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Coláiste na hOllscoile Corcaigh, Éire
University College Cork, Ireland



Ospidéal Ollscoil Chorcaí
Cork University Hospital

CASES 13 - 16

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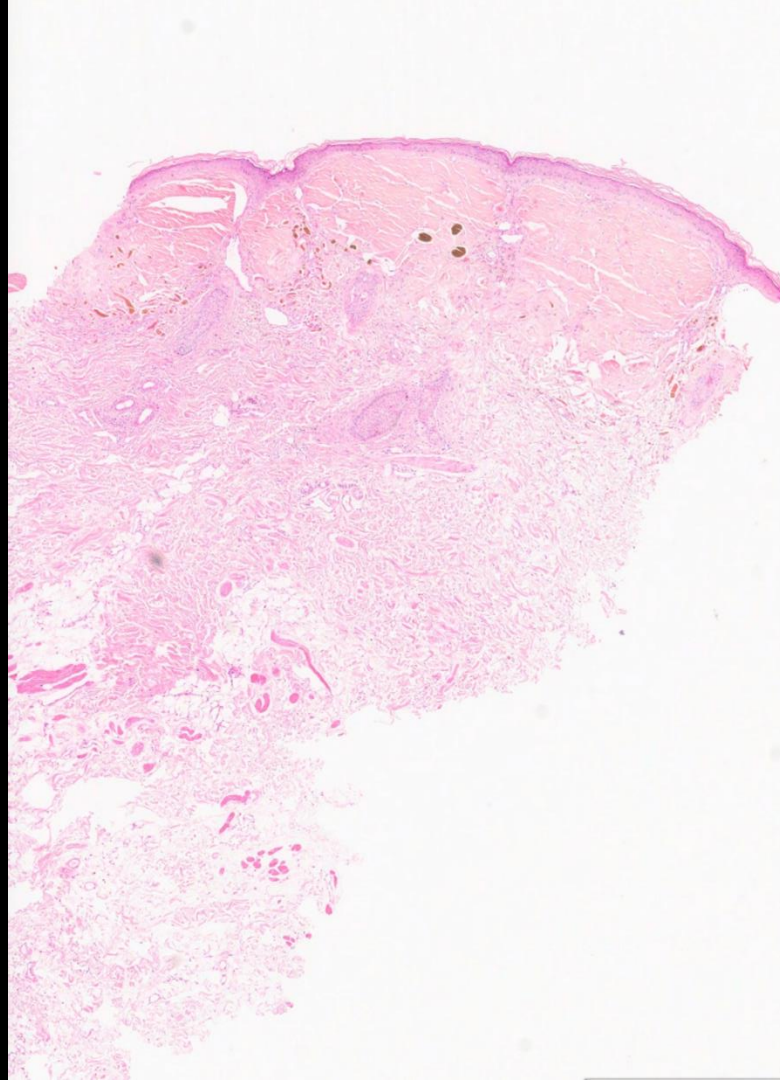


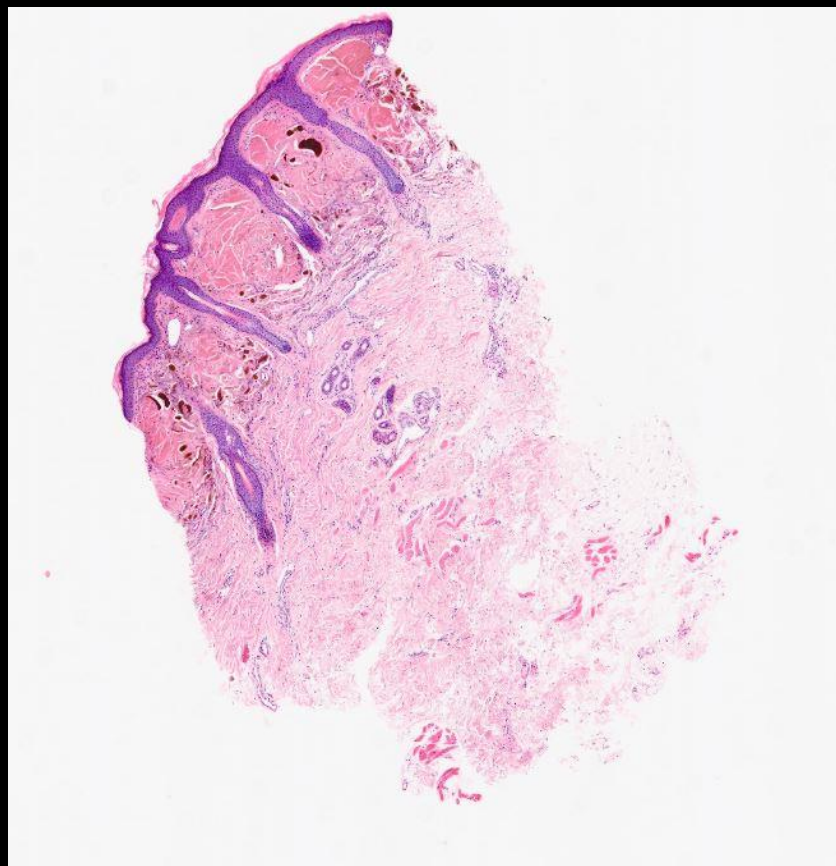
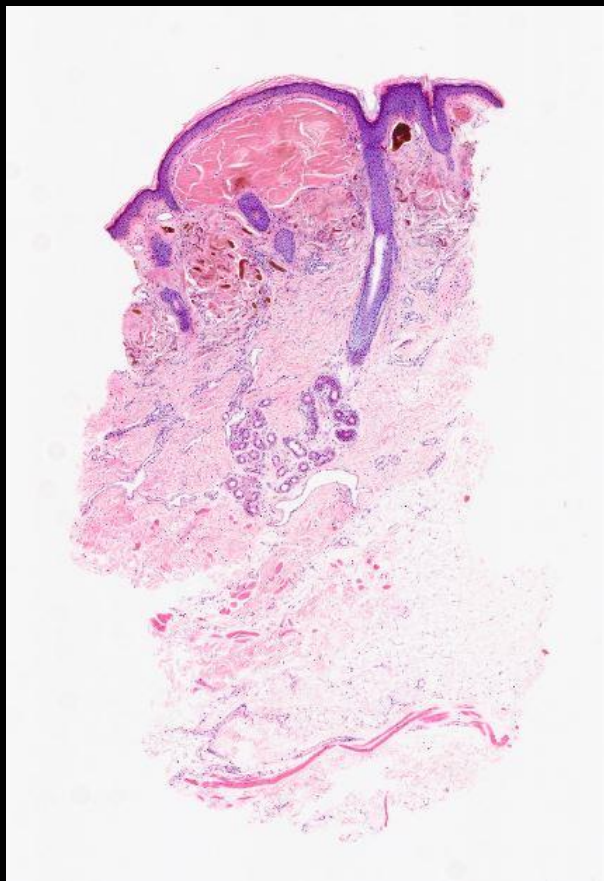
Case 13

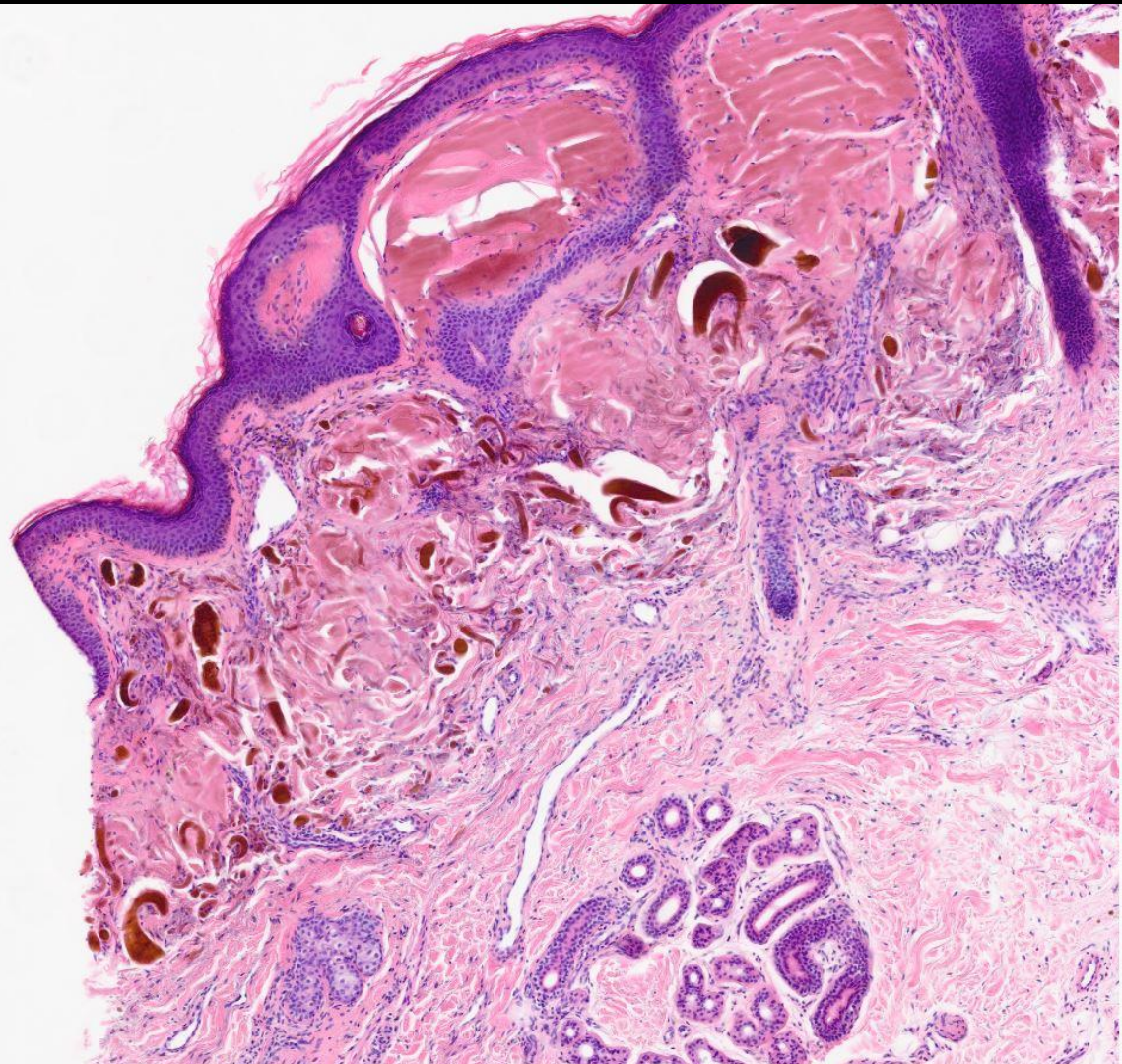
55M

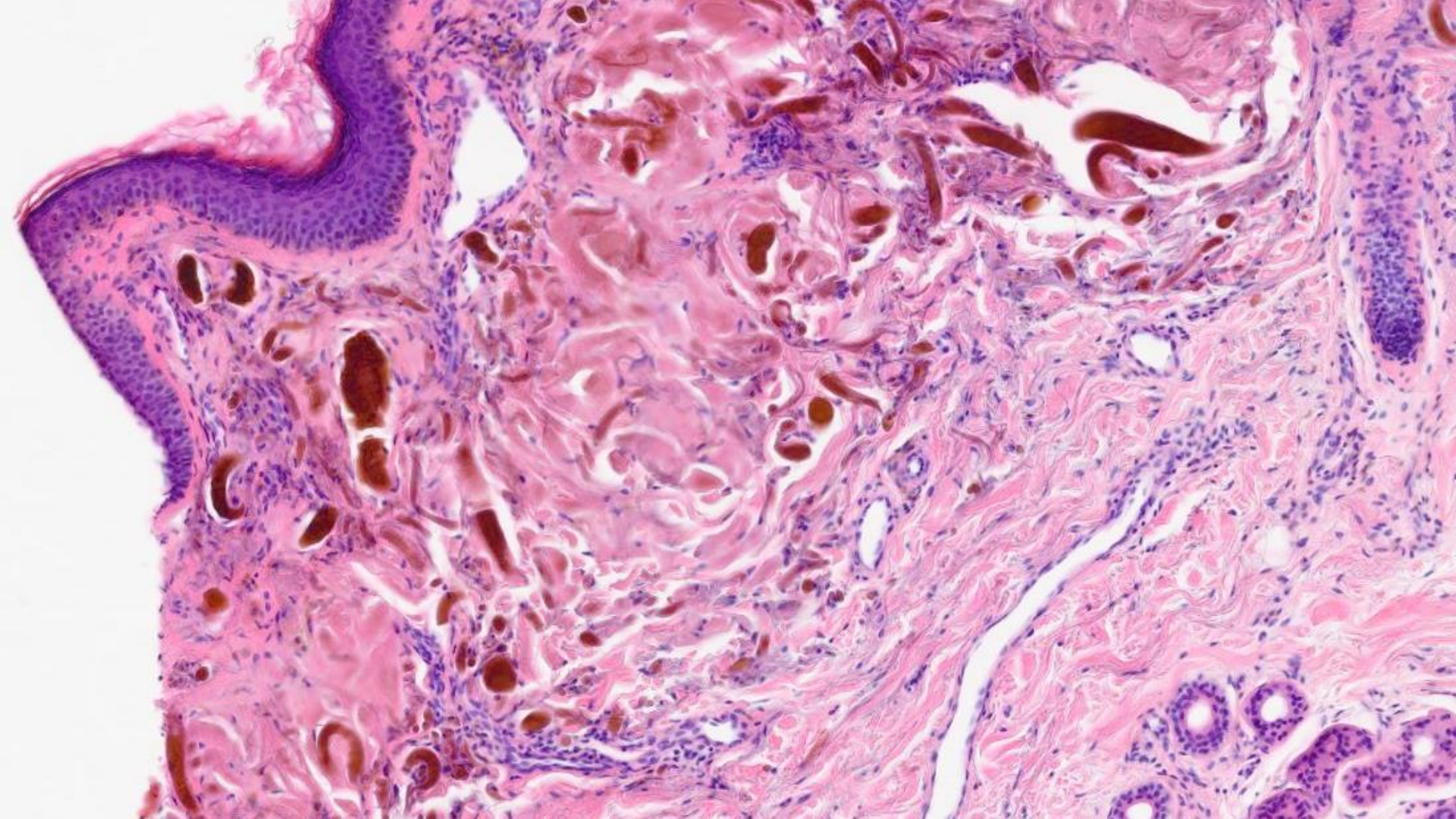
Hyperkeratotic hyperpigmented rash on his cheeks. Punch biopsy taken from rash.

