

EBM :
The role of dermoscopy in
diagnosing melanocytic lesions
in acral sites

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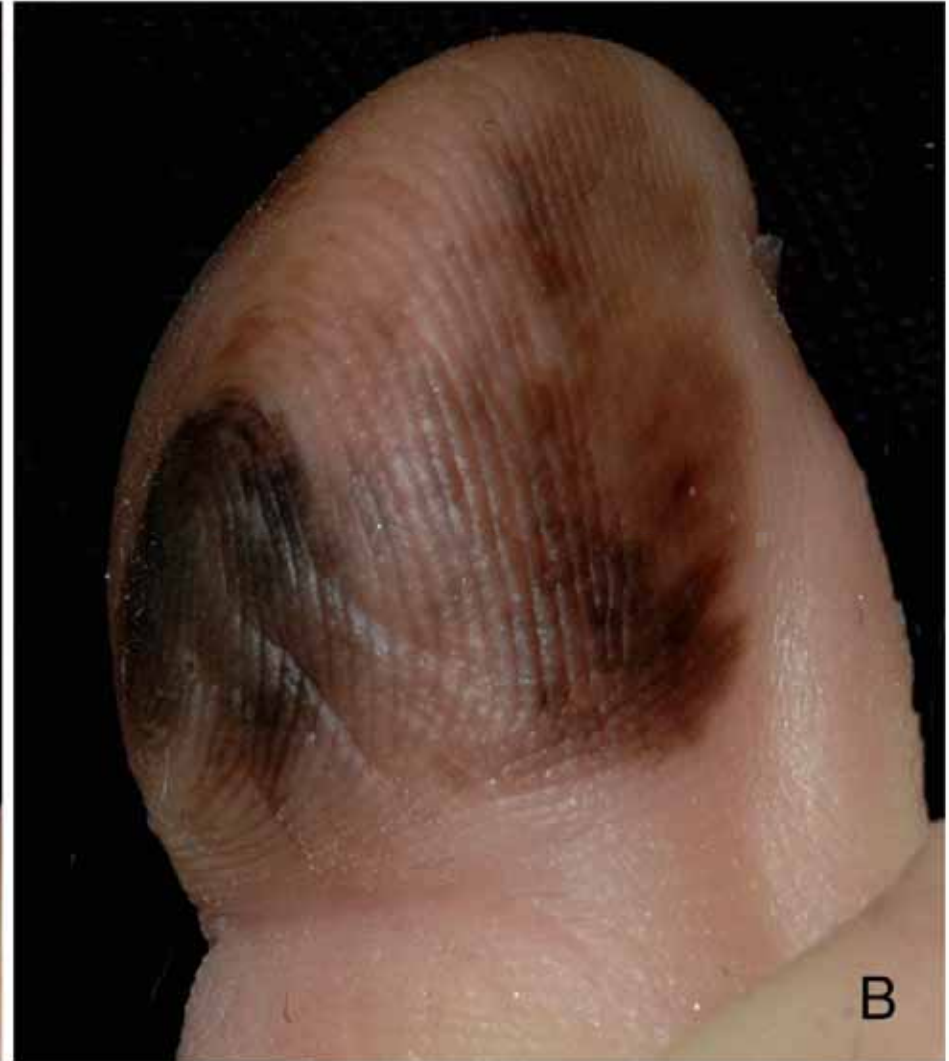
高雄醫學大學皮膚科

Brief History

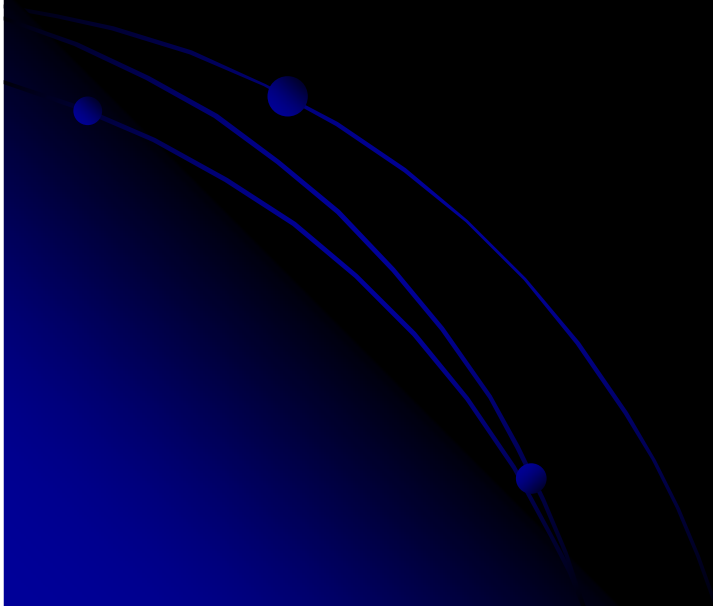
- 39-year-old female
- Chief Complaint : A pigmented lesion on her third toe of the right foot for more than ten years and gradually spread out in the recent 3 years. An increase in the size of the lesion over the past several months.
- Past history: denied any systemic disease
- Family history: unremarkable

- Physical examination:
- A mottled pigmented patch with an irregular outline and variegated color, ranging from light brown to black.
- One black circular macule, about 1 centimeter in diameter, on the volar surface of the toe
- The peripheral hue extended onto right lateral surface of the toe.

