

A scary nipple

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Pathological meeting

This case was presented at the on-line meeting on the ADOI platform held on December 15th 2021 by Dr Boggio.

Surgical pathologists attending the meeting: 62

Eleven surgical pathologists reviewed the slides before the meeting: 20 during the meeting.

Clinical data

A 36-year-old woman complained of the recent onset of an atypical, pigmented lesion on the left nipple. The patient, breast-feeding at the time of the biopsy, reported the sudden appearance of an irregular pigmentation soon after the application of silver nursing cups (Figure 1).

The lesion was 7 mm in extension. Dermoscopy showed an asymmetric and polychromatic lesion composed by a homogeneous black structureless area, focally a blue grey area, small irregularly black to brown pigmented areas and few dots. (Figure 2).

A preliminary incisional biopsy was performed to confirm the melanocytic nature and to exclude silver salt skin deposits.

Subsequently complete excision of the lesion was performed.

Histopathology

Virtual slides are available at:

<https://www.dropbox.com/sh/wkaz7lc1jvr72h0/AABXofrCeMJYlLhBOjIVgFUKa?dl=0>

Description

In both histological specimens the skin was characterized by irregular epidermal acanthosis with mild basal layer hyperpigmentation (Figure 3) and mild fibrosis with prominent collections of melanophages.

In this contest a focal lentiginous junctional melanocytic proliferation, with occasional confluence in small nests, was present, together with few dermal melanocytes showing signs of maturation through the dermis. No significant atypia, mitosis or pagetoid spread were noted (Figure 4A).

Immunohistochemistry

Positivity for Melan A and HMB45 (in the intraepidermal component Figure 4B).

Molecular biology

Not performed.

Virtual slides were reviewed by 11 surgical pathologists before the meeting (Table 1). The lesion was interpreted as a special site nevus (9), lentiginous melanocytic nevus (1), recurrent nevus (1).

Meeting real-time survey was performed by 20 surgical pathologists and the diagnoses were of lentiginous melanocytic nevus (1), common acquired nevus (5), combined nevus (1) and special site nevus (13).

Discussion

Areolar melanosis represents a benign lesion similar to the same condition described in the genital and mucosal areas.

This particularly rare lesion is frequently observed among pregnant women as a pregnancy-induced phenomenon,¹ albeit reported in only a handful of reports.²

Histologically, areolar melanosis is characterized by acanthosis, hyperpigmentation of basal layer with occasional melanocytes with evident dendritic processes and numerous melanophages in papillary dermis.

In this particular case, the above-mentioned microscopic features were also associated with a small symmetrical compound nevus.

The intraepidermal component was mainly made up of lentiginous melanocytes devoid of pagetoid upward spread.

The occasional cytological atypia and moderate fibroplasia in papillary dermis were coherent with site-specific modifications occurring in areolar nevi.

In this particular anatomical setting these features are frequently described together with occasional intraepidermal melanocytes above the basal layer. All these features may be related to estrogenic stimulation,³ and should not lead to an overdiagnosis