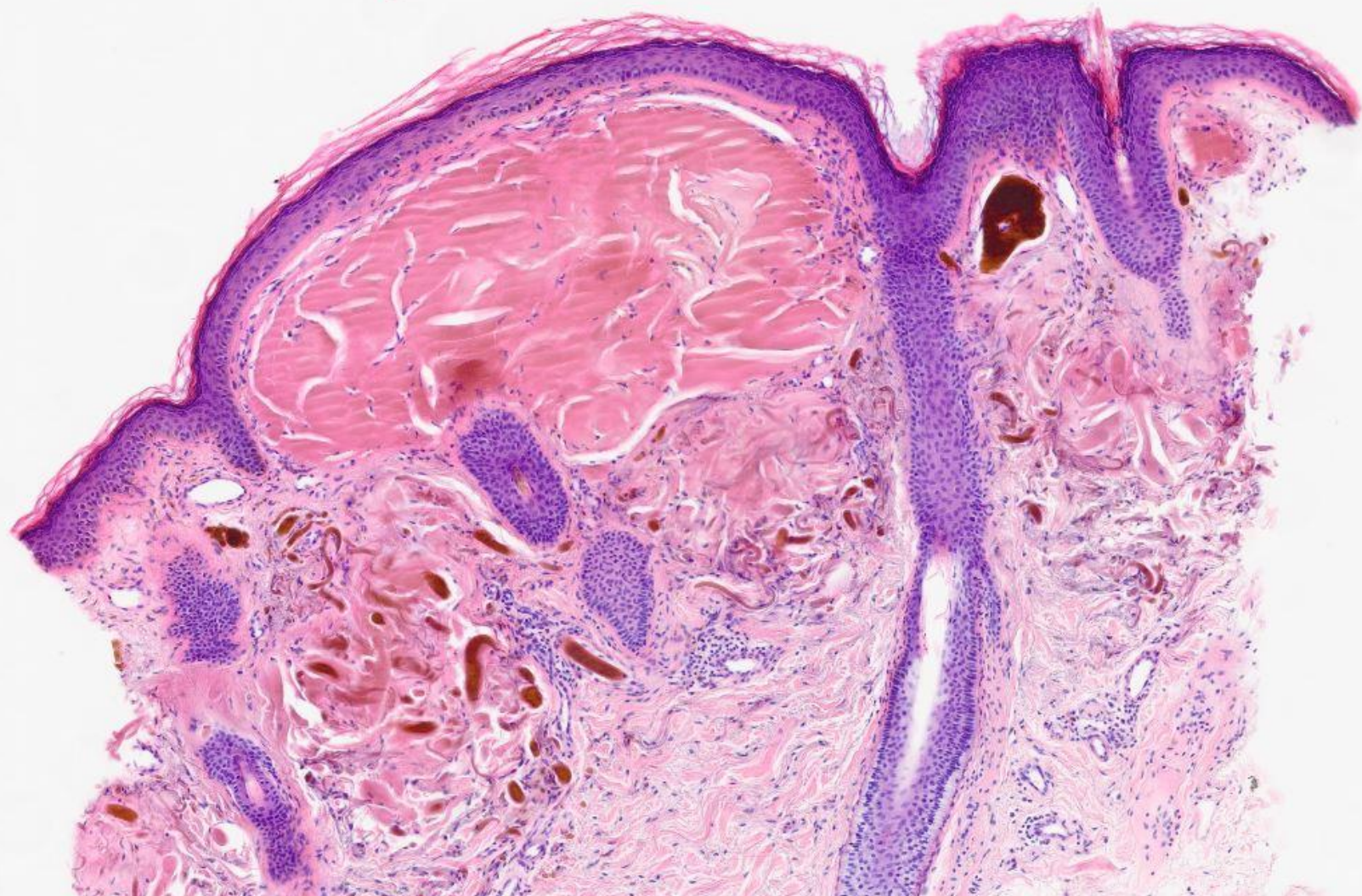
- A) Post inflammatory hyperpigmentation
- B) Ochronosis
- C) Tattoo pigment
- D) Tumoural melanosis

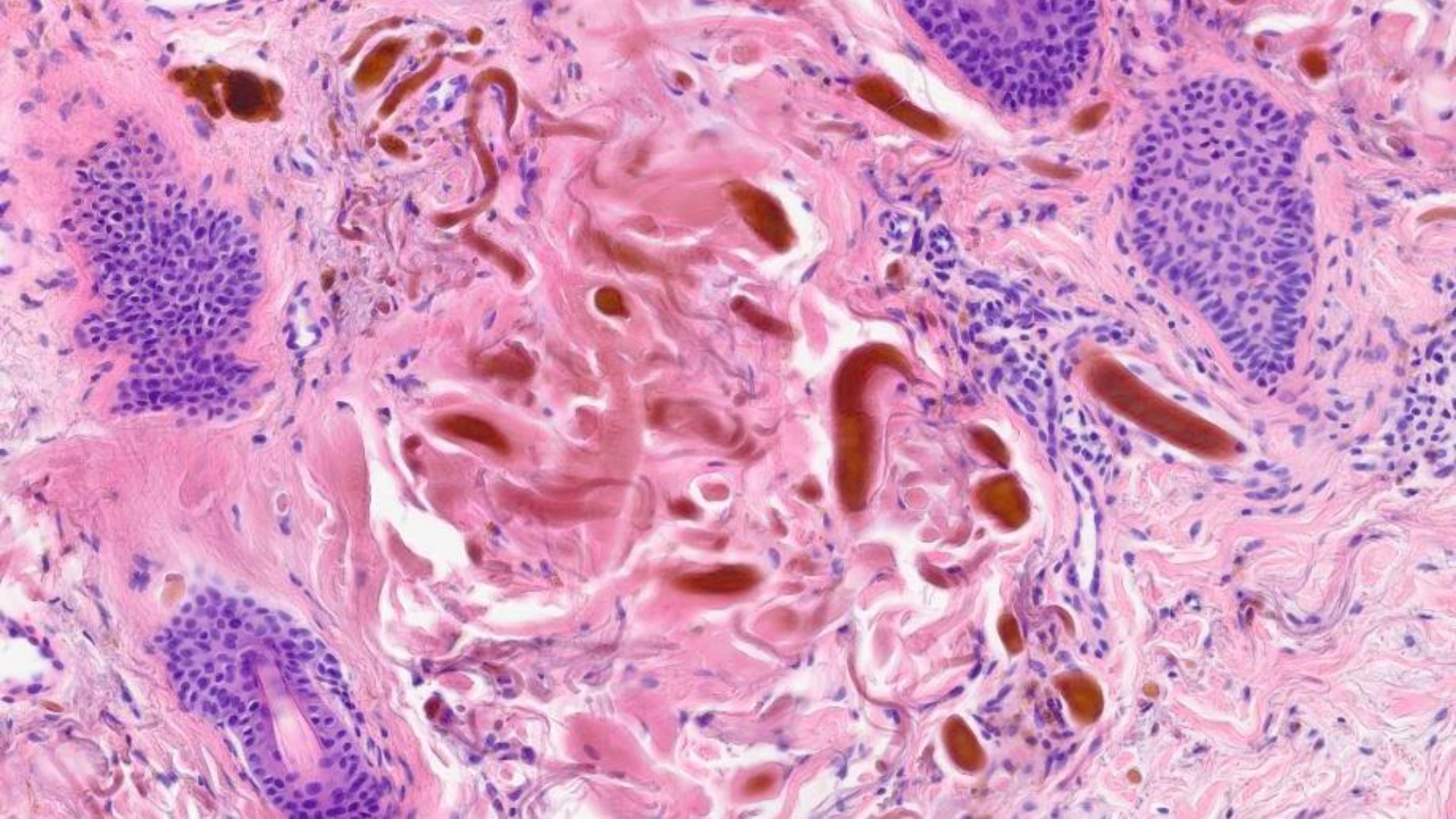


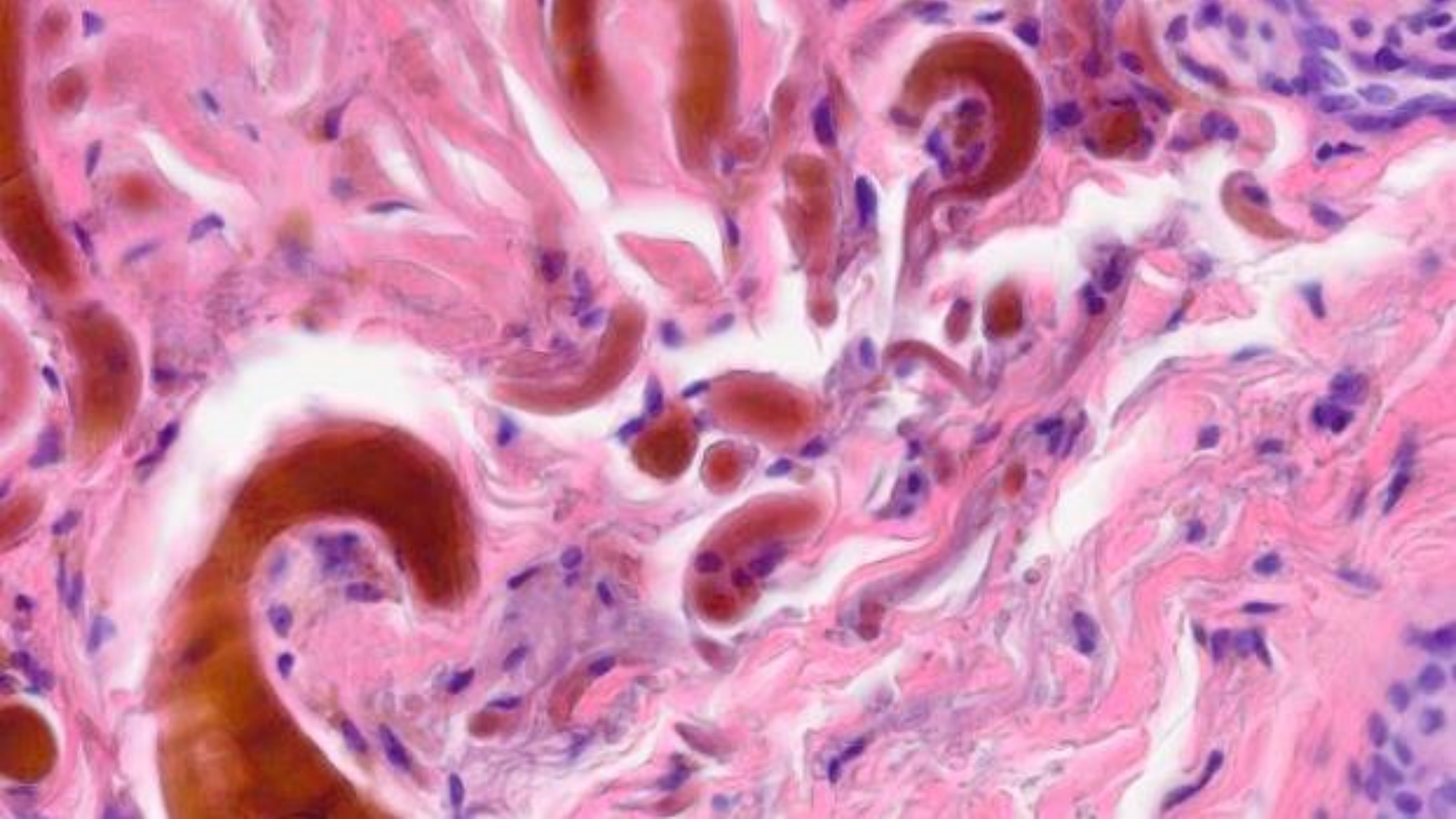


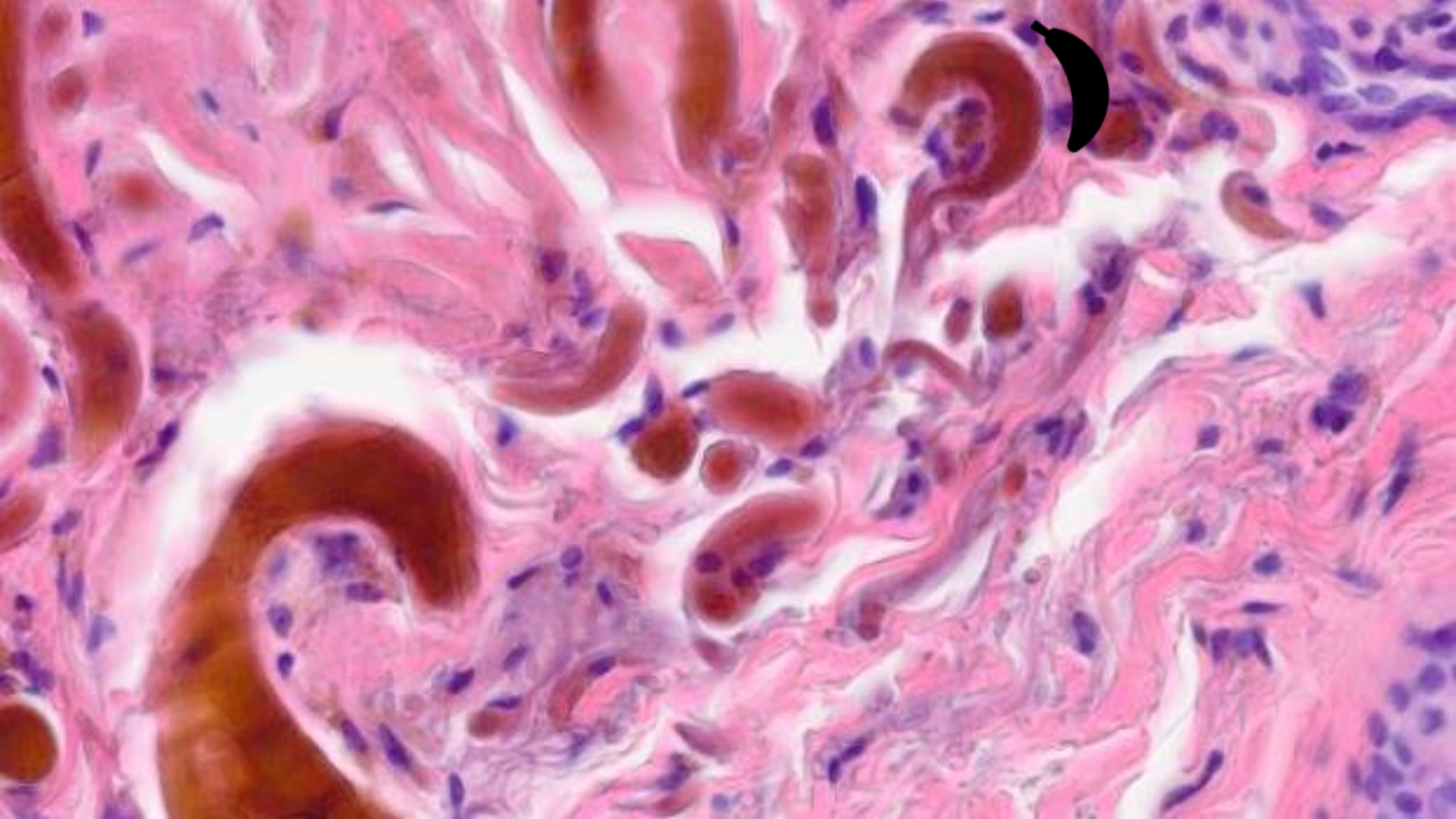












Differential diagnosis given:

- a) Post inflammatory hyperpigmentation
- b) Ochronosis
- c) Tattoo pigment
- d) Tumour melanosis

Presentation



55-year-old
gentleman



Presenting complaint:

- Hyperkeratotic, hyper-pigmented rash on face
- Associated symptoms: mild itch
- Of cosmetic concern for the patient

Past Medical History



Past Medical History

- No significant past medical history



Past Medication History:

- Nil

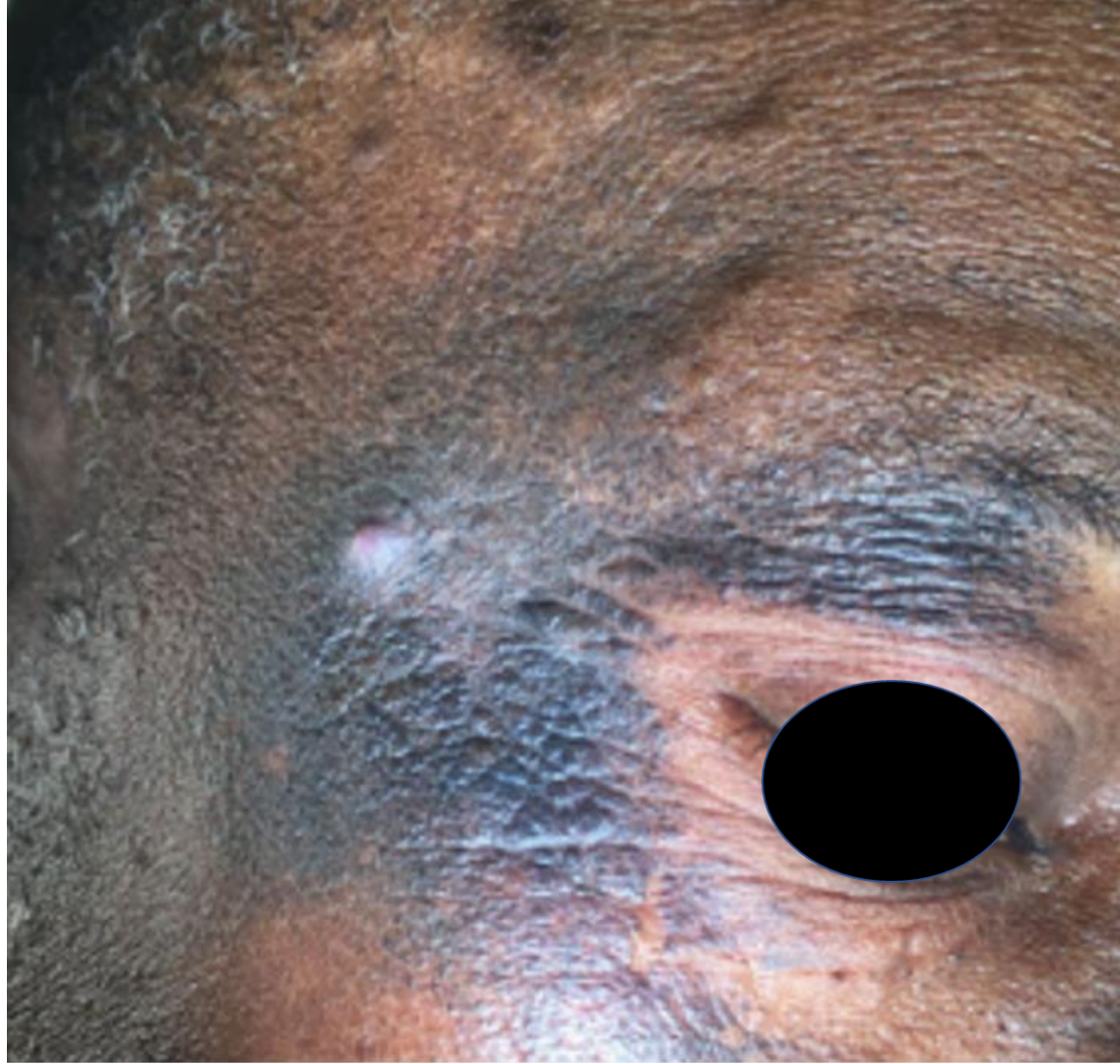


Travel History:

- Originally from the Congo, but living in Ireland.

