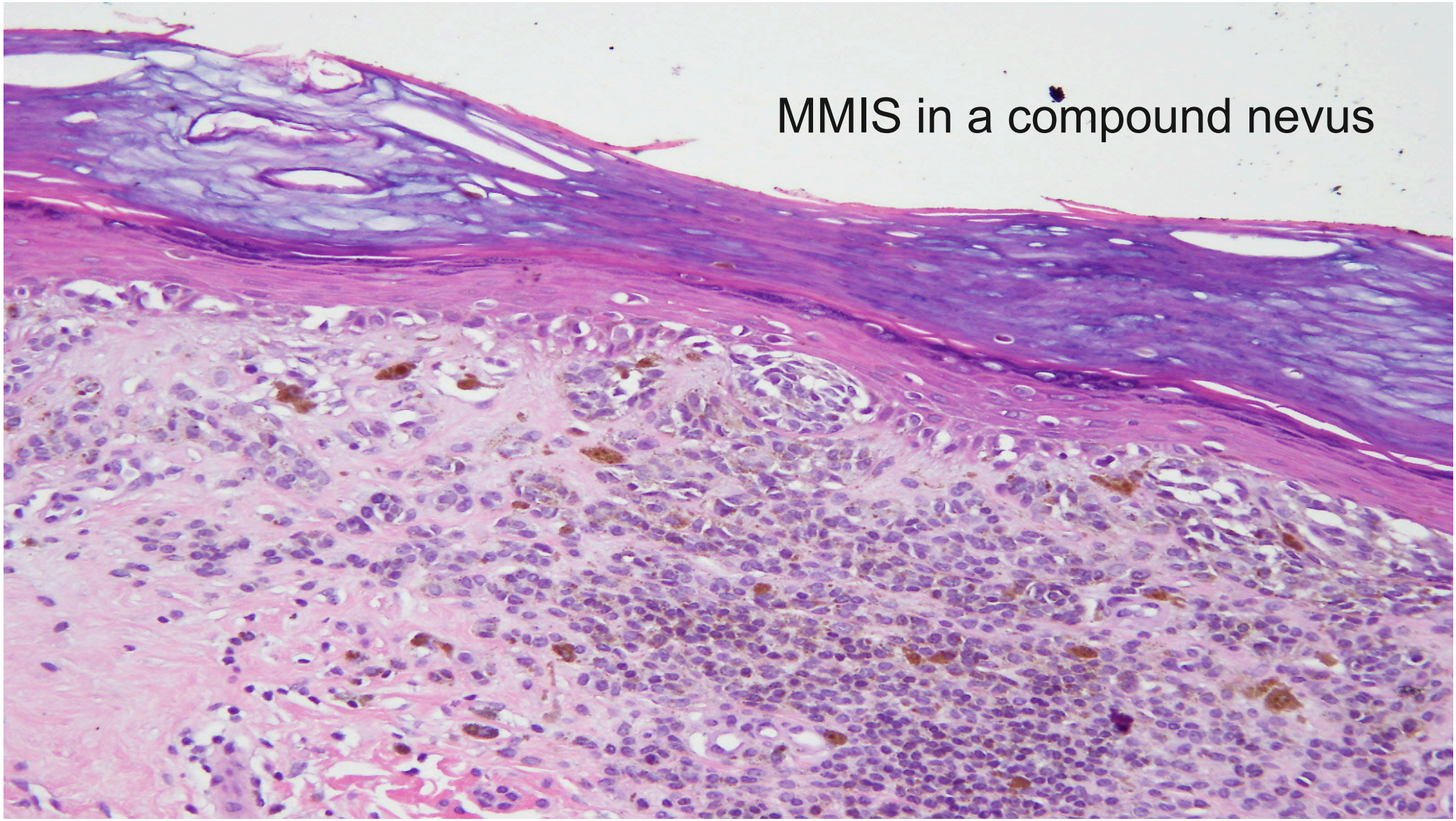


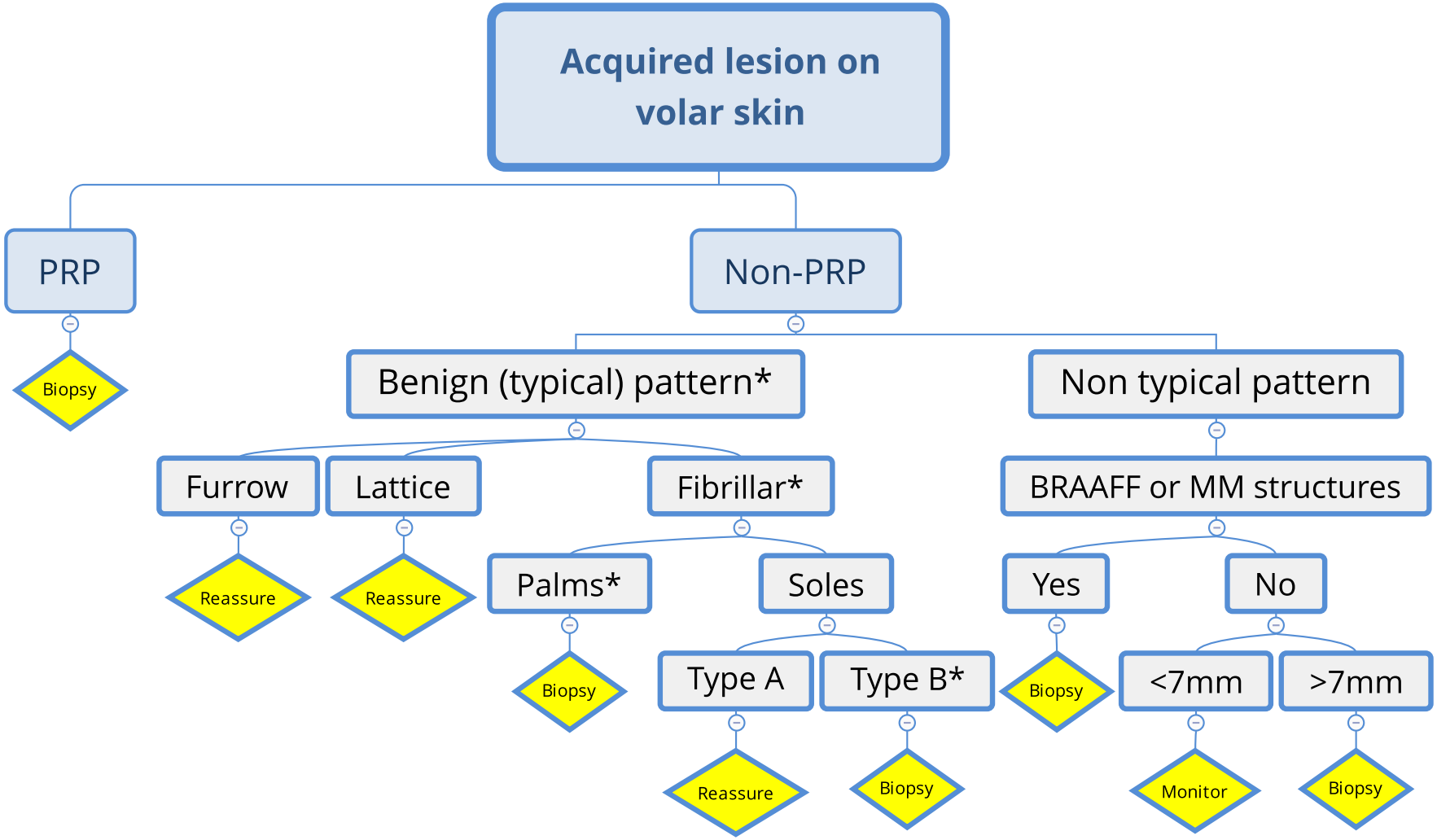

Acquired lesion on volar skin
PRP
Non-PRP
Benign (typical) pattern*
Non typical pattern
BRAAFF or MM structures
Yes
No
<7mm
>7mm


Acquired lesion on volar skin
PRP
Non-PRP
Benign (typical) pattern*
Non typical pattern
BRAAFF or MM structures
Yes
No
<7mm
>7mm
Biopsy




This lesion does not manifest a benign nor a malignant acral pattern.
It measures over 1cm in greatest diameter.


MMIS in a compound nevus


Acquired lesion on volar skin
PRP
Biopsy
Non-PRP
Benign (typical) pattern*
Furrow
Reassure
Lattice
Reassure
Fibrillar*
Palms*
Biopsy
Soles
Type A
Reassure
Type B*
Biopsy
Non typical pattern
BRAAFF or MM structures
Yes
Biopsy
No
<7mm
Monitor
>7mm
Biopsy

Other lesions on volar skin:

1. Tinea nigra
2. Scabies
3. Angioma
4. Poroma

Australasian Journal of Dermatology

Australasian Journal of Dermatology (2011) 52, 191–194 doi: 10.1111/j.1440-0960.2011.00790.x