2.5x2.3 cm mottled pigmented patch



Dermoscopy



**Irregular diffuse
pigmentation;
Depigmentation**

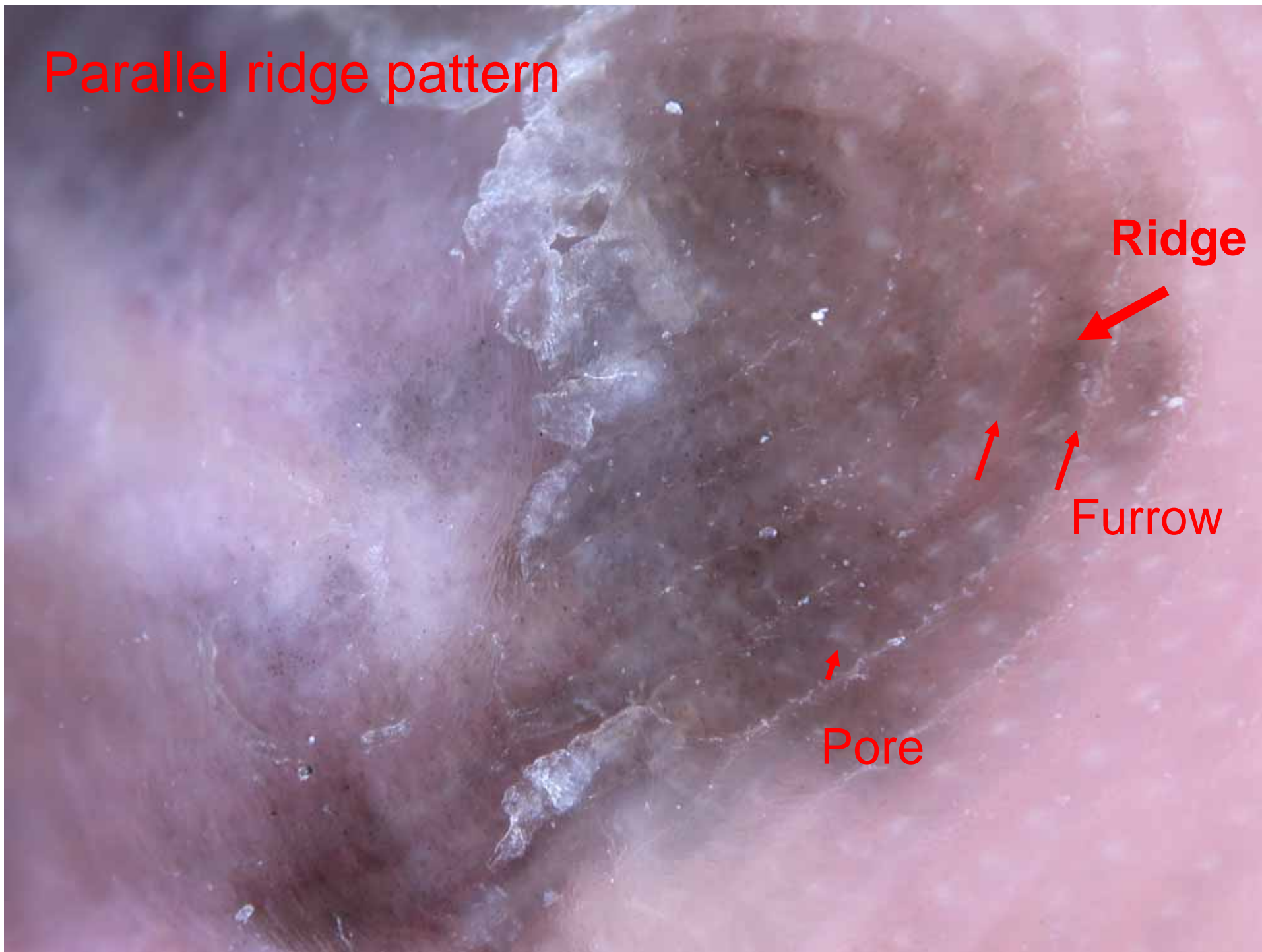


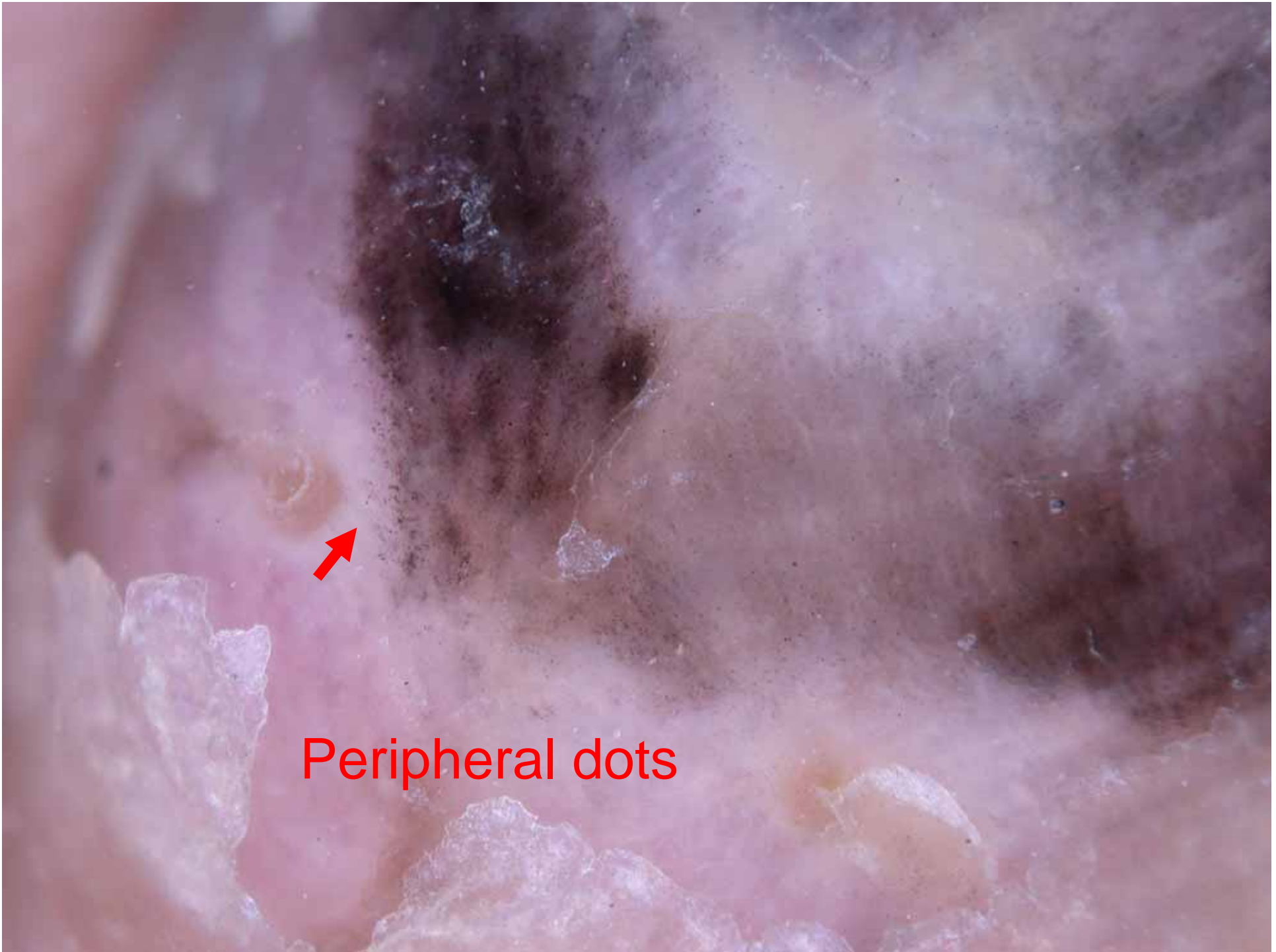
Parallel ridge pattern

Ridge

Furrow

Pore



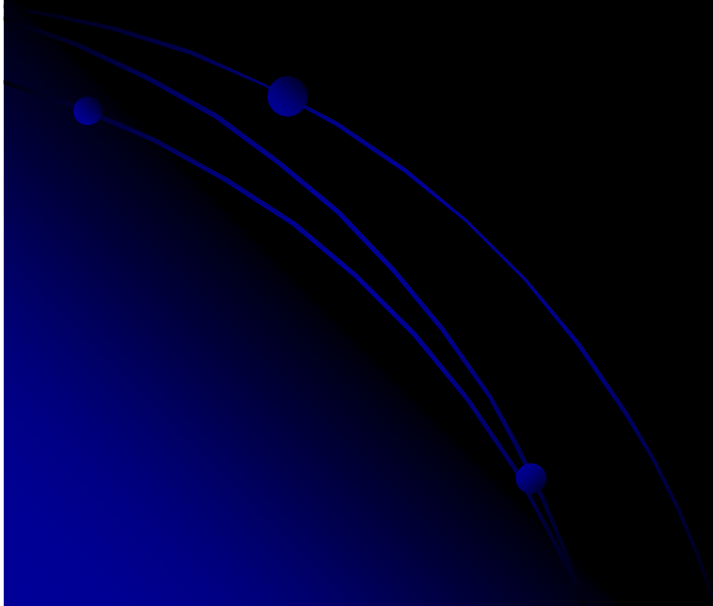


Peripheral dots

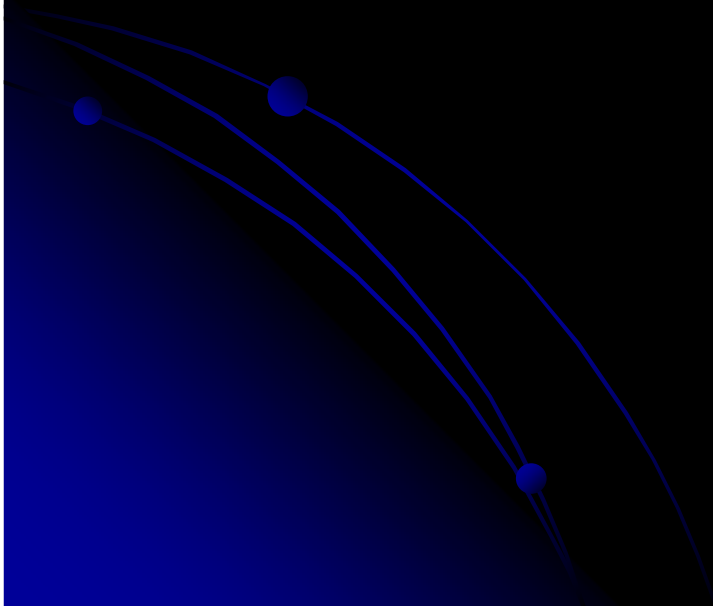


Abrupt edge,
a sharply cut-off
margin of
pigmentation