On Examination

- Blue–black, symmetrical papular eruption on the zygomata, extending to the supraorbital ridges bilaterally.



Past Medical History: Review

- Further questioning revealed regular use of a 'skin-lightening cream' containing hydroquinone:
 - at an unknown concentration
 - the patient had purchased the cream online



Exogenous Ochronosis

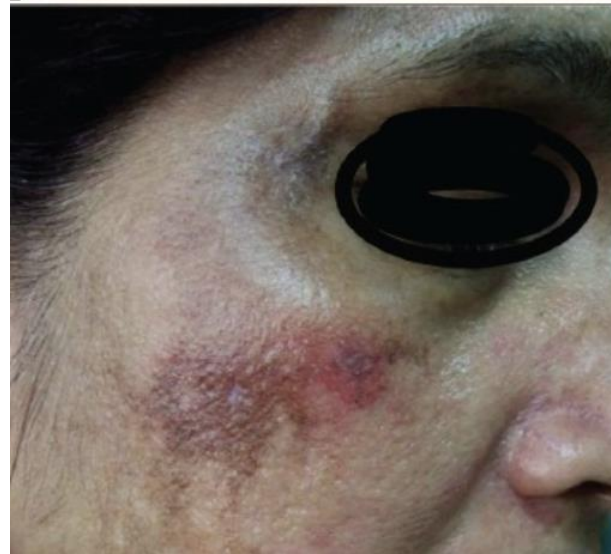
Exogenous Ochronosis

- First described by Findlay et al (1975)
- Associated with topical agents containing:
 - Hydroxyquinone- not dose dependent
 - Compounds related to phenol
 - Other agents intended as inducers of skin lightening
 - Antimalarials



Exogenous Ochronosis

- Occurs over osseous surfaces, often affecting the zygomatic regions in a symmetrical pattern
- Lesions: gray-brown or blue-black macules
 - Usually with hyperchromatic, pinpoint, caviar-like papules
- Classification by Dogliotte (1979):
 - i. Erythema and mild hyperpigmentation
 - ii. Hyperpigmentation, pigmented colloid milium (caviar like lesions) & scanty atrophy
 - iii. Papulo-nodular lesions

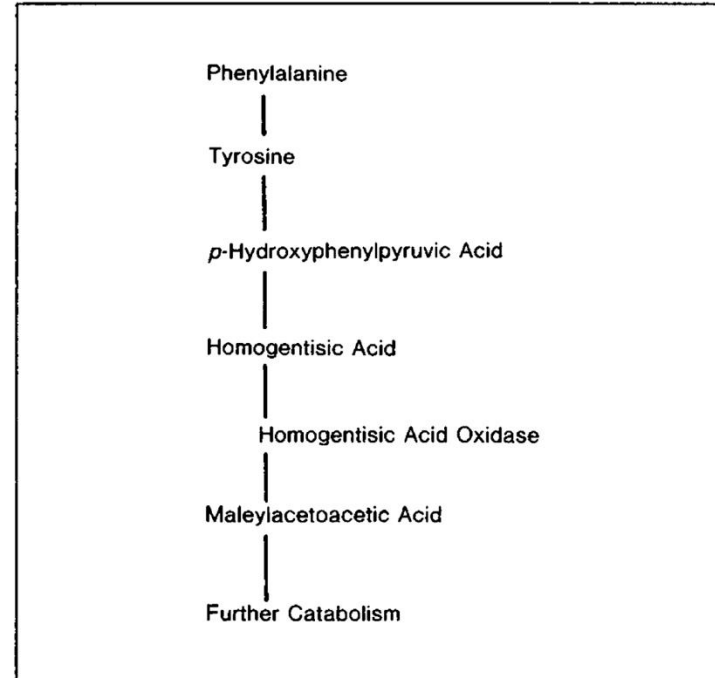


Pathogenesis

Pennys NS (1985) proposed the following hypothesis:

- Topically applied hydroquinone inhibits the activity of homogentisic acid oxidase in the skin
- Resulting in the local accumulation of homogentisic acid, which polymerizes to form ochronotic pigment.
- Pennys also hypothesised that susceptible individuals have lower functional levels of homogentisic acid oxidase and could represent persons who are heterozygous for endogenous ochronosis.

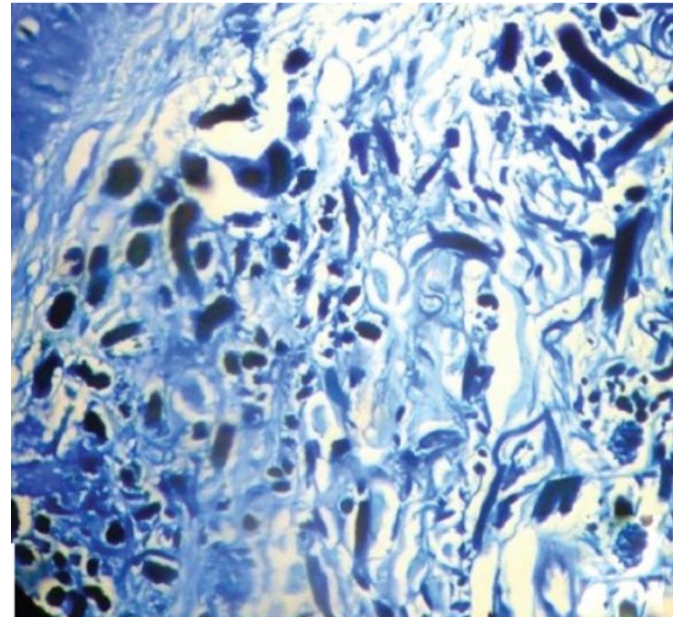
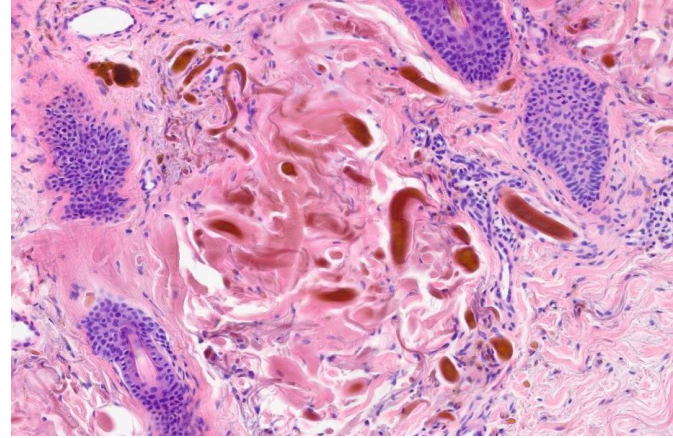
The oxidation of phenylalanine to maleylacetoacetic acid.

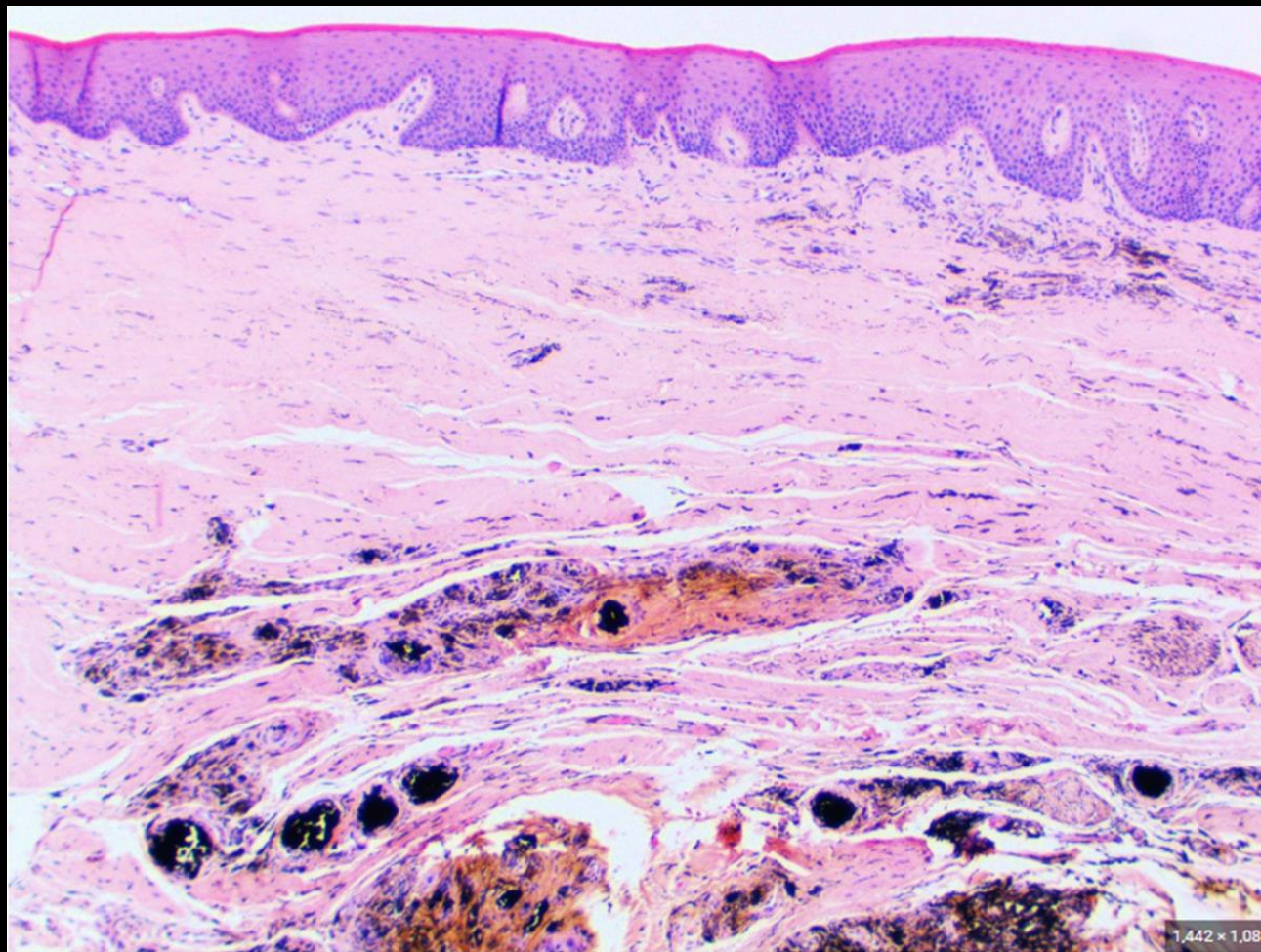


Penneys NS. Ochronosis like pigmentation from hydroquinone bleaching creams. Arch Dermatol. 1985;121(10):1239-40.