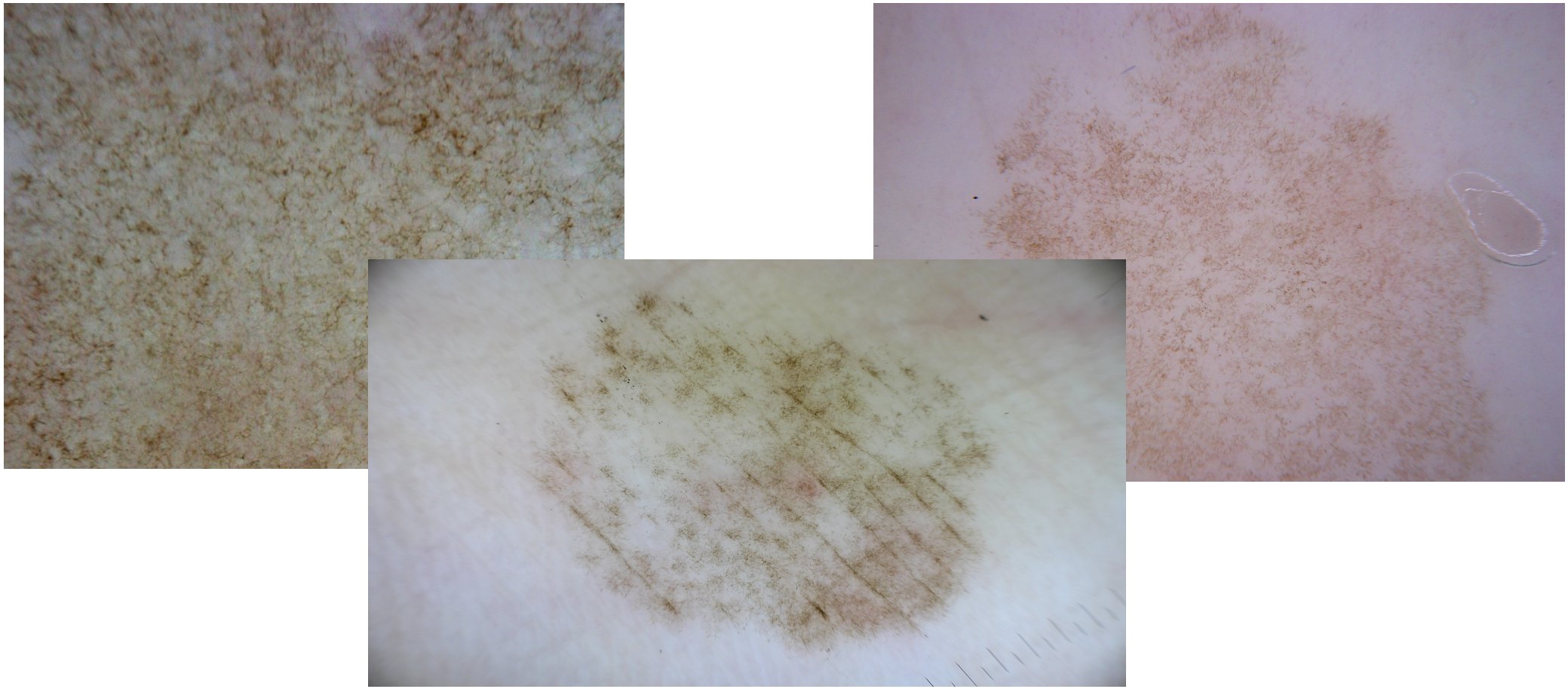
ORIGINAL RESEARCH

Dermoscopy improves diagnosis of tinea nigra: A study of 50 cases

Peter Piliouras,[1,2,4] Scott Allison,[2] Cliff Rosendahl,[2] Petra G Buettner[5] and David Weedon[3]

[1]Department of Dermatology, Royal Brisbane and Women's Hospital, [2]School of Medicine, University of Queensland, [3]Sullivan and Nicolaides Pathology, Brisbane, [4]School of Medicine, and [5]Skin Cancer Research Group, School of Public Health, James Cook University, Townsville, QLD, Australia

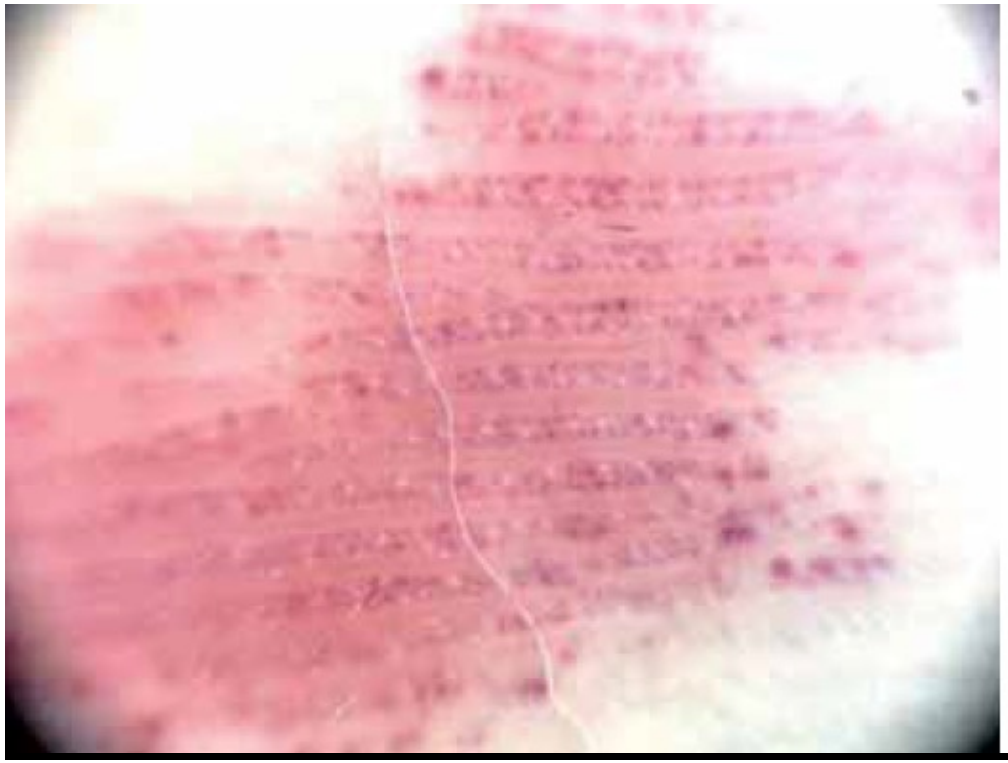
- Clinical diagnosis of tinea nigra was made/suggested in 7/50 cases (14%)
- When dermoscopy was used, Dx was suggested in 7/13 (53.8%)
- When no dermoscopy was used (n = 37) tinea nigra was not considered ($P < 0.001$)
- **CONCLUSION:** Dx of tinea nigra is significantly improved by dermoscopy