**Impression:
Suspect melanoma**



Histopathology



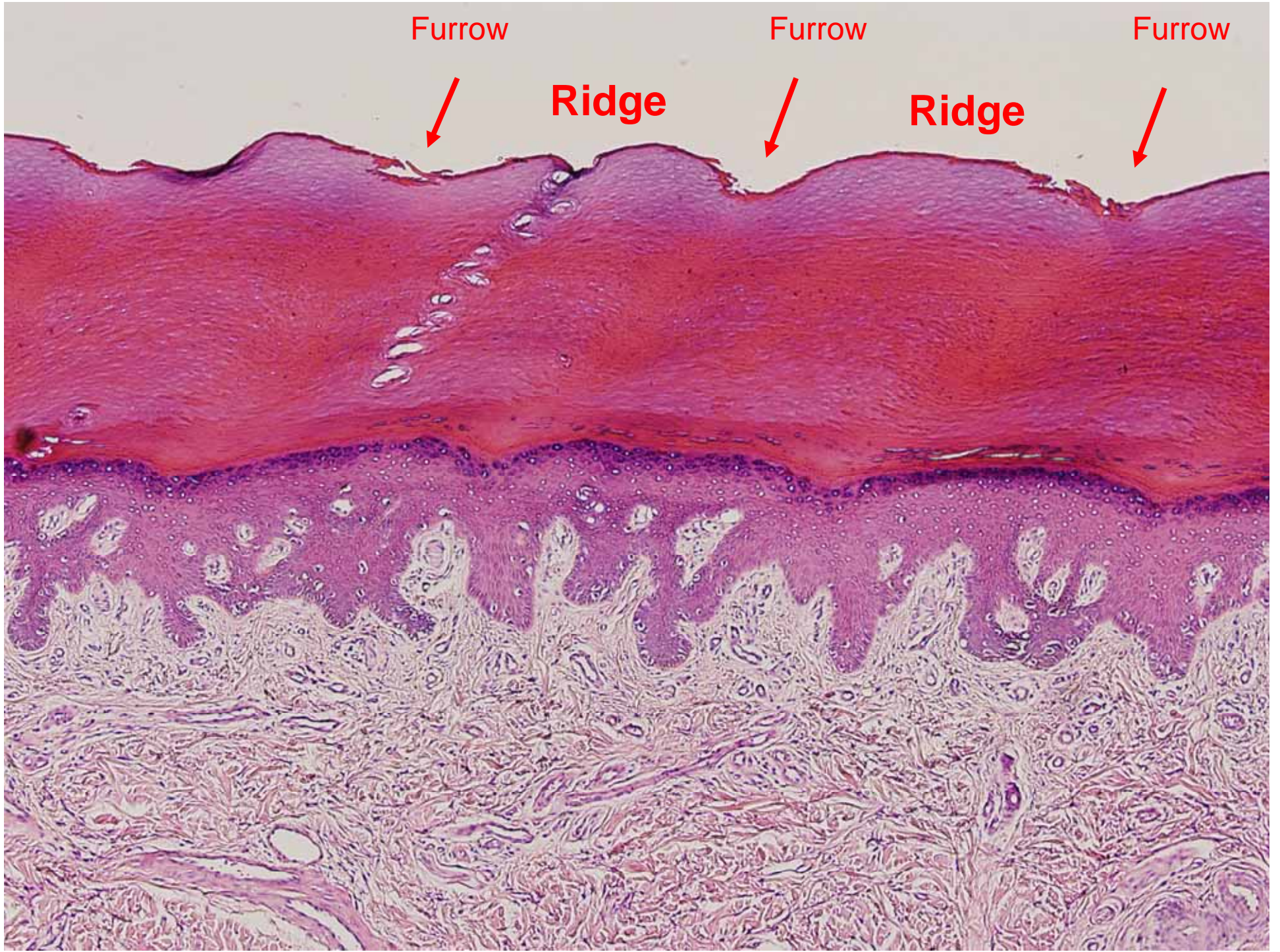
Furrow

Furrow

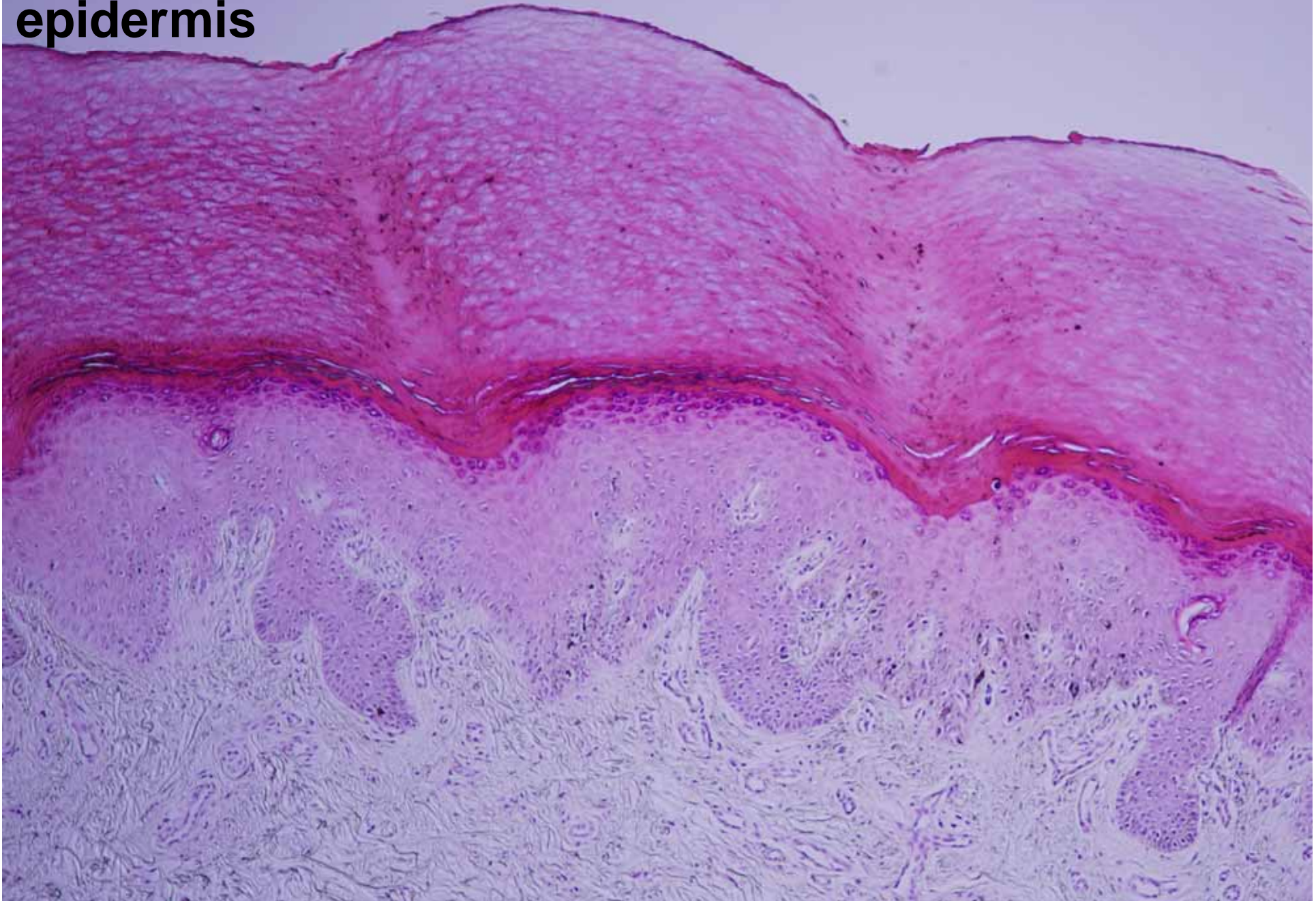
Furrow

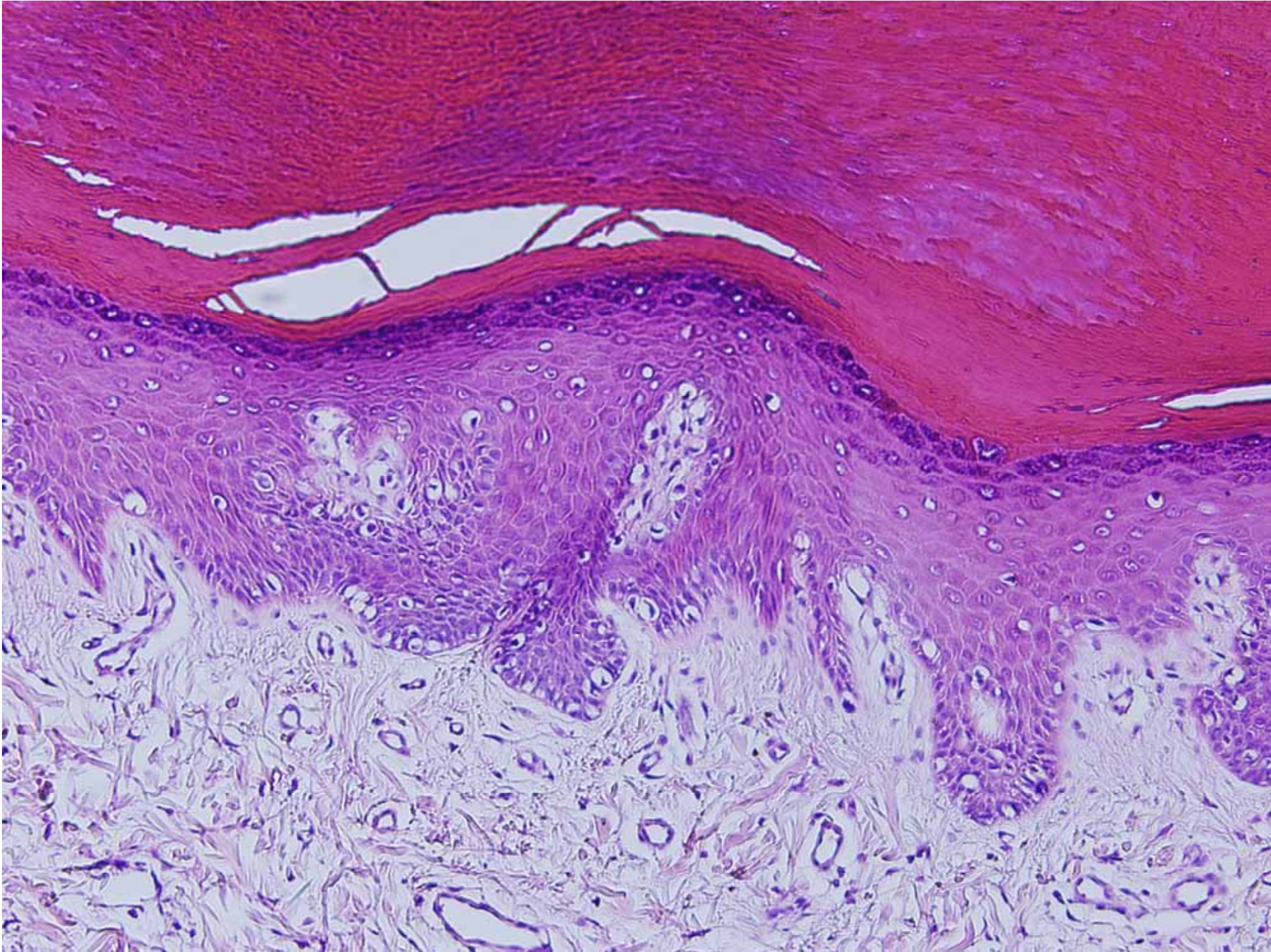
Ridge

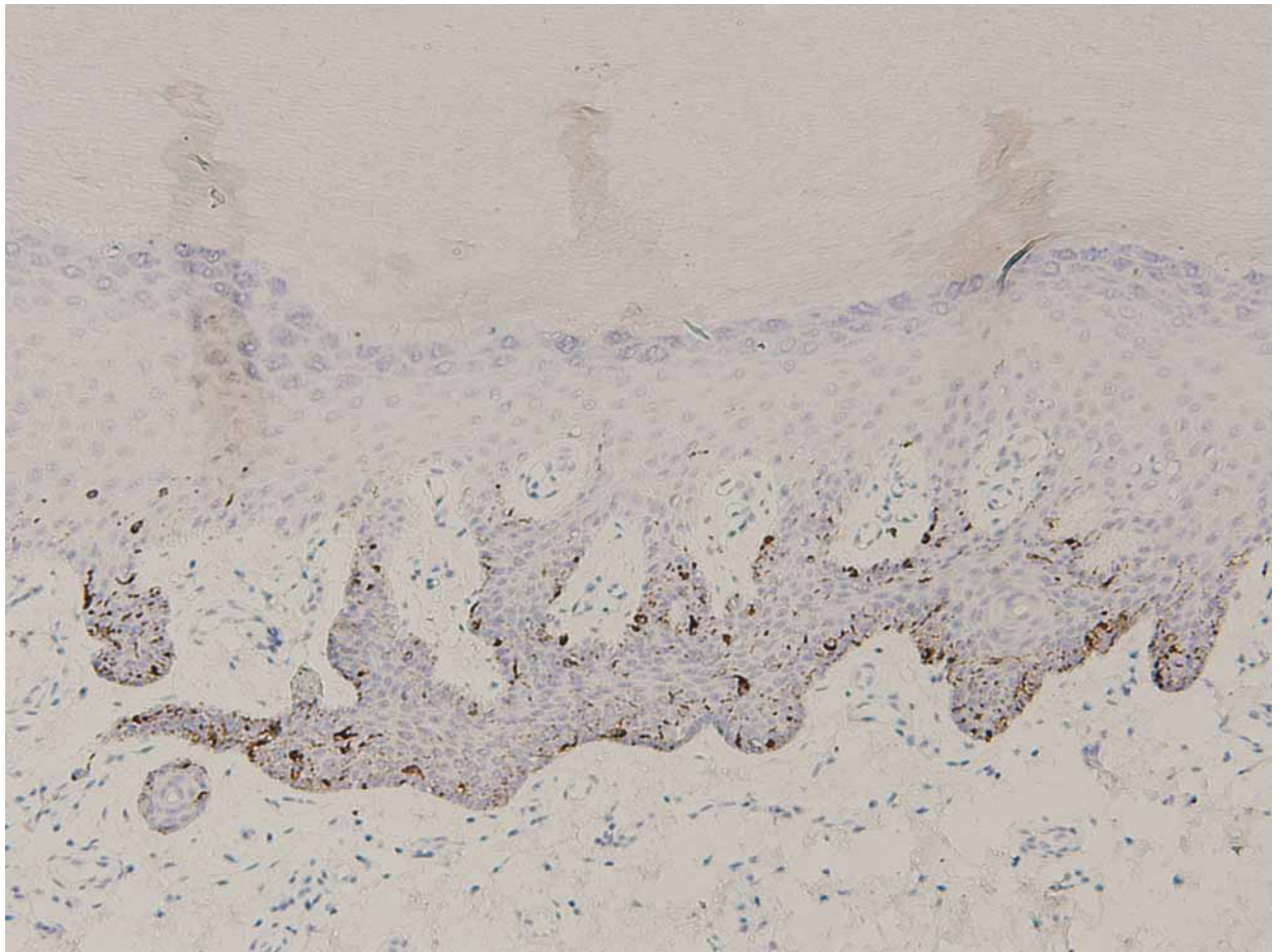
Ridge

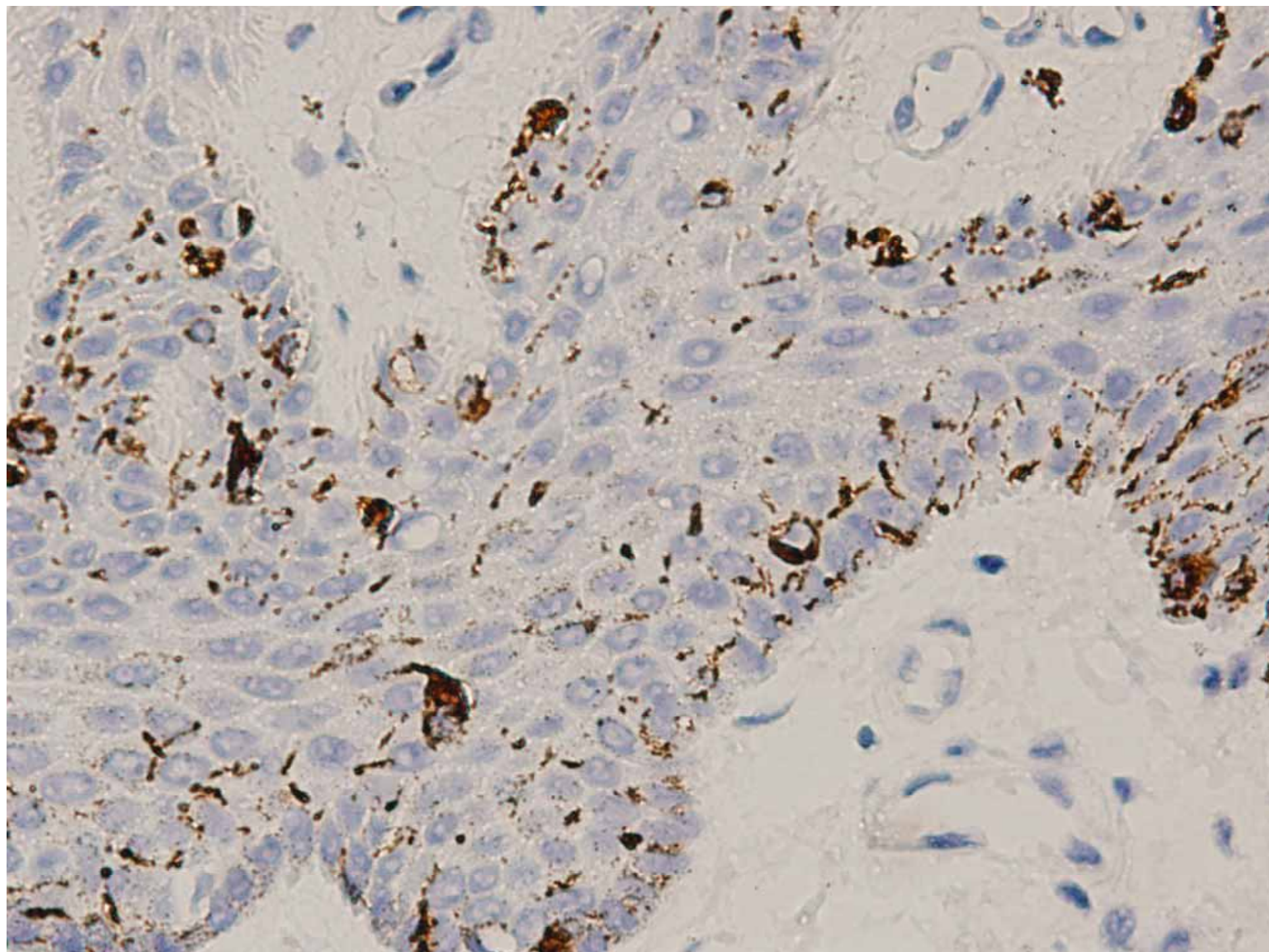


Melanin granules in the cornified layer of the epidermis



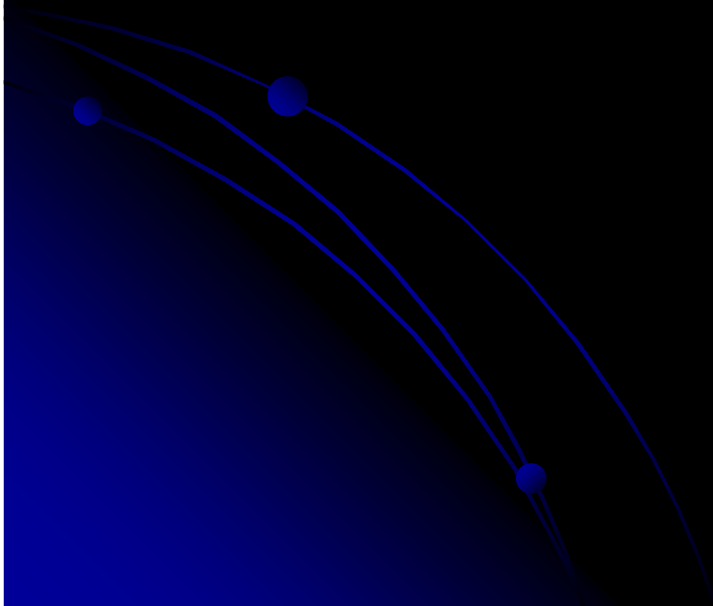