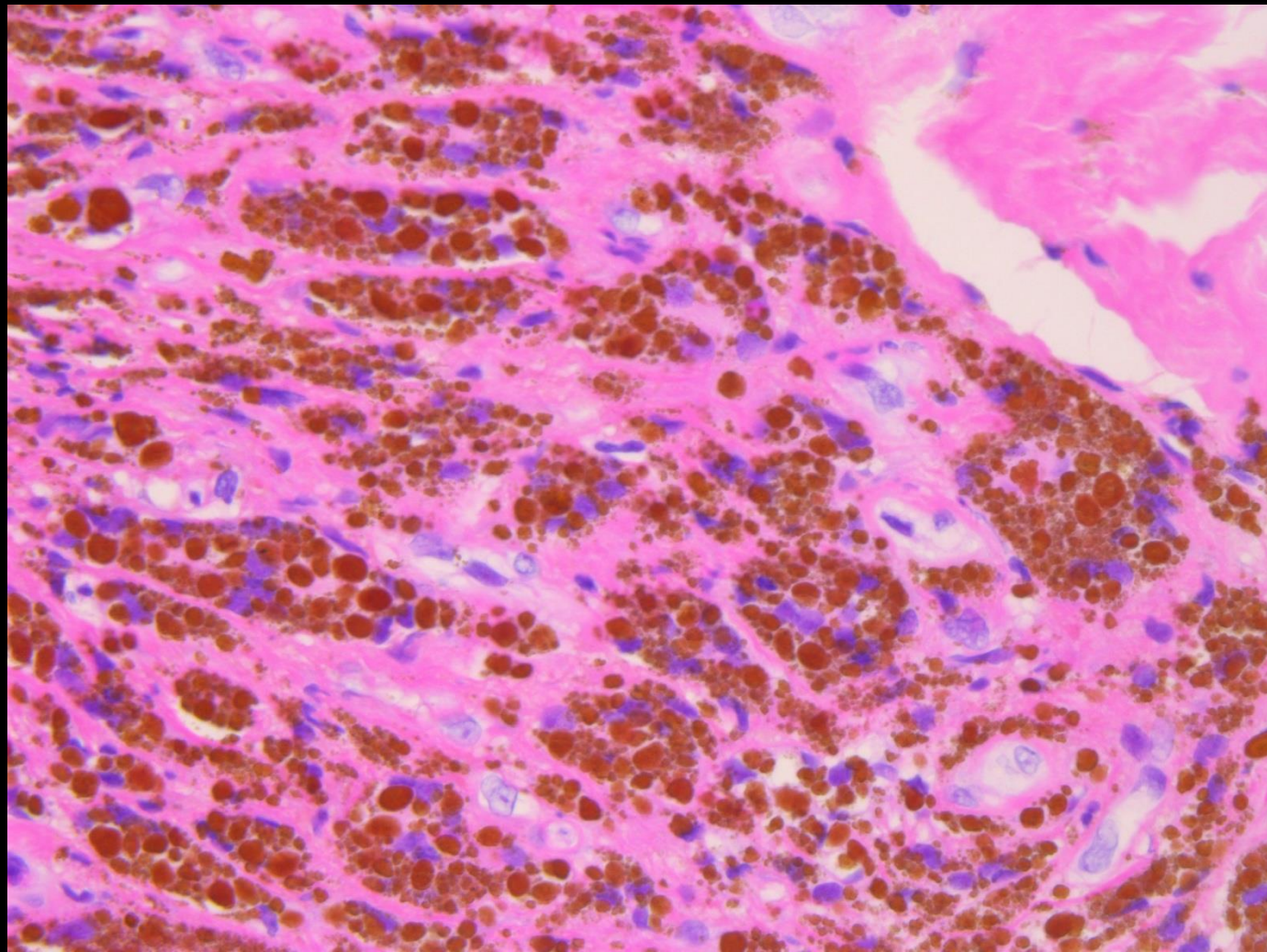
Histopathology

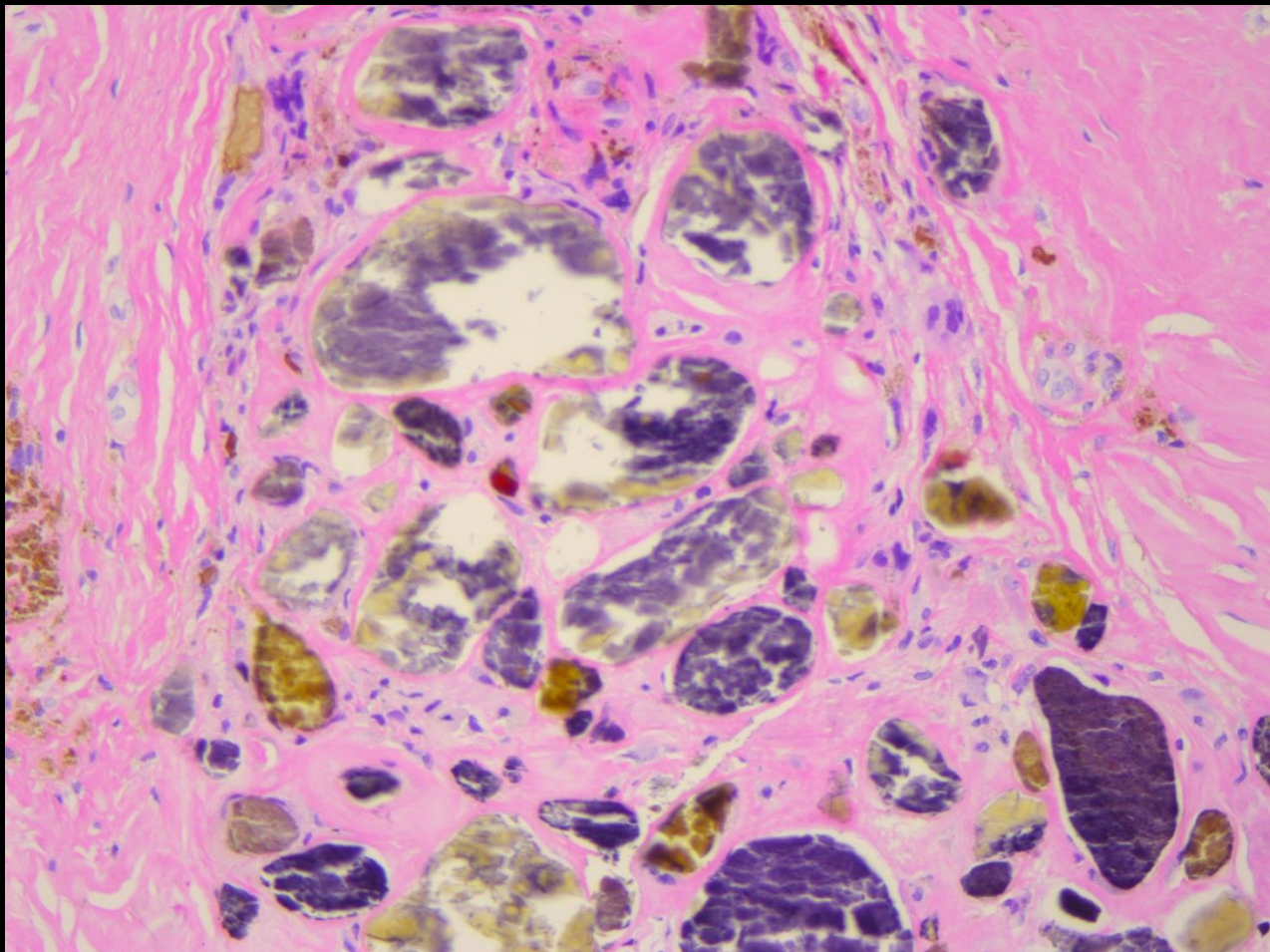
- Characteristic ochre or yellow-brown pigment
 - Present within the collagen bundles
 - Tend to fracture transversely
 - Resulting in pointed edges (banana or comma-shaped)
 - Methylene blue staining showing ochronotic fibers stained dark blue.
- Fine granules of ochronotic pigment may also be present:
 - Intracellularly: in the endothelium, macrophages, and secretory cells of sweat glands
 - Extracellularly: basement membrane
- With degradation of ochronotic fibers → formation of colloid millium





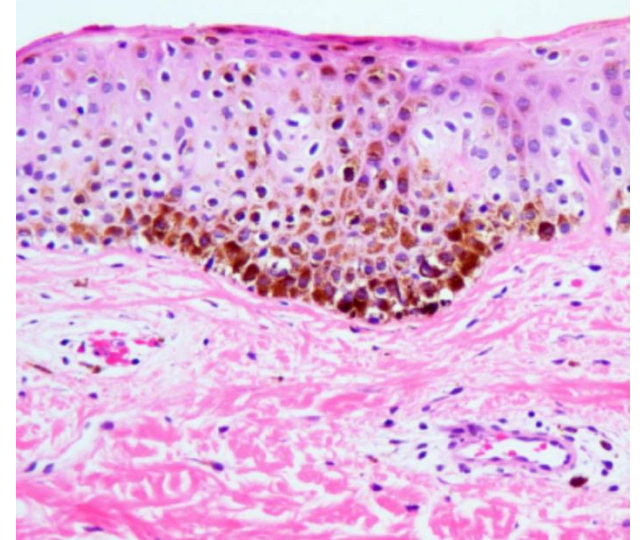
1,442 × 1,08





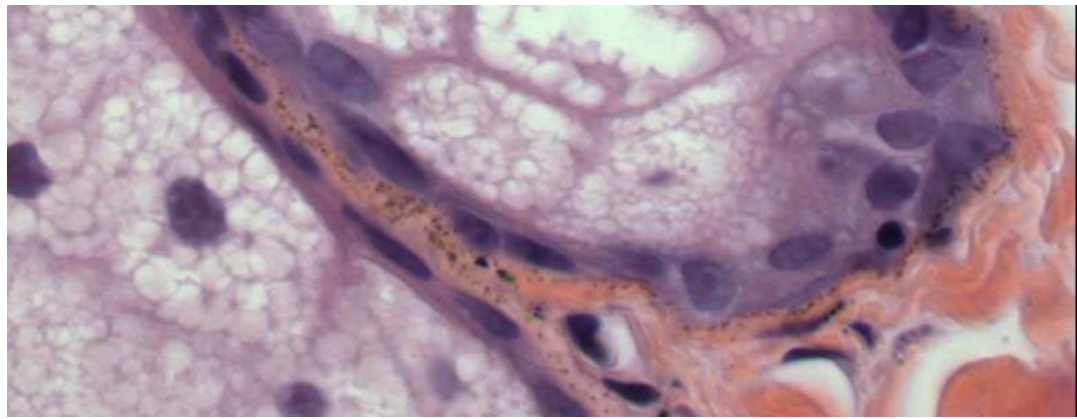
Differential Diagnosis: Melasma

- Histology:
 - Increased keratinocyte melanisation, which may involve all layers of the epidermis
 - Variable papillary dermal melanophages
 - Solar elastosis
 - Telangiectasia
 - Increased mast cells
- Hydroquinone is the first choice of topical bleaching agents treatment used in the treatment of melasma.

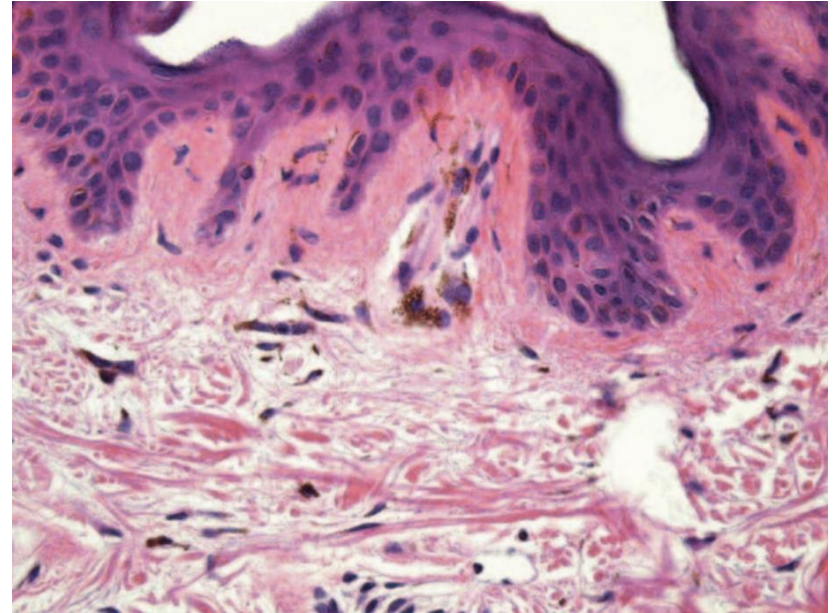


Argyria

- Permanent discoloration of skin due to dietary, medicinal or industrial exposure to silver compounds
- Silver deposition in skin and mucous membranes, liver, spleen, adrenal, muscle and brain
- Silver deposits cause pigmentation of basement membranes of adnexal structures.
- Tiny, gray-brown-black granules in dermis and concentrated near eccrine glands.



Differential Diagnosis: Hydroxychloroquine



Puja K. et al (2008). Hydroxychloroquine-induced hyperpigmentation: the staining pattern. , 35(12), 1134–1137