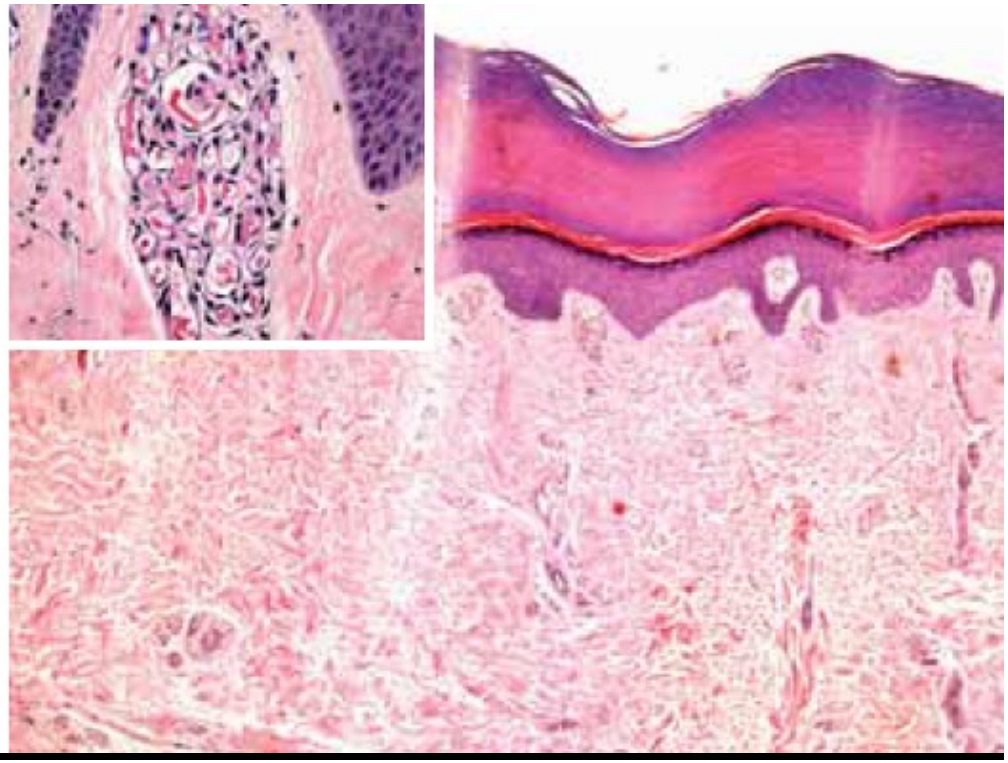


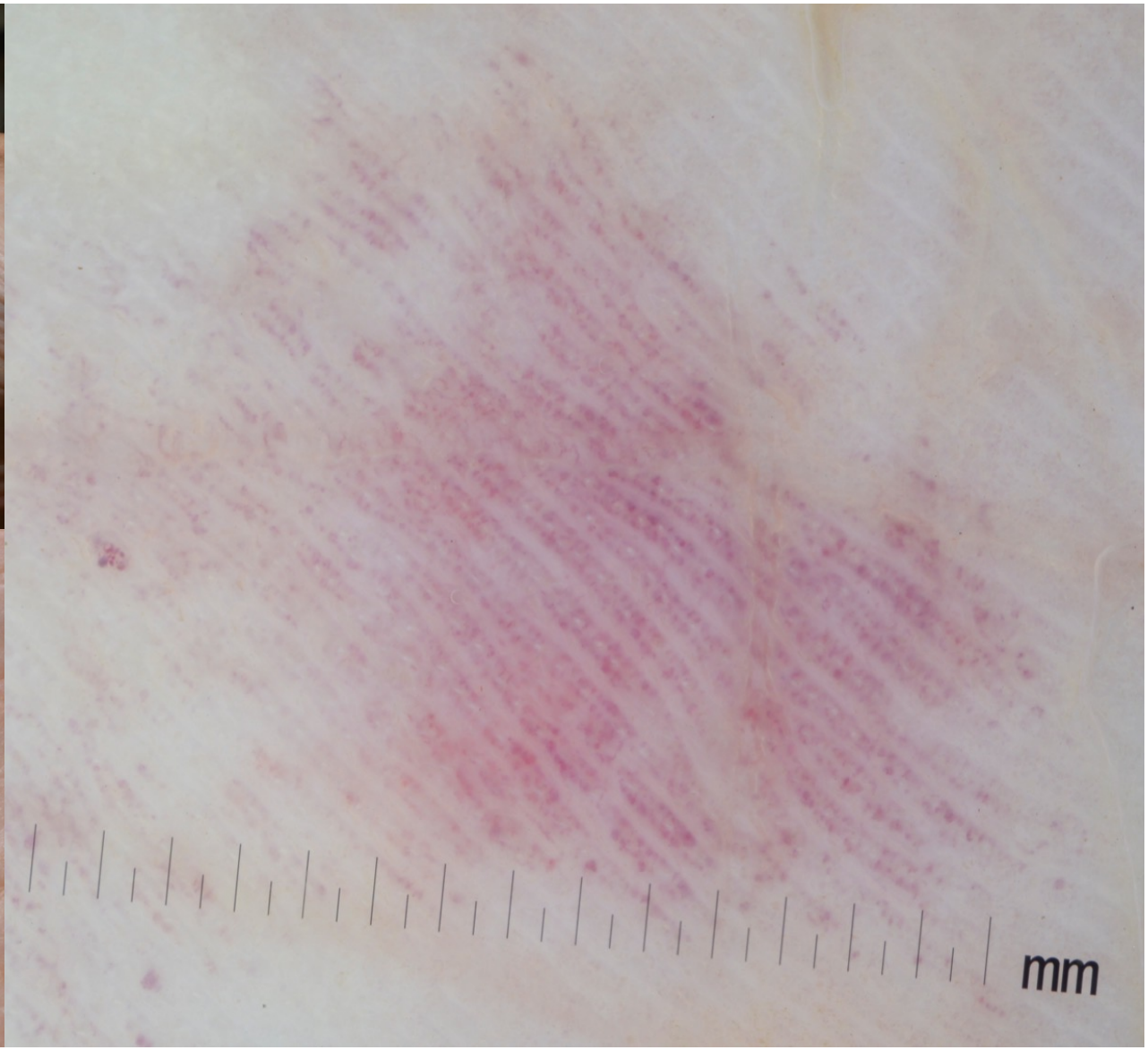
Pigmented spicules / Wispy pigmentation that does not respect the ridges or furrows