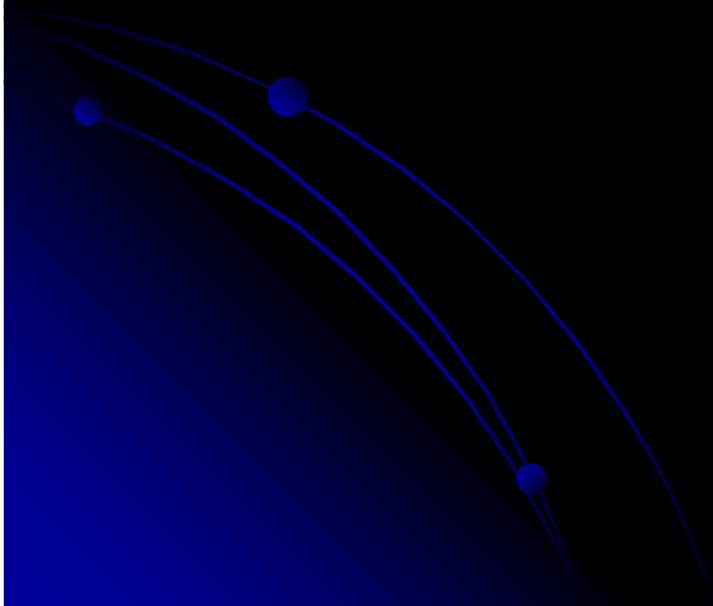


Final Diagnosis

Atypical Melanosis of the Foot

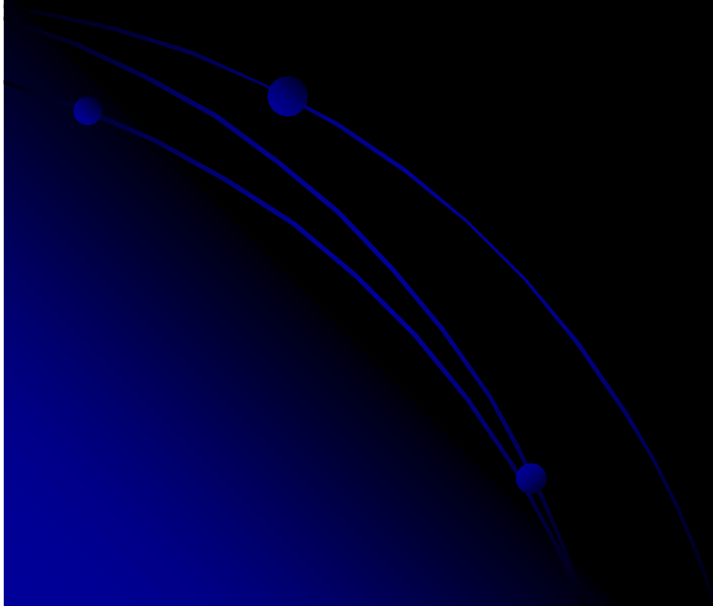


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Clinical Problem

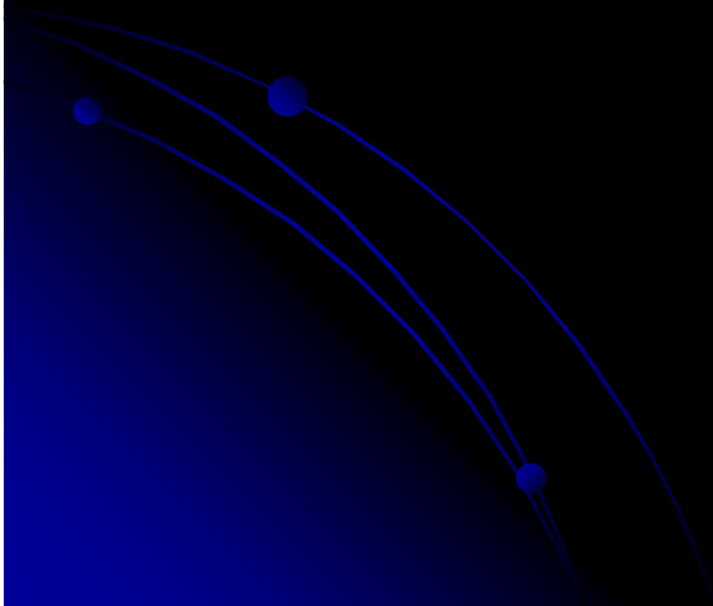
- The role of dermoscopy in diagnosing melanocytic lesions in acral sites?



PICO

- Population (patient/condition) :
Melanocytic lesions of acral sites
- Intervention (drug, procedure,
diagnostic test, exposure) :
Dermoscopy
- Comparison : Histopathology
- Outcome : Sensitivity 及 Specificity

搜尋資料庫：Pubmed



Significance of dermoscopic patterns in detecting malignant melanoma on acral volar skin: results of a multicenter study in Japan.

- Arch Dermatol. 2004 Oct;140(10):1233-8.
- The parallel ridge pattern (99.0%) and irregular diffuse pigmentation (96.6%) showed extremely high specificity and very high negative predictive value (97.7% and 97.5%, respectively) in malignant melanoma.

- 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**.

Specific dermoscopy patterns and amplifications of the **cyclin D1 gene** to define histopathologically unrecognizable early lesions of acral melanoma in situ

- Arch Dermatol. 2005 Nov;141(11):1413-8.
- OBJECTIVE: To define **early lesions of acral melanoma in situ** that cannot be recognized histopathologically.
- DESIGN: A retrospective review of the **clinical, dermoscopic, and histopathological findings.**
- PATIENTS: **33** patients with **melanocytic lesions on acral volar skin** that were **clinically suspected of being early melanomas.**