Answer

- B - Ochronosis

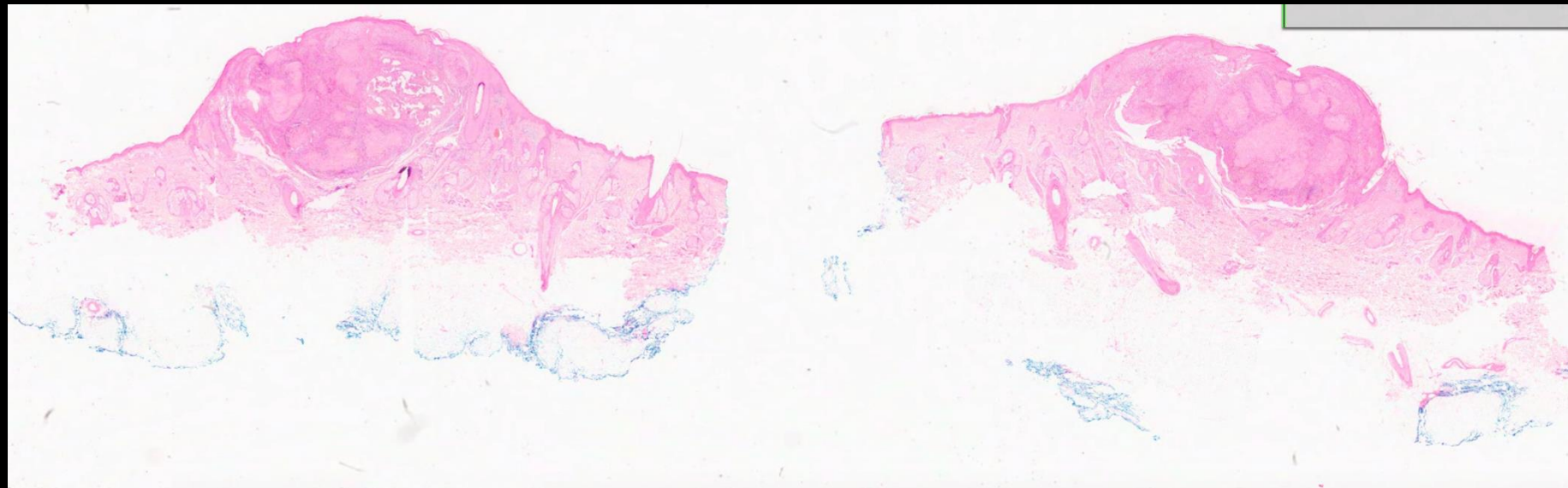


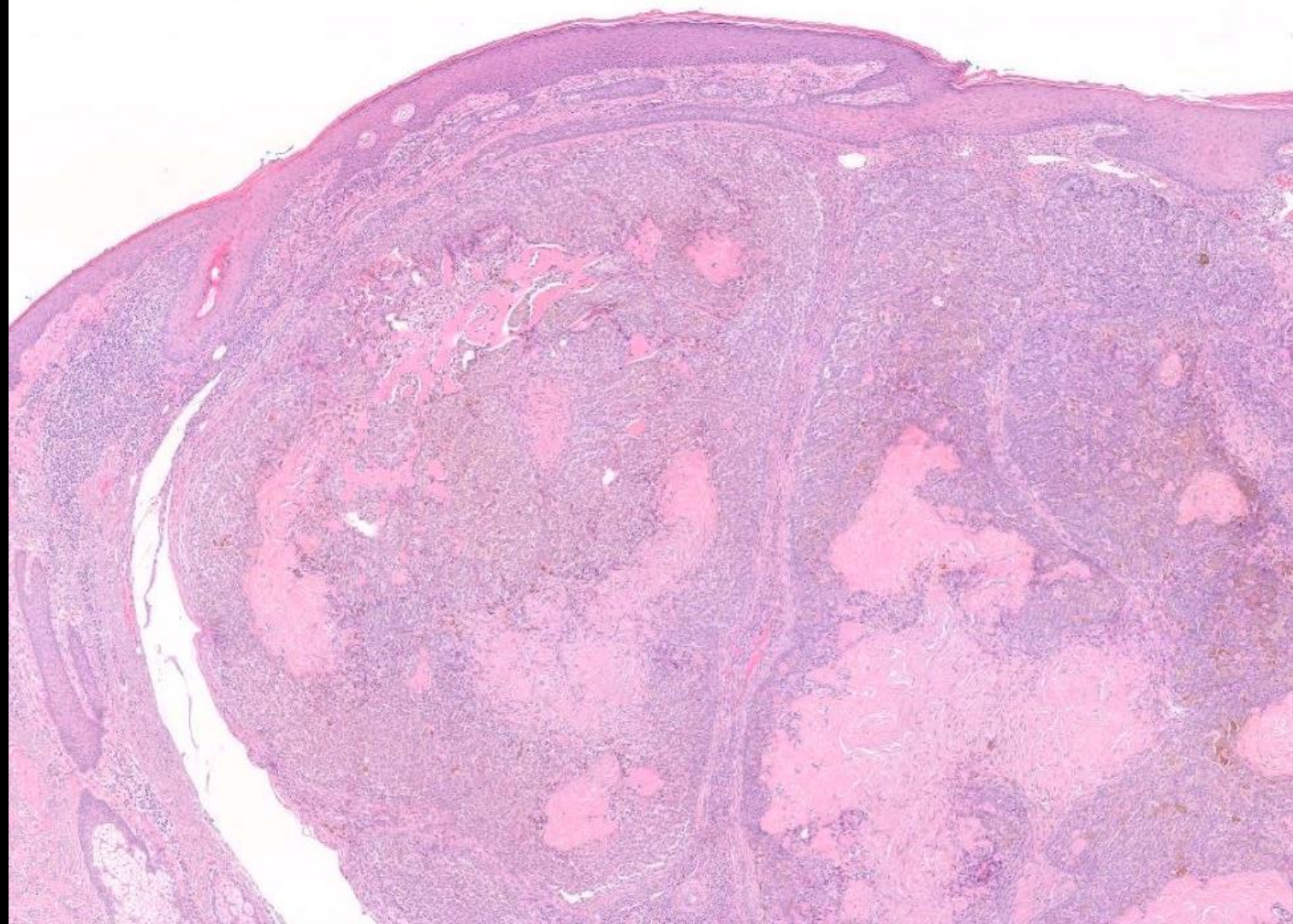
Case 14

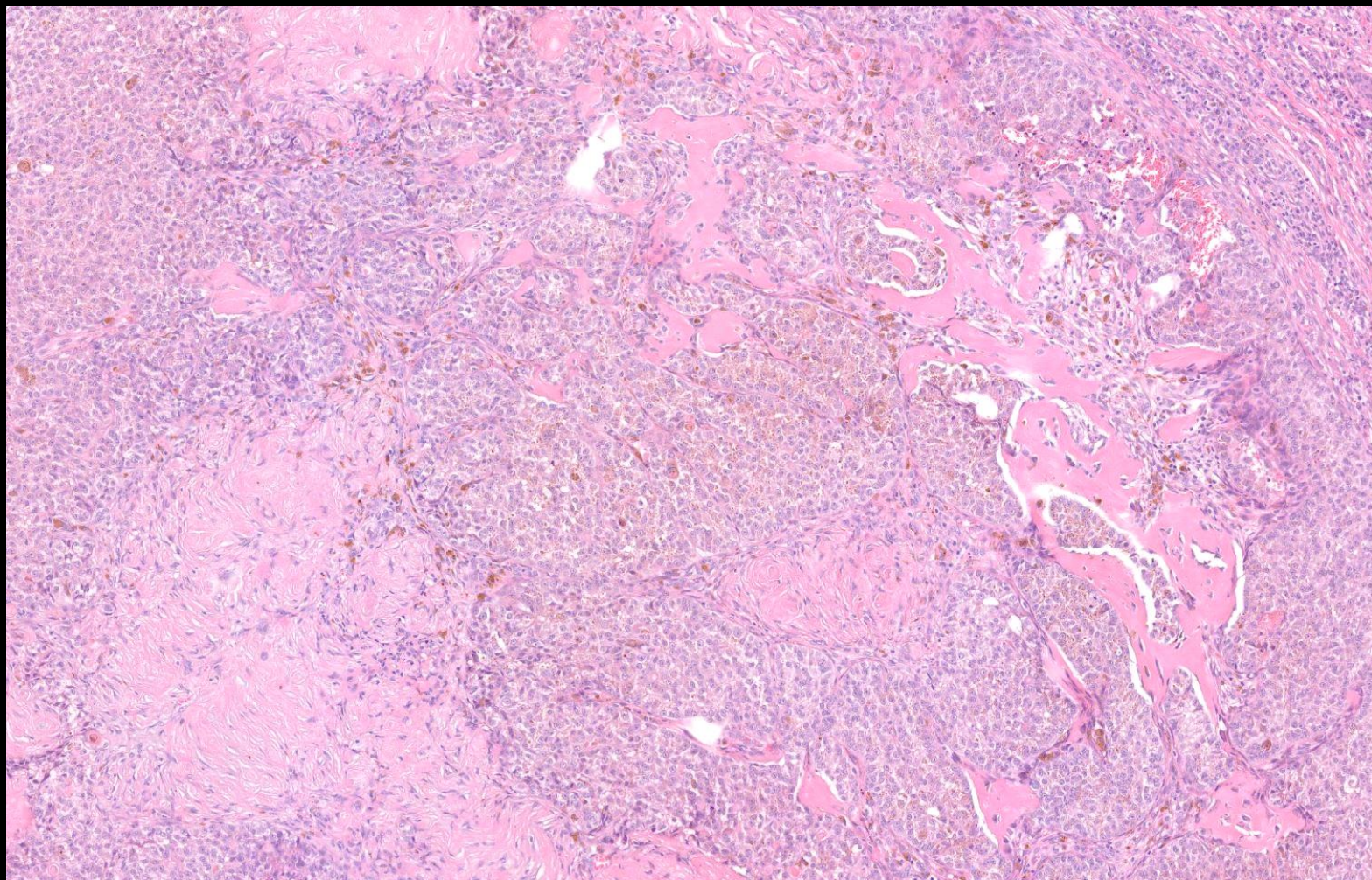
Male 72 years

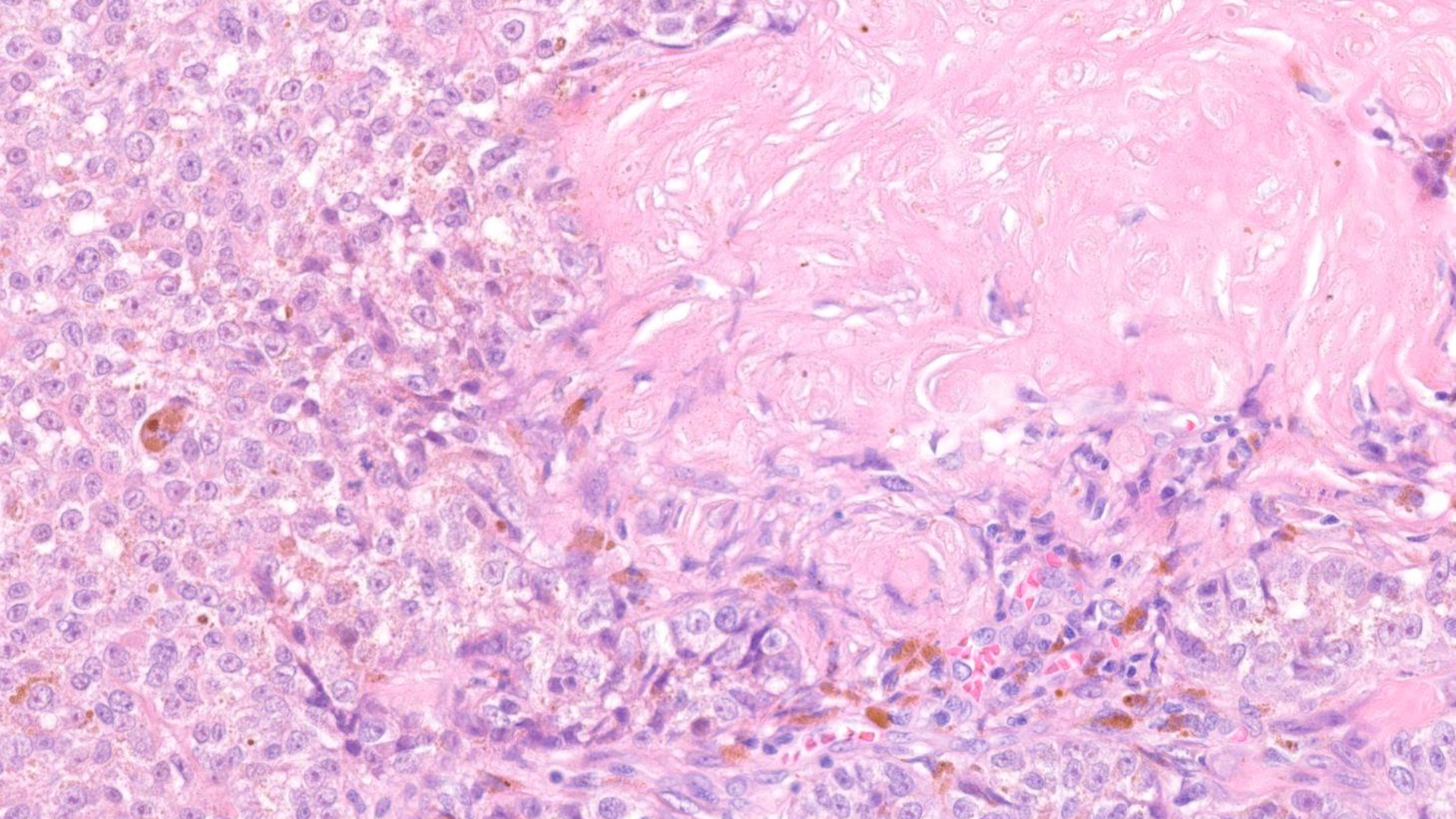
Lesion on his left cheek ? BCC

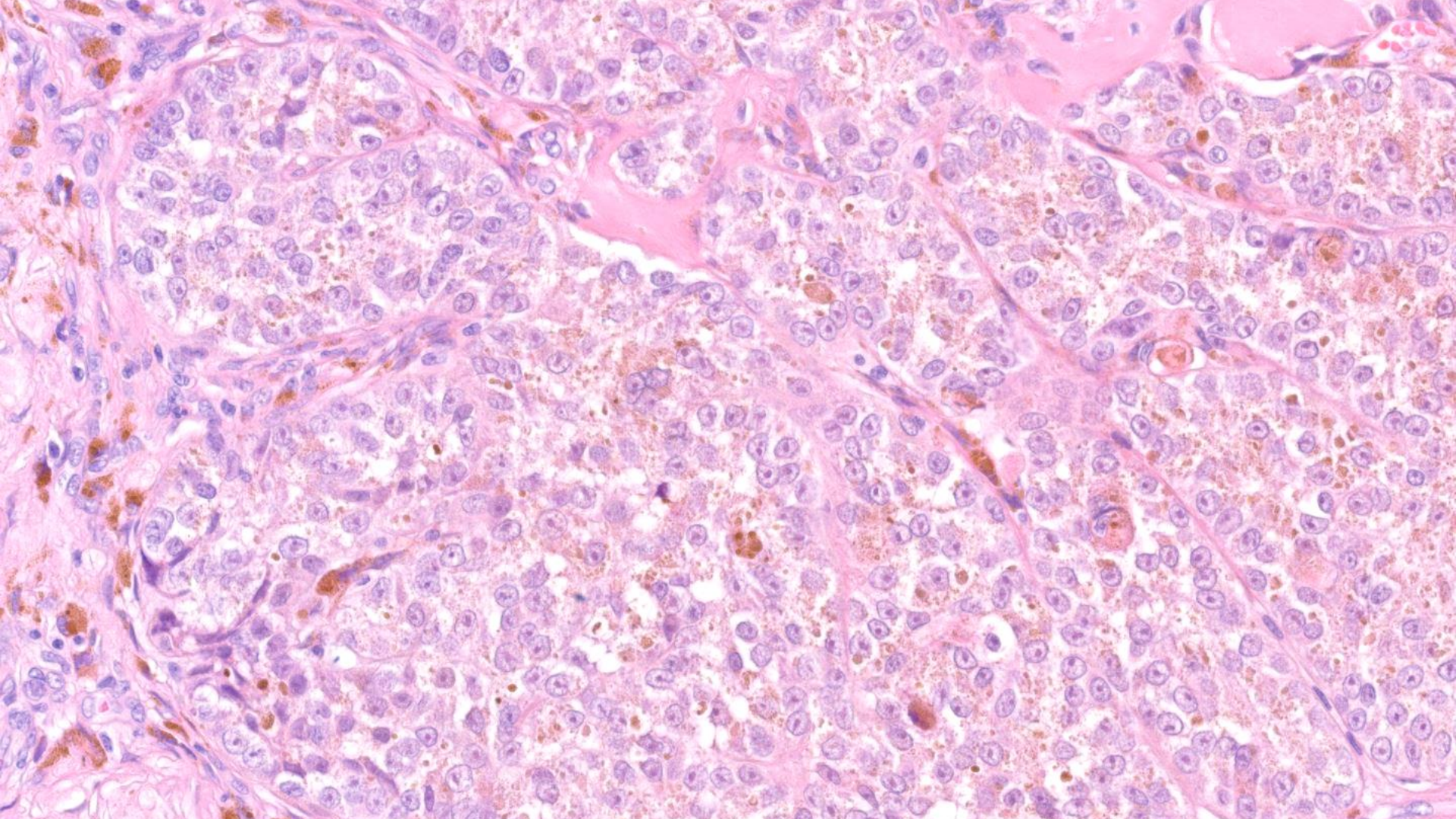
- A) Basal cell carcinoma with matrical differentiation
- B) Pilomatrixoma
- C) Melanocytic matricoma
- D) Pilomatrix carcinoma