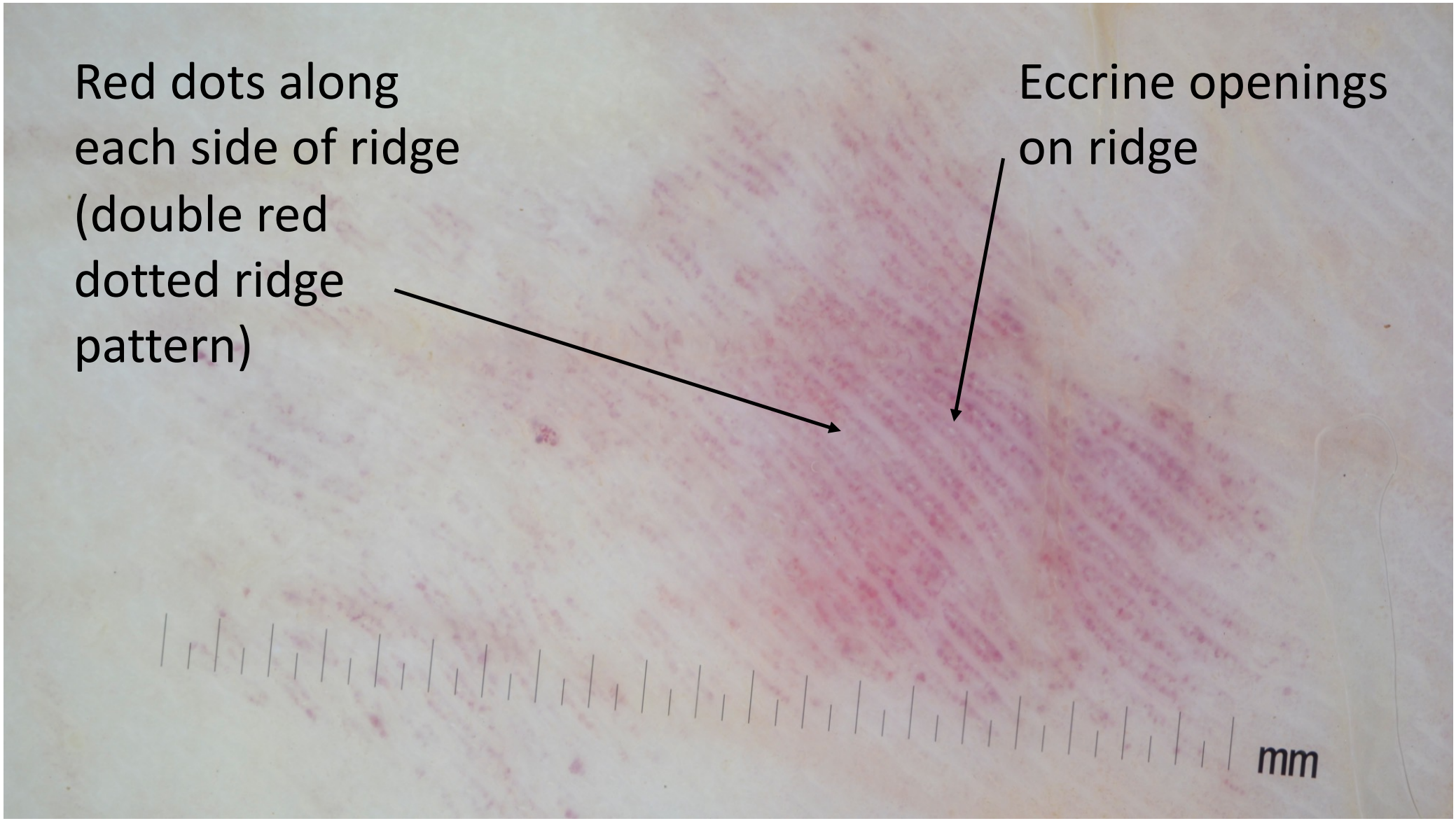
Angioma serpiginosum: report of an unusual acral case and review of the literature*

Azael Freites-Martinez[1]
Amalia Moreno-Torres[1]
Almudena Hernández Núñez[1]
Diego Martinez-Sanchez[1]
Maria Huerta-Brogeras[1]
Jesus Borbujo[1]