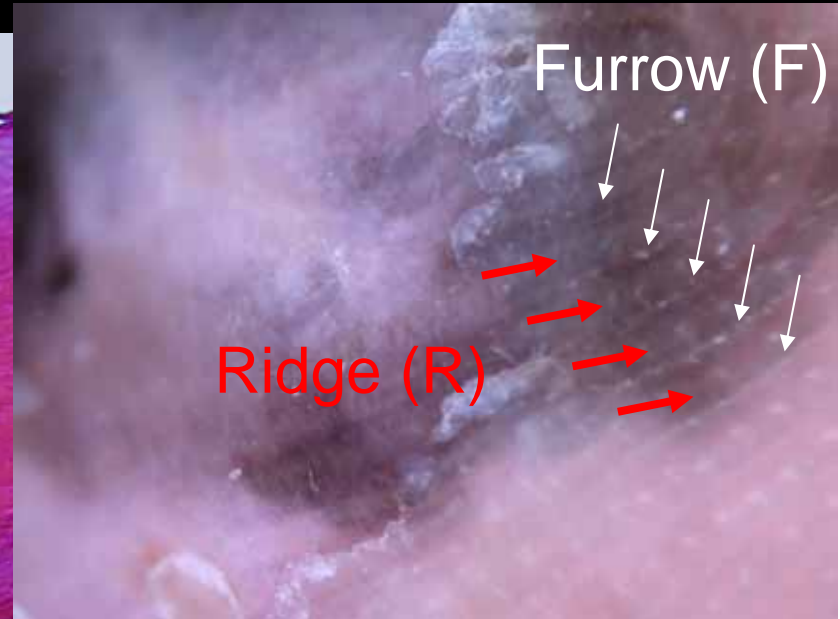
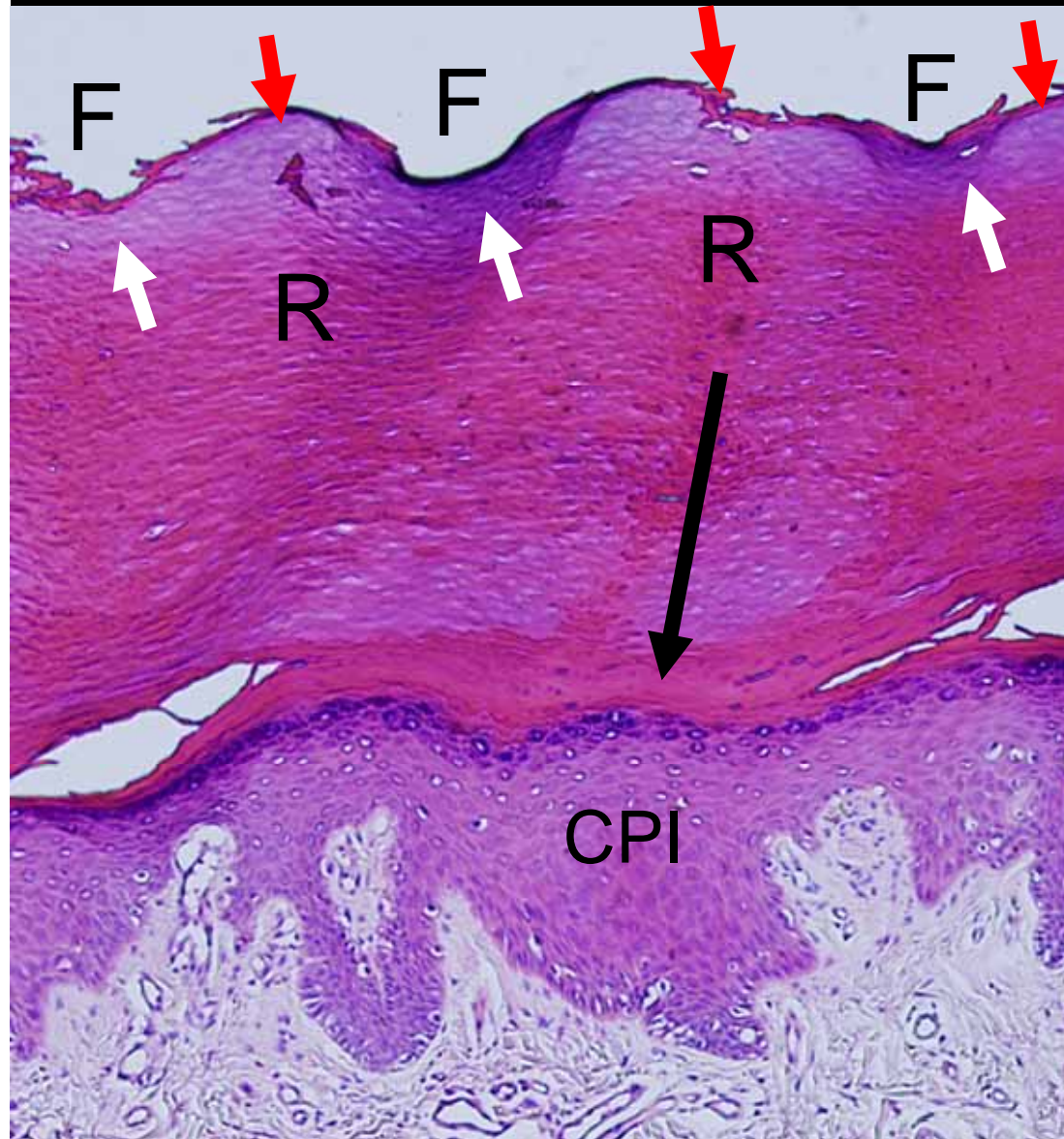
- MAIN OUTCOME MEASURES: Fluorescent in situ hybridization studies to detect the **cyclin D1 gene amplification** in proliferating melanocytes, which is a characteristic **genetic aberration** recently found in **acral melanoma**.
- RESULTS: 17 of 33 lesions were histopathologically diagnosed as either melanoma in situ (8 lesions) or benign melanocytic nevi (9 lesions). Amplification of the cyclin D1 gene was observed in 2 (25%) of the 8 melanomas in situ. None of the 9 nevi showed the amplification.
- **16** lesions were, however, difficult to classify histopathologically because most of them showed only **a slight increase of nonatypical melanocytes in the basal cell layer of the epidermis**.
- On dermoscopic examination, **9** of these 16 lesions exhibited the **parallel ridge pattern** that has been reported to be highly specific to melanoma in situ, and 4 (44%) of them had amplifications of the cyclin D1 gene.
- Amplifications were not found in any of the remaining 7 lesions that showed dermoscopic patterns suggestive of melanocytic nevi.

- **CONCLUSIONS:**

- The present study also indicates the **specificity of the parallel ridge pattern on dermoscopy to detect melanomas on acral volar skin at such a very early developmental phase.**

Histopathological background of Parallel Ridge Pattern


Arch Dermatol, 2005



- A preferential proliferation of melanocytes in the crista profunda intermedia (CPI), the epidermal rete ridges situated under the ridges of the skin markings.

Conclusion

- Dermoscopy is a powerful tool for evaluating pigmented lesions on acral volar skin.
- The parallel ridge pattern is a highly specific dermoscopic feature for melanoma and exist at a very early stage.



Thank you for your attention!