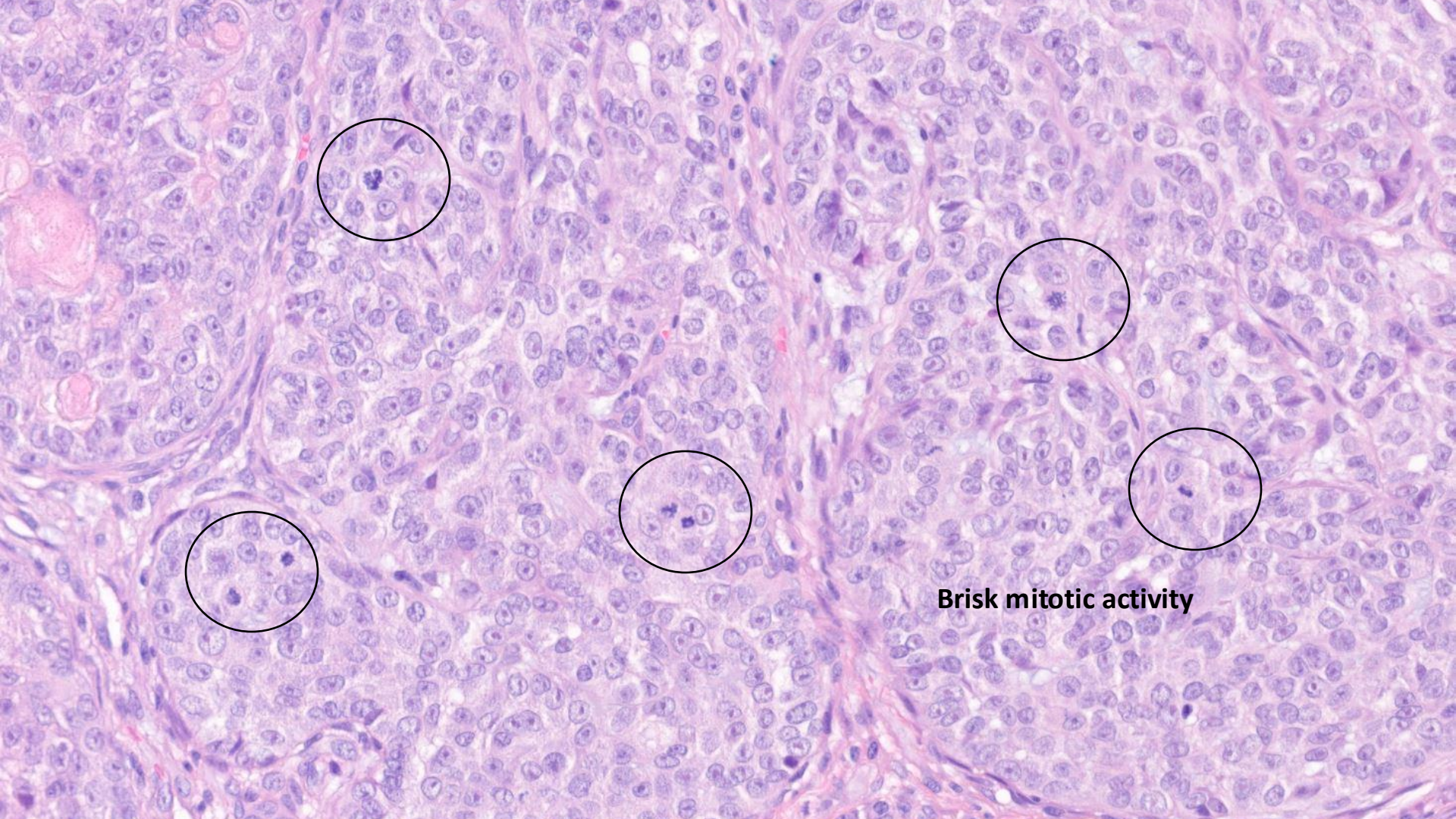




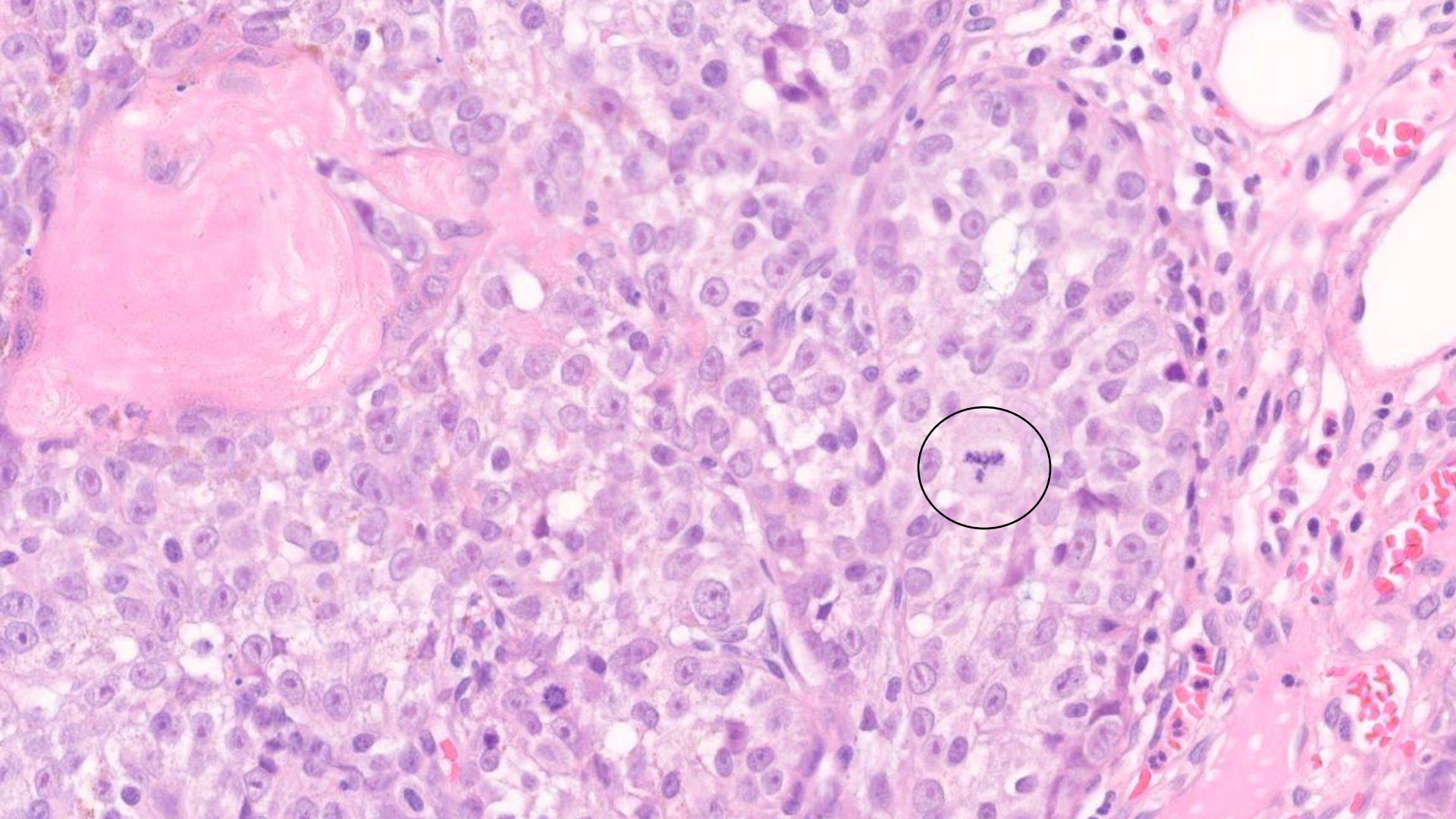


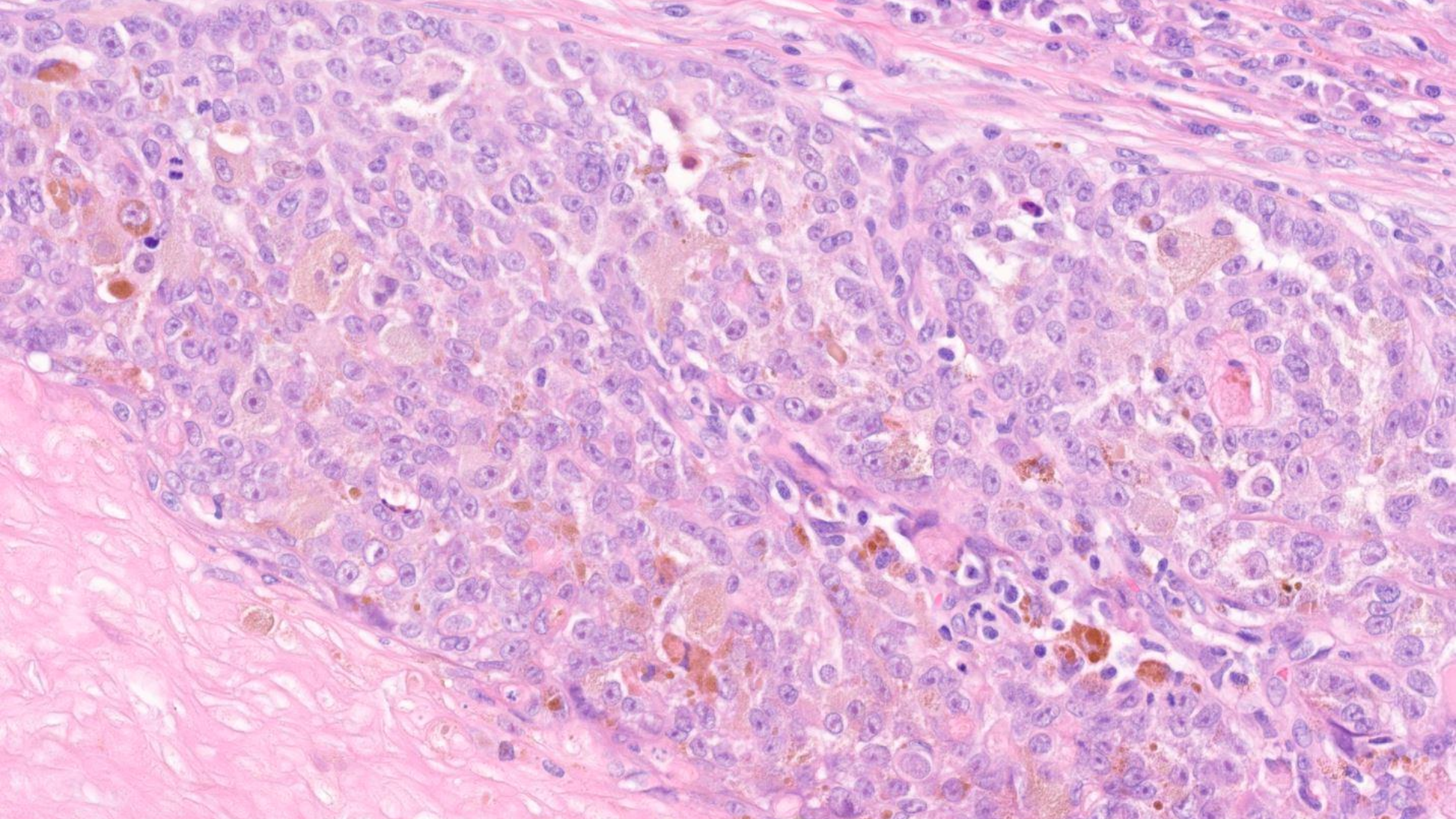






Brisk mitotic activity





Case 14

Male 72 years

Lesion on his left cheek ? BCC

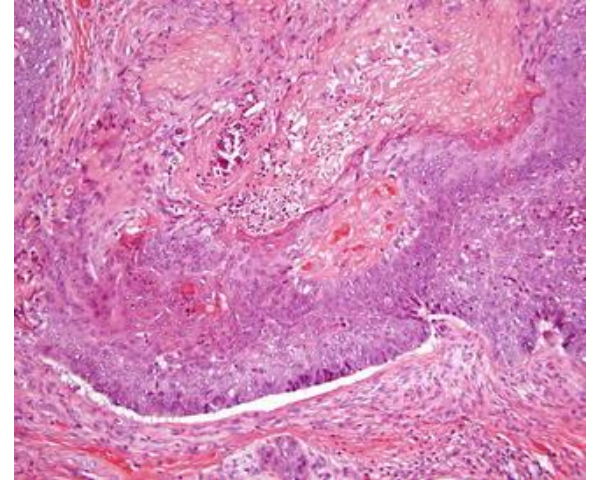
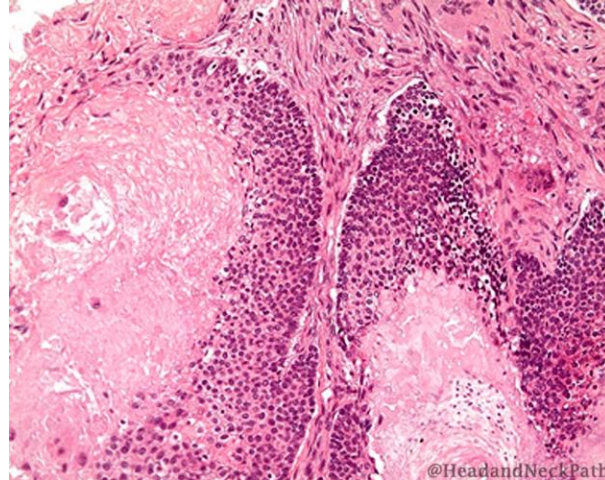
- A) Basal cell carcinoma with matrical differentiation
- B) Pilomatrixoma
- C) Melanocytic matricoma
- D) Pilomatrix carcinoma

Basal Cell Carcinoma with Matrical Differentiation

- Basaloid tumour with epidermal connection
- Peripheral palisading of nests with tumour-stromal clefts/mucin

➡ Abrupt transition to ghost cells

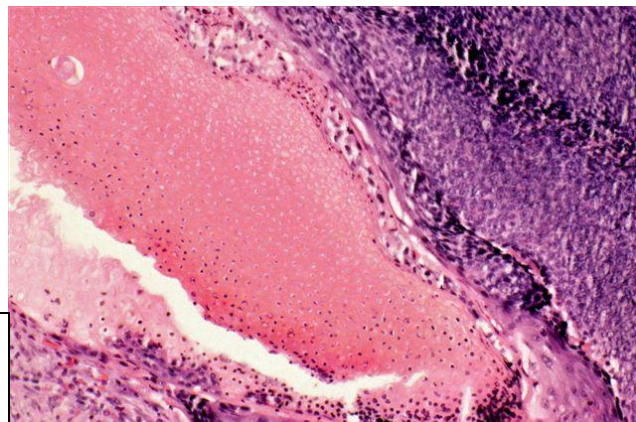
➡ BerEP4 positive...



Pilomatrixoma

(pilomatricoma, calcifying epithelioma of Malherbe)

- Benign lesion with differentiation toward the matrix of the hair follicle.
- Head, neck and extremities.
- 60% develop in first 2 decades.
- Have been reported with other abnormalities (myotonic dystrophy, Turner's syndrome, Gardner's syndrome).
- Do not recur.



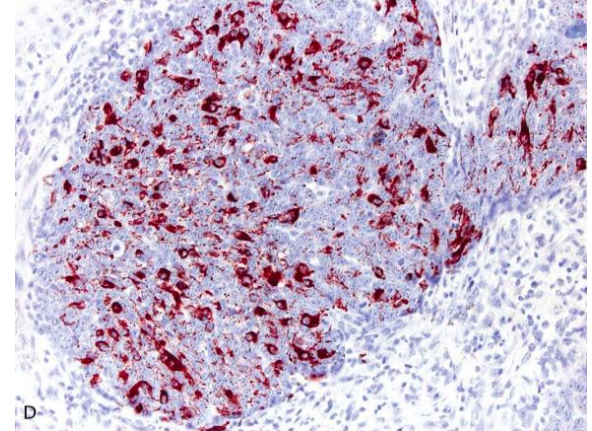
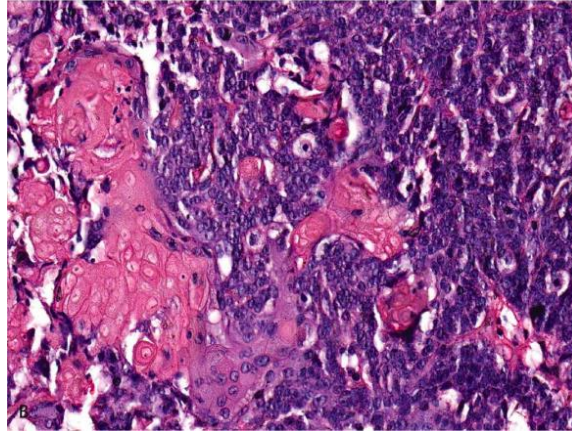
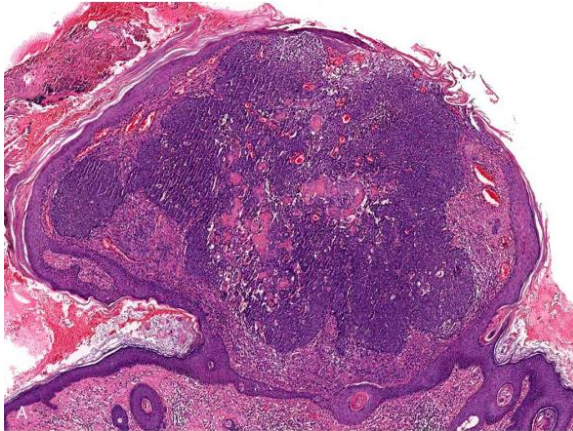
ORIGINAL STUDY

Where Pigmented Pilomatricoma and Melanocytic Matricoma Collide

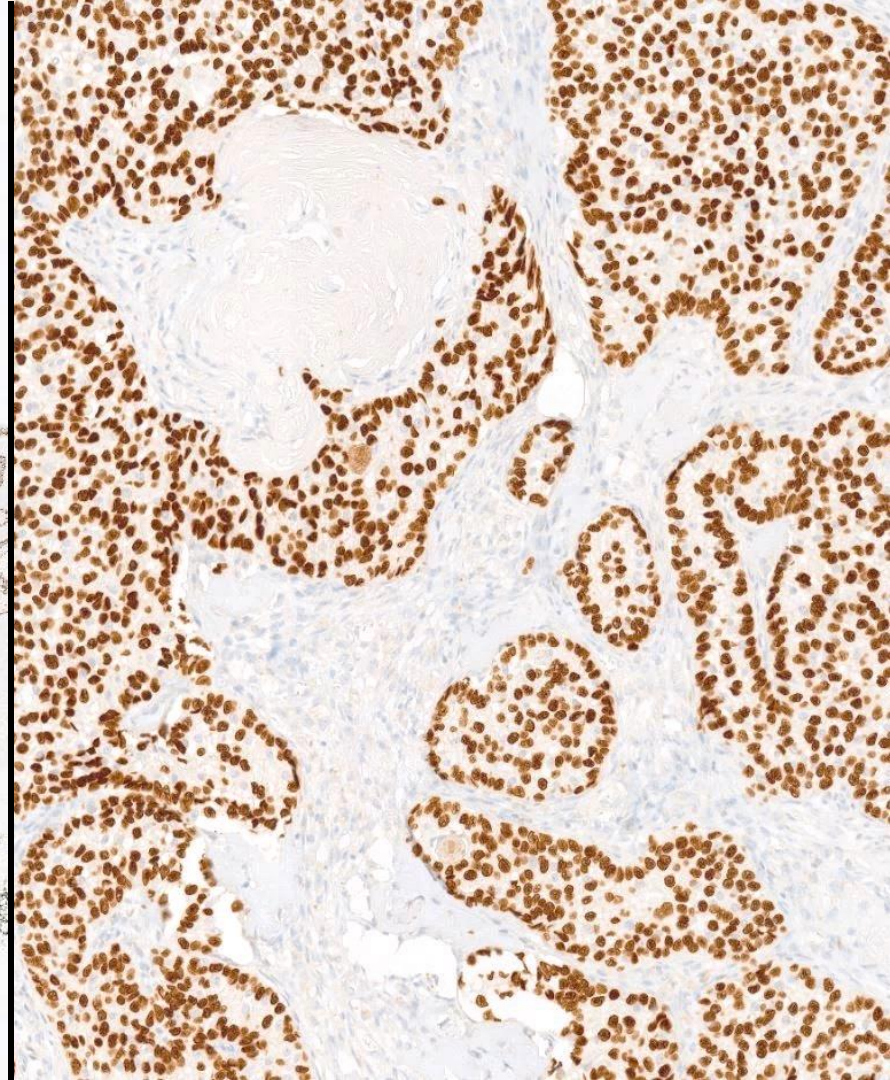
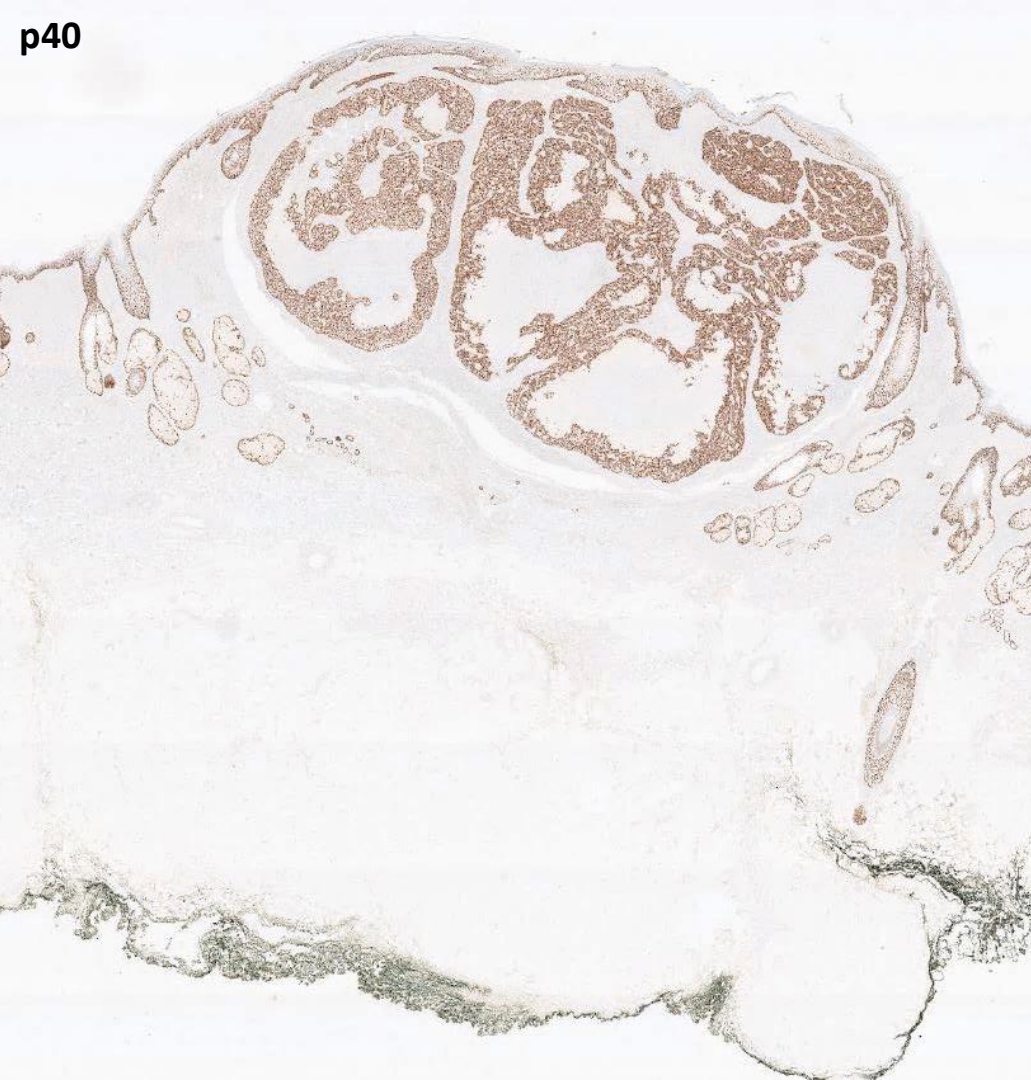
Ben Tallon, MBCHB† and Lorenzo Cerroni, MD**