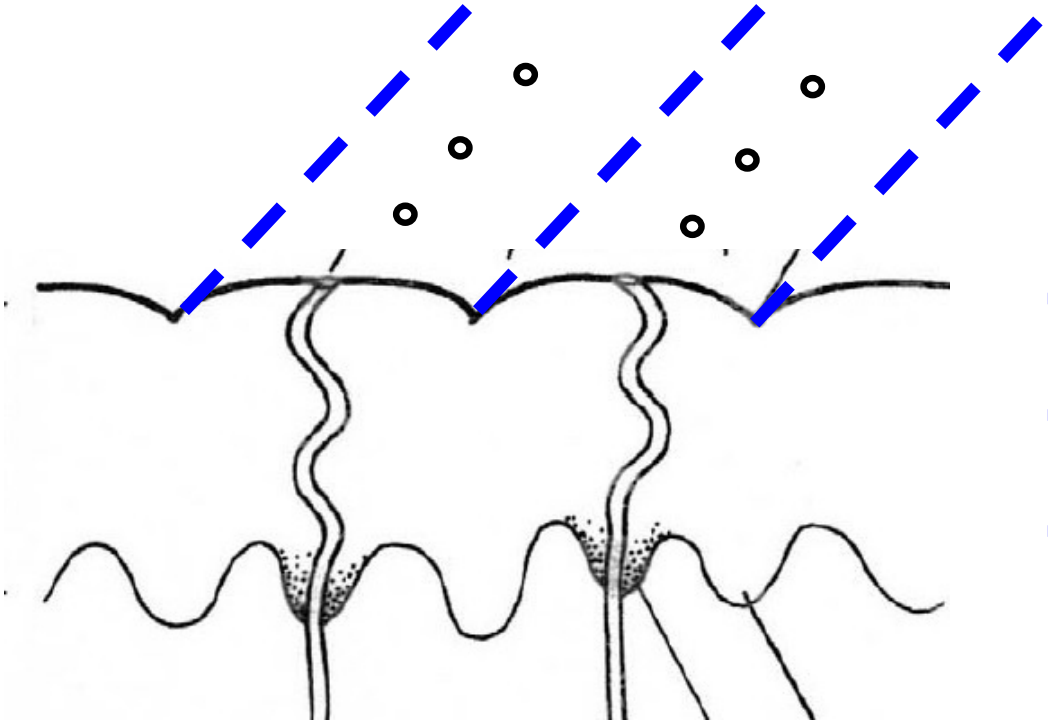


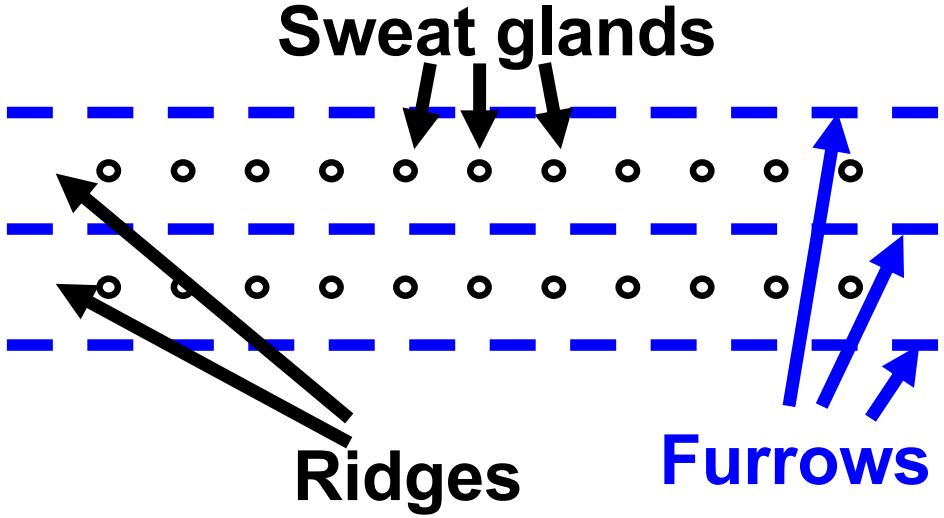



mm

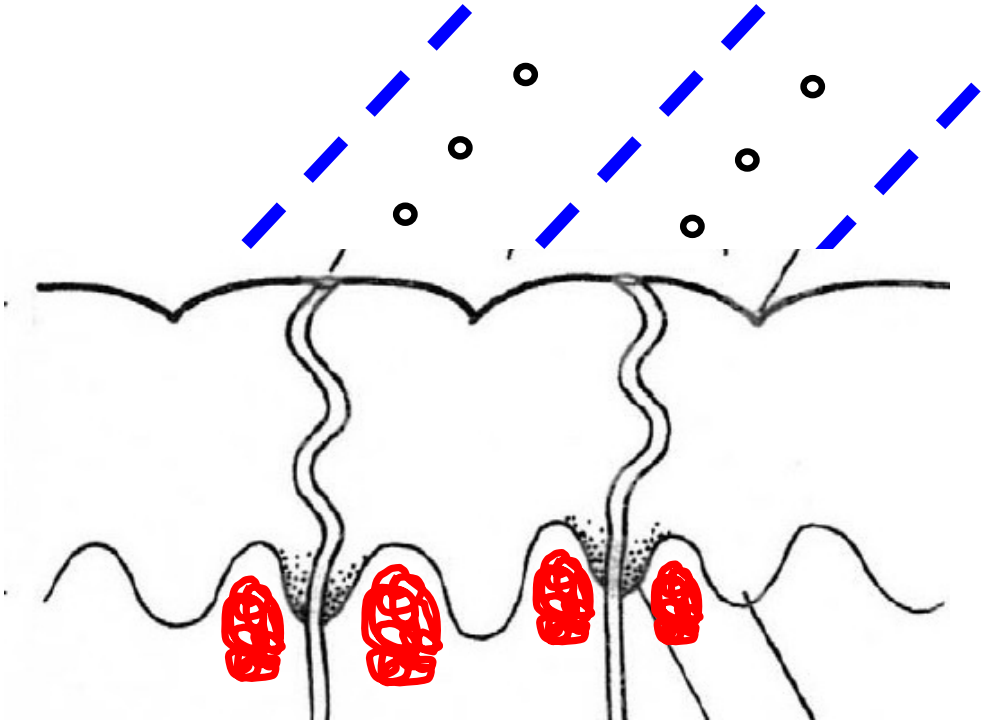

Red dots along each side of ridge (double red dotted ridge pattern)
Eccrine openings on ridge
mm