Melanocytic Matricoma

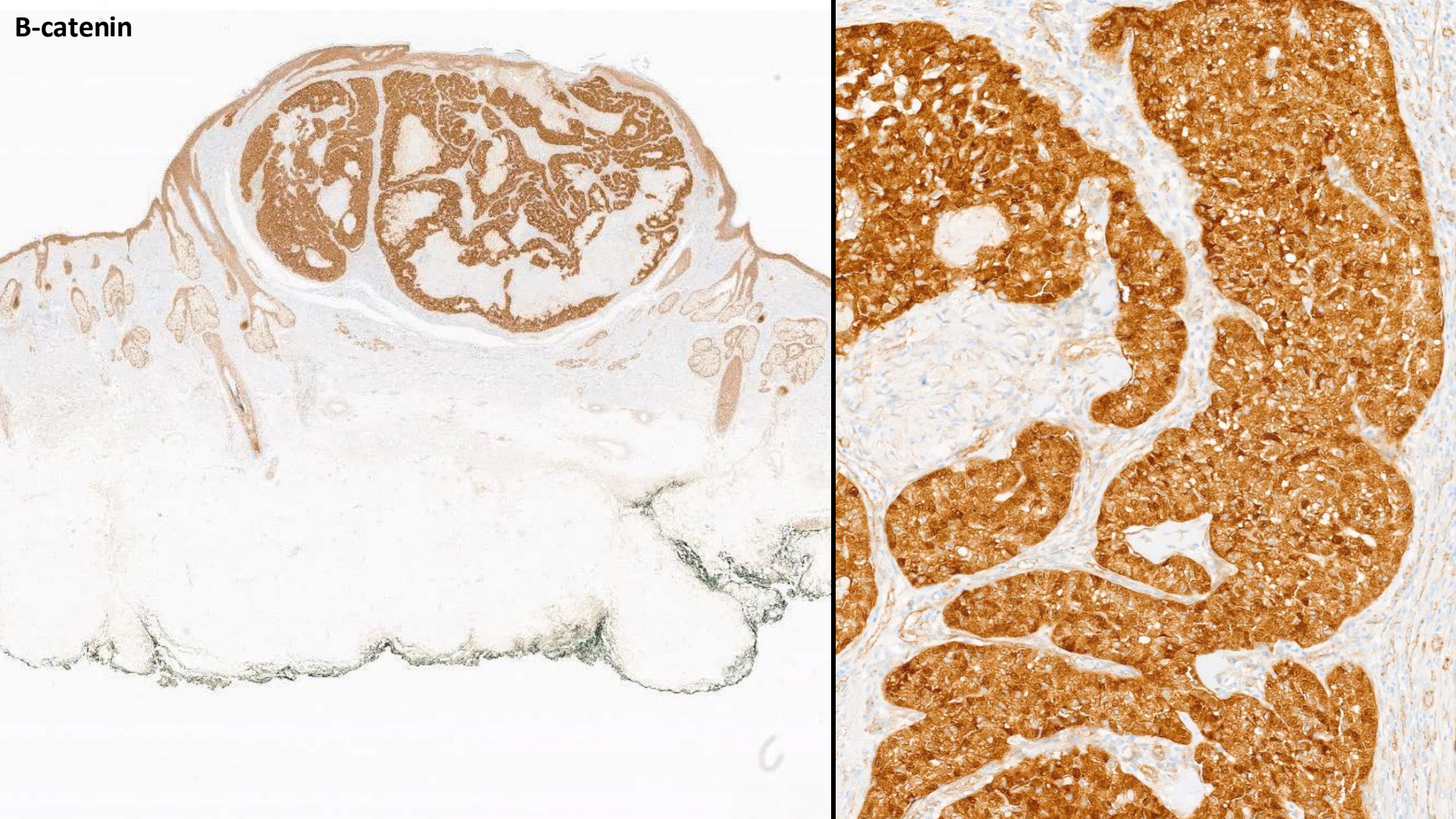
- Well circumscribed dermal tumour
- Asymmetrical pigmentation
- Solid nests and lobules of basaloid cells
- Remniscent of matrical and supramatrical cells
- Cytological atypia, mitoses, interspersed pigmented dendritic melanocytes and ghost cells
- Tumour of hair follicle
- approx. 20 cases described in literature
- Sun damaged skin of elderly
- Clinical differential: pigmented BCC, haemangioma, melanoma



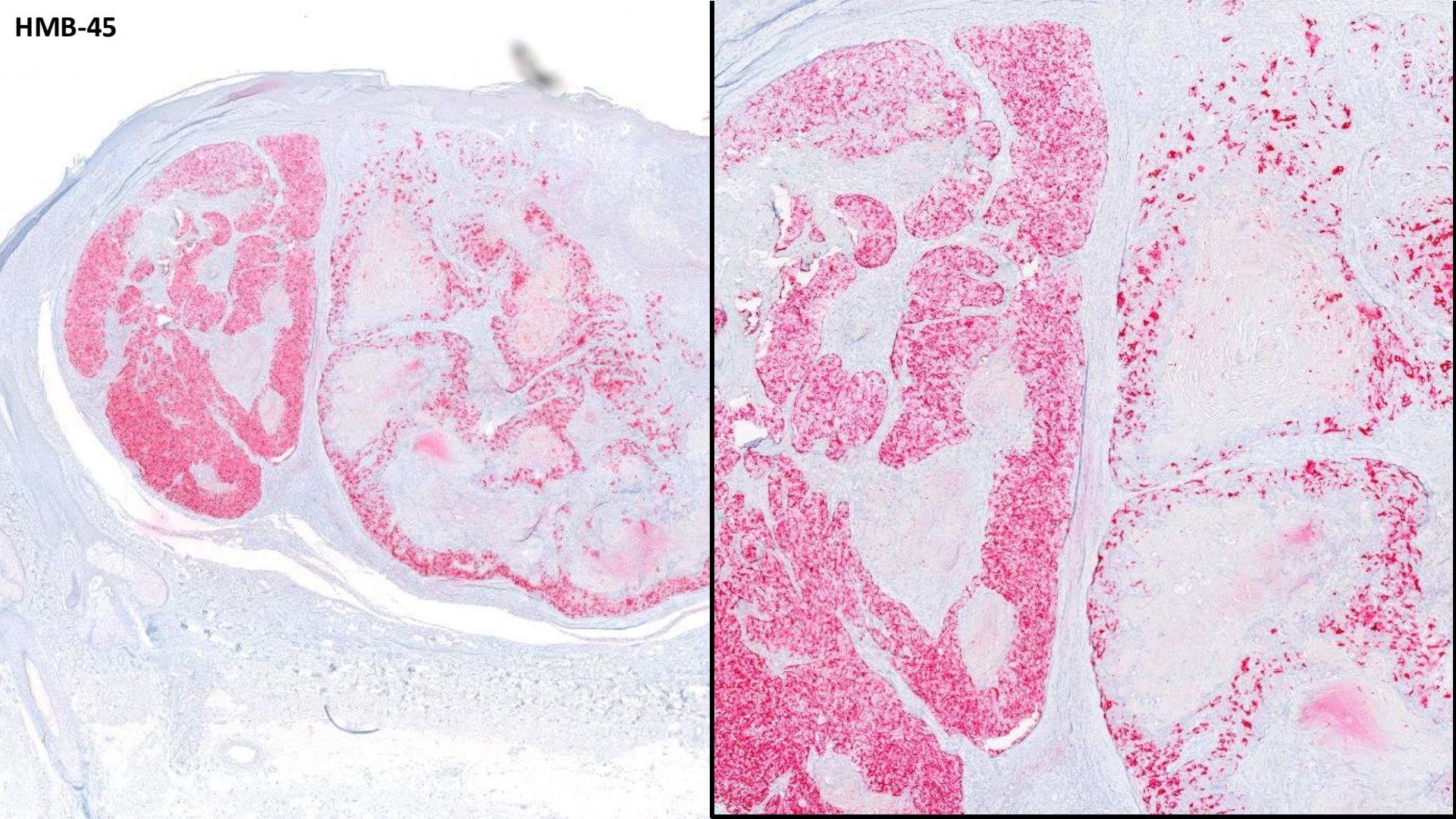
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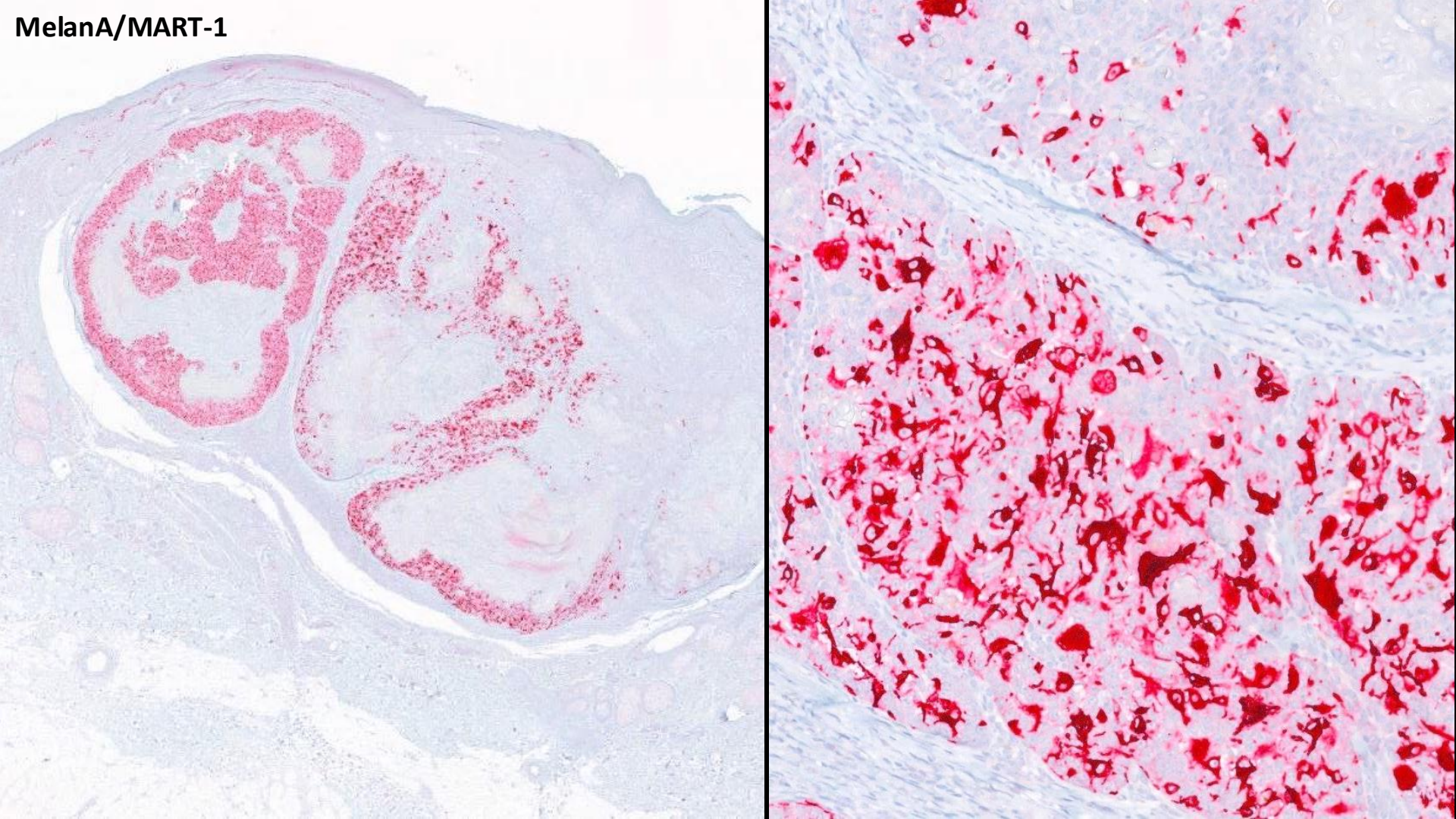
B-catenin



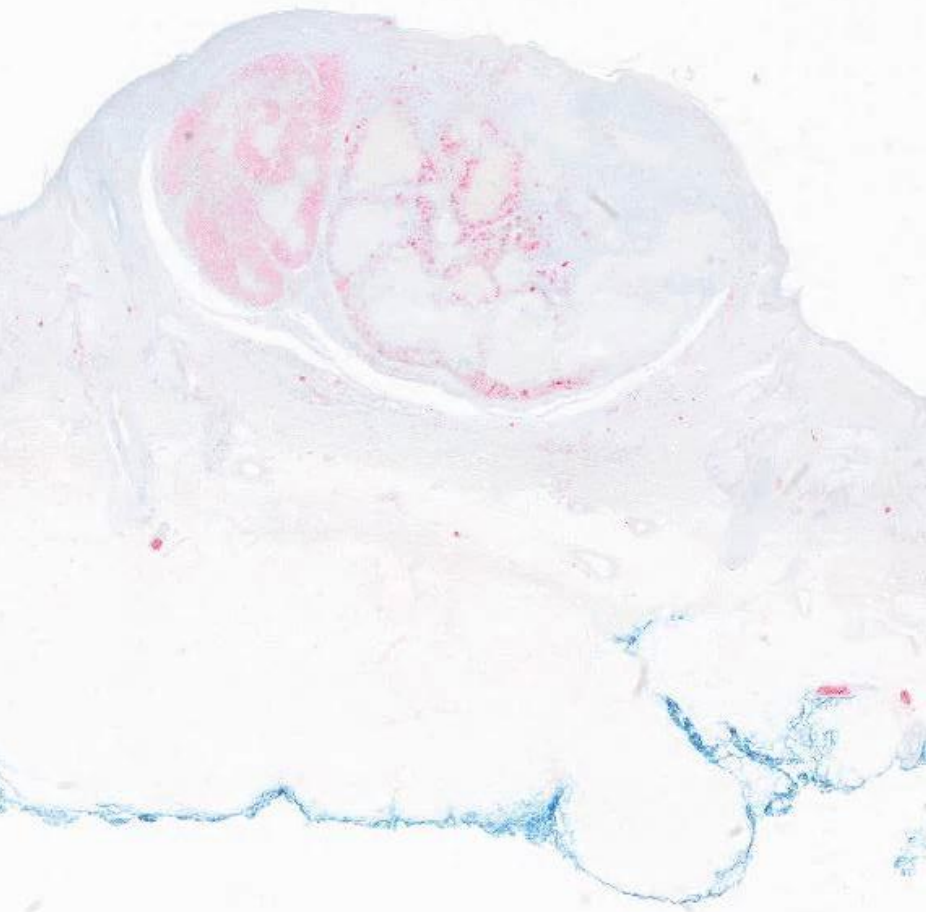
HMB-45



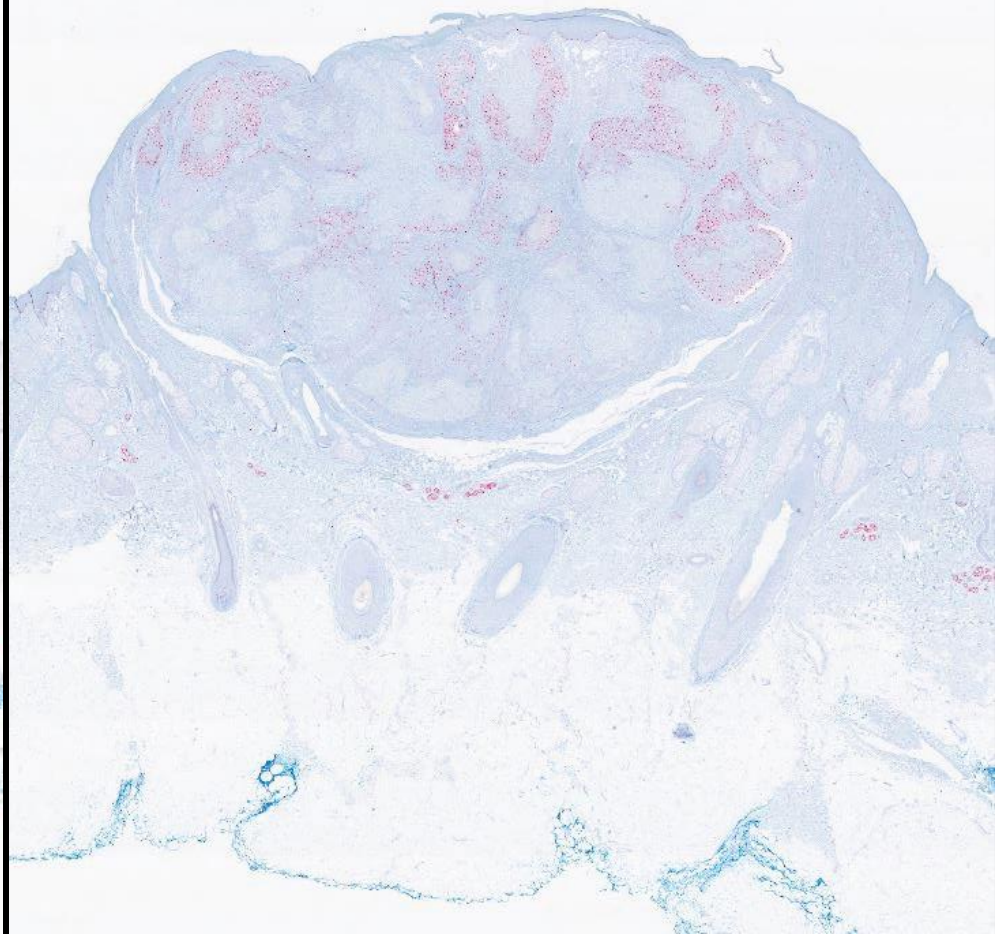
MelanA/MART-1

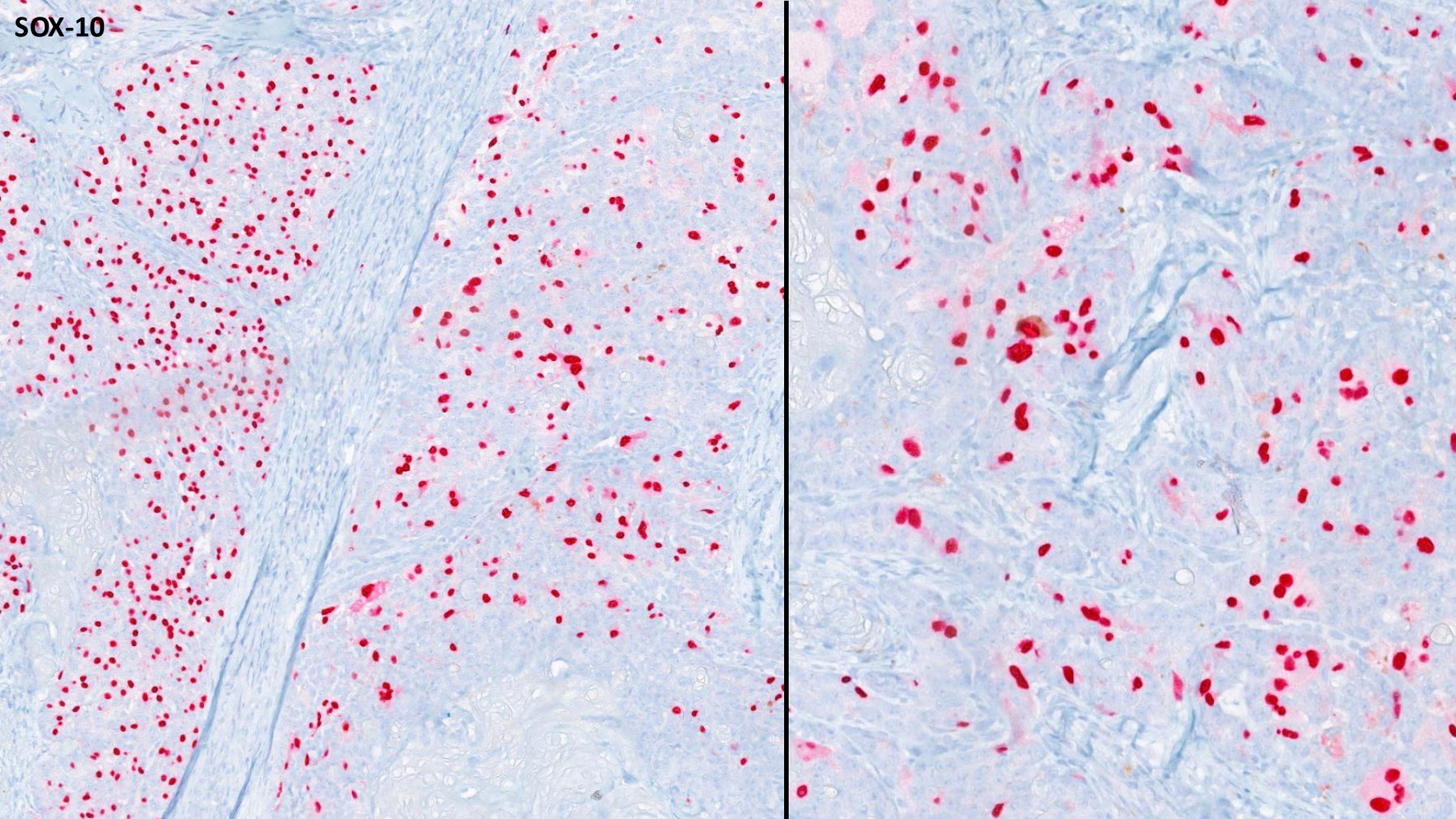


S-100

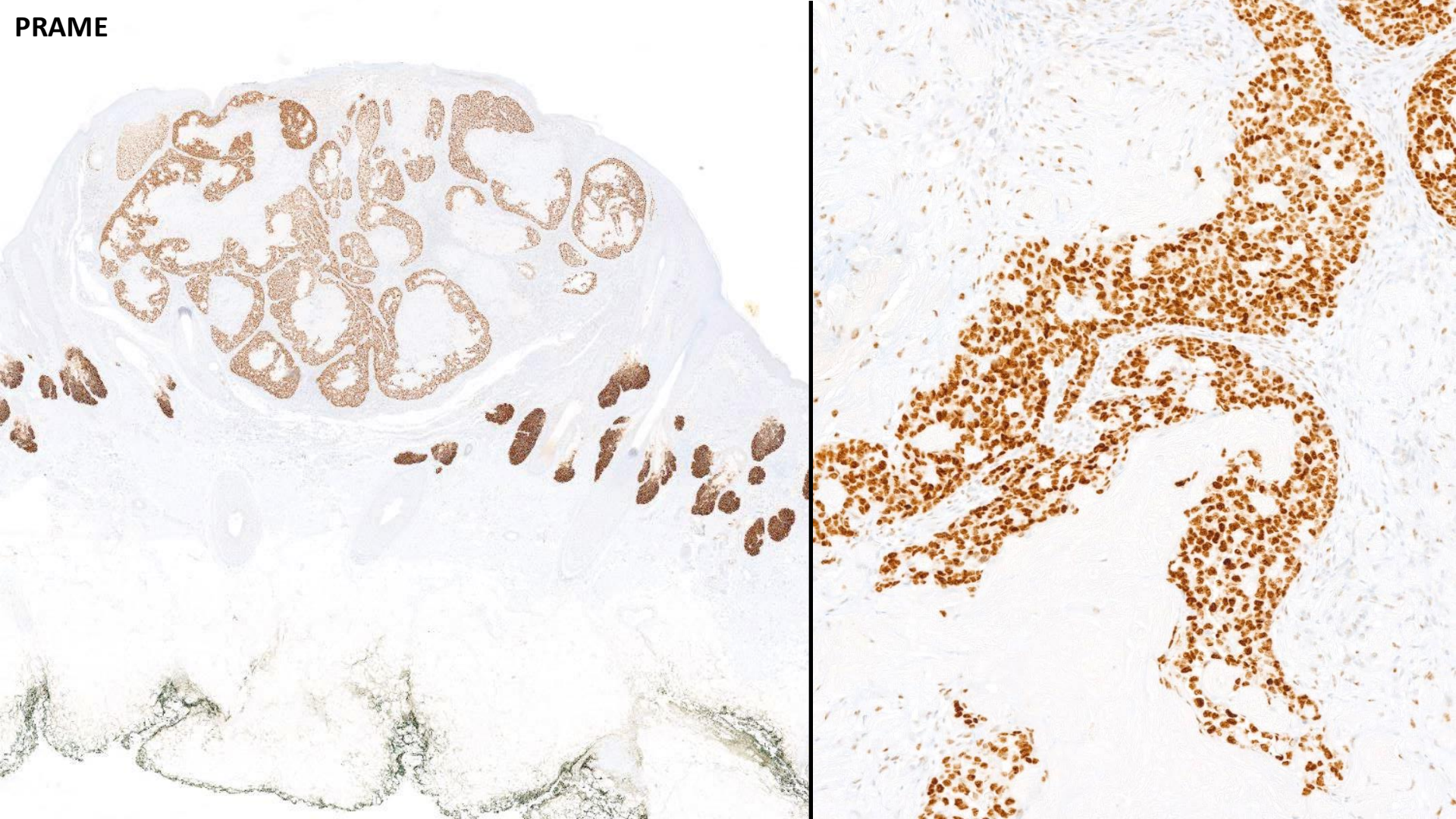


SOX-10





PRAME





CASE STUDY

Melanocytic matricoma: A report of three cases, review of the literature, and suggestion of a new terminology

Mary Ferrier ✉, Akhtar Husain

First published: 23 February 2022 | <https://doi.org/10.1111/cup.14217> | Citations: 4



Volume 49, Issue 7
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Melanocytic Matricoma with Melanocytic Atypia

- Exophytic neoplasm, predominantly matrical cells
- ▶ Matrical cells with mild pleomorphism & hyperchromasia
- ▶ Brisk mitoses in matrical cells
- ▶ Dendritic and epithelioid melanocytes, single ± nested
- ▶ Melanocytes with increased nuclear size, vesicular nuclei, prominent nucleoli, mitoses
- Melanocyte hyperplasia along DEJ in first case

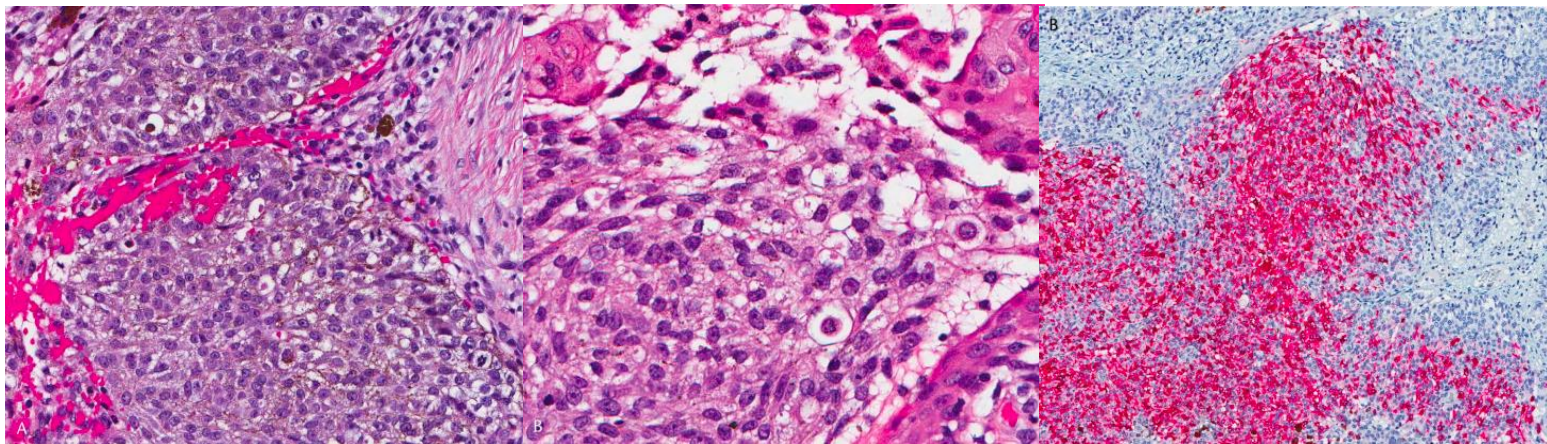
EXTRAORDINARY CASE REPORT

Melanocytic Matricoma With Melanocytic Atypia: Report of a Unique Case and Review of the Literature

Jamie Zussman, MD,* Sachiv Sheth, MD,† Seong H. Ra, MD,† and Scott W. Binder, MD*†

Melanocytic matricoma with melanocytic atypia: report of a new case

N. Barrado-Solis,^{1,*} P. Moles-Poveda,¹ M.J. Roca-Estelles,² E. Quecedo-Estebanez,¹ E. Gimeno-Carpio¹
Departments of ¹Dermatology, ²Pathology, Arnau de Vilanova Hospital, Valencia, Spain



Malignant Melanocytic Matricoma

Features of malignant lesions:

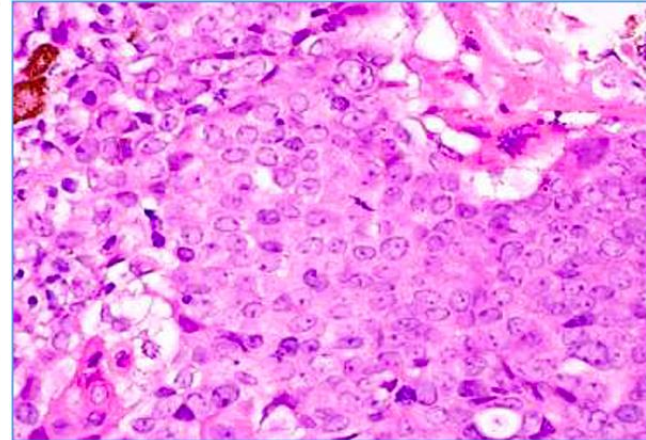
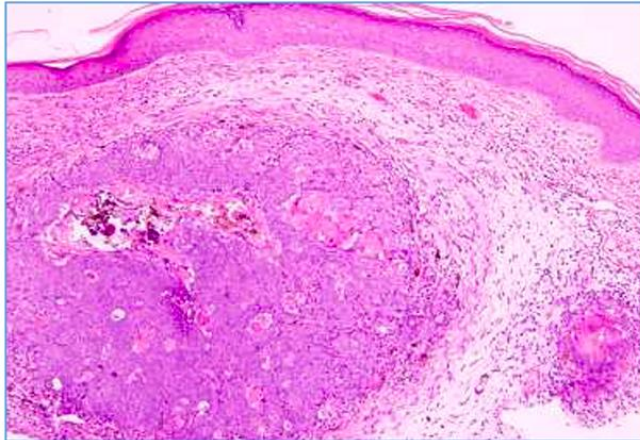
- Architecturally ill-defined – multiple nodules, infiltrating or pushing borders
- Focal necrosis
- ➔ Surface ulceration

Malignant Melanocytic Matricoma and Criteria for Malignancy

Colton B. Nielson, Vladimir Vincek*

Department of Dermatology, University of Florida College of Medicine, Gainesville, USA

Email: *Vincek26@dermatology.med.ufl.edu



Answer

- C – Melanocytic matricoma



Kieran O'Connor
PHOTOGRAPHY