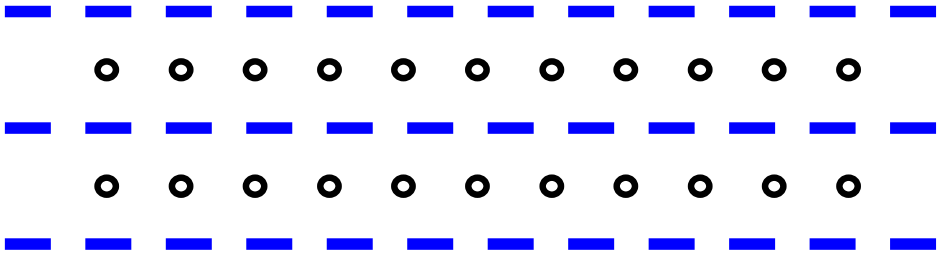
Anatomy





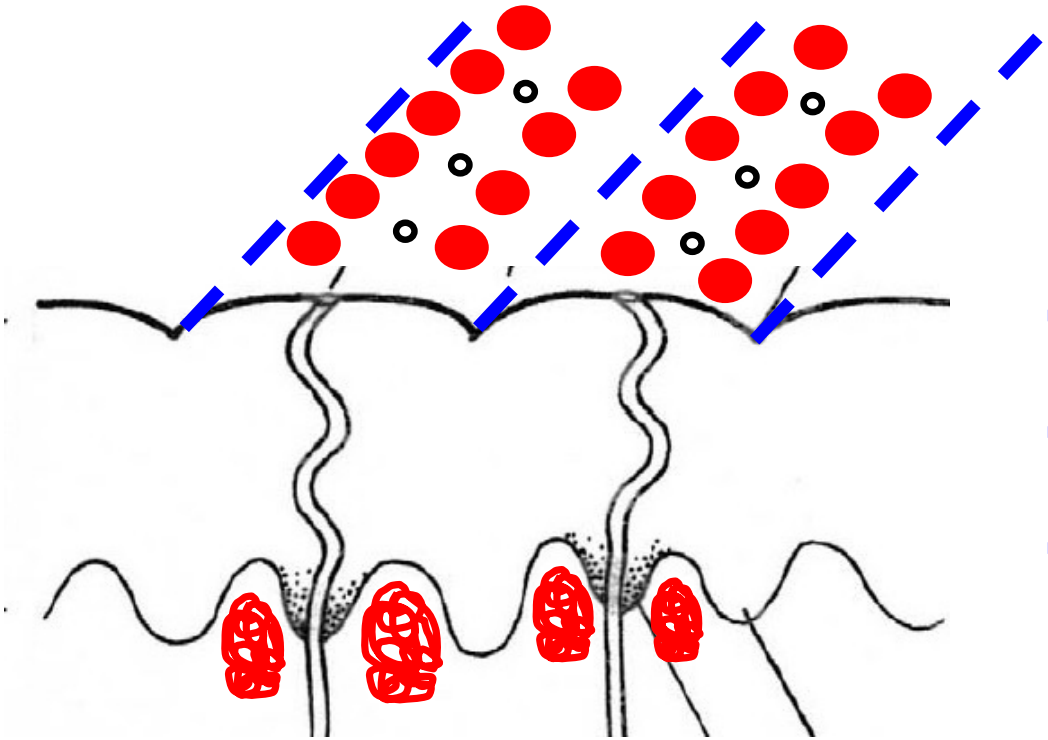
Anatomy

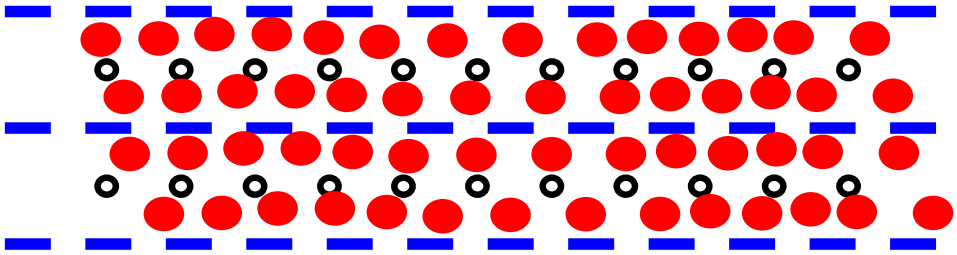




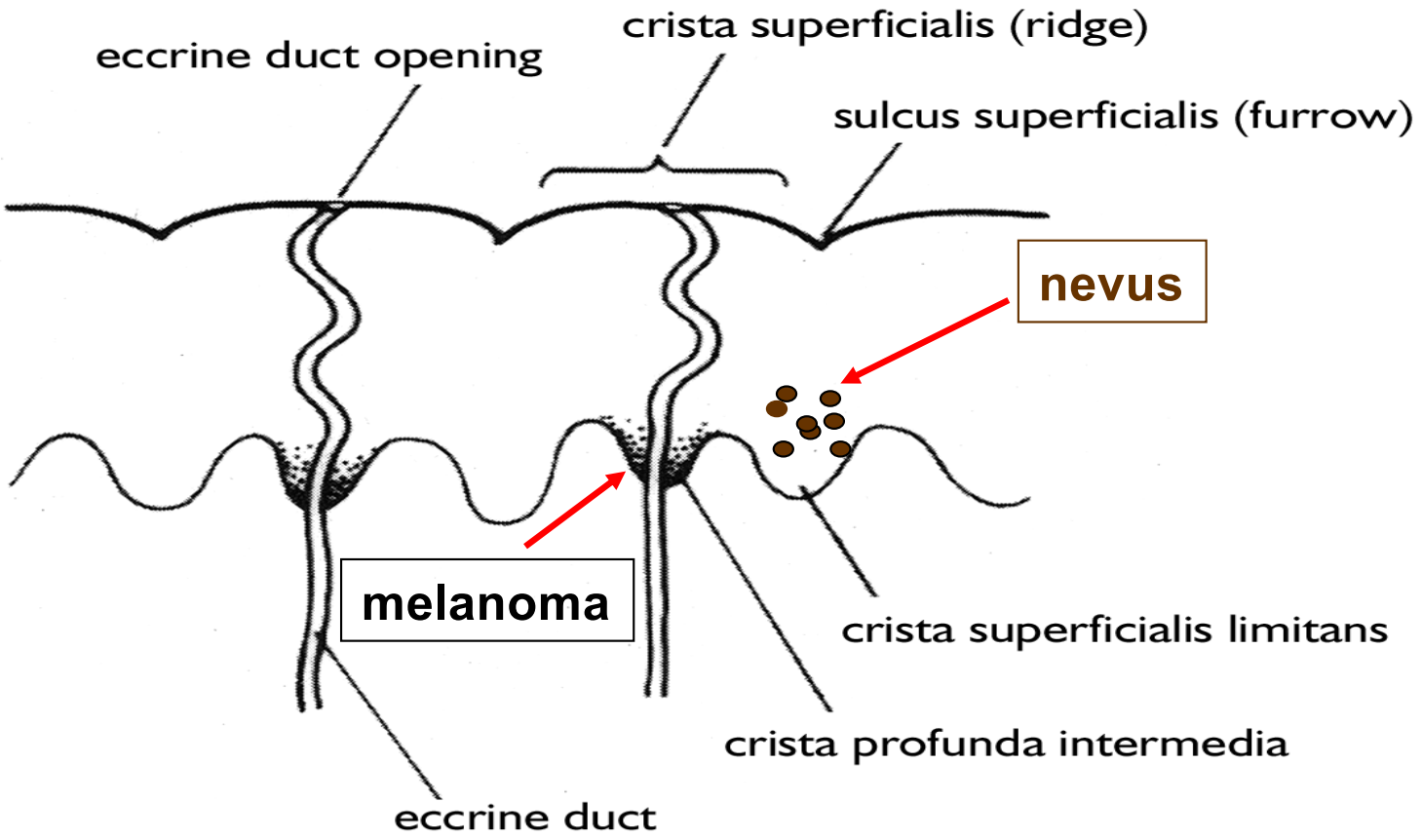
“The capillary vascular proliferations extend up into the dermal papillae sparing the adnexal structures...”

Anatomy





Anatomy of Volar skin



Dermoscopic Appearance of Amelanotic Volar Melanoma Compared With Volar Angioma


And finally...

JAMA Dermatology | Original Investigation

Clinical and Histopathologic Characteristics of Melanocytic Lesions on the Volar Skin Without Typical Dermoscopic Patterns

Yasutomo Mikoshiba, MD; Akane Minagawa, MD, PhD; Hiroshi Koga, MD, PhD; Yoshiharu Yokokawa, PhD; Hisashi Uhara, MD, PhD; Ryuhei Okuyama, MD, PhD

Melanomas and Mechanical Stress Points on the Plantar Surface of the Foot

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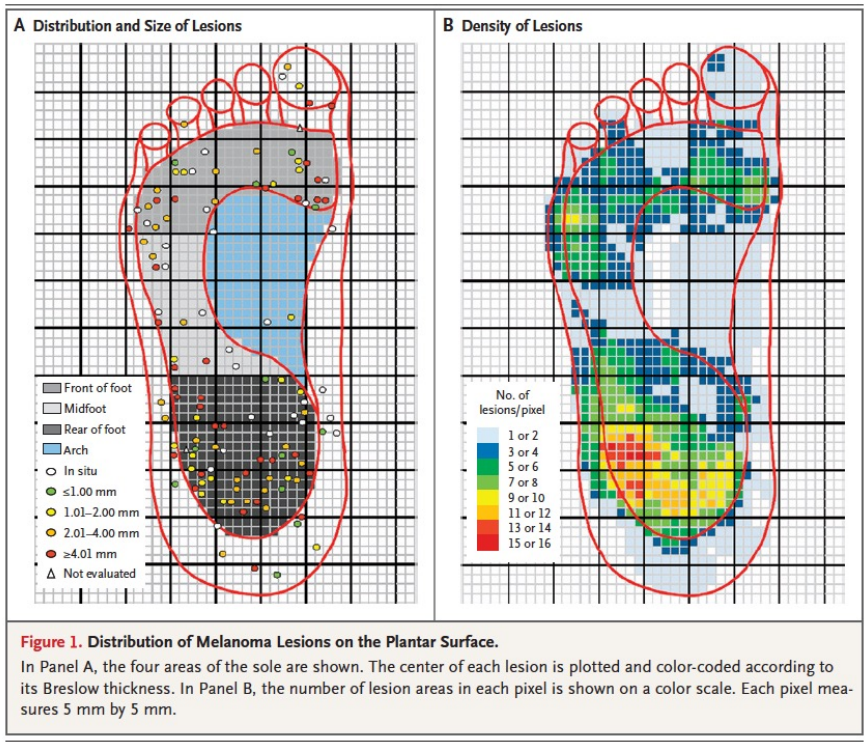
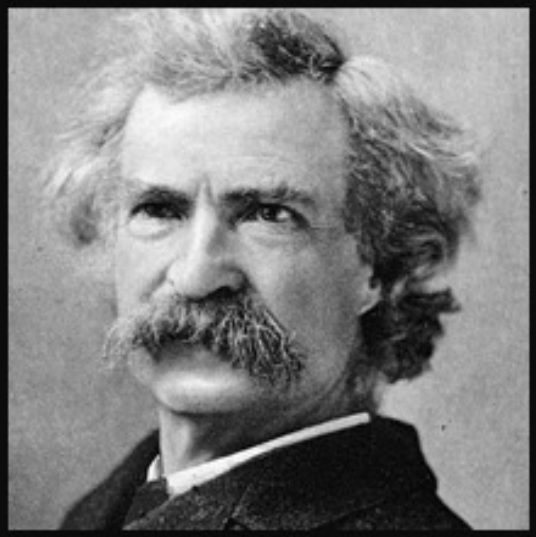


Figure 1. Distribution of Melanoma Lesions on the Plantar Surface.

In Panel A, the four areas of the sole are shown. The center of each lesion is plotted and color-coded according to its Breslow thickness. In Panel B, the number of lesion areas in each pixel is shown on a color scale. Each pixel measures 5 mm by 5 mm.



It ain't what you don't know that gets you into trouble. It's what you know for sure that just ain't so.

~ Mark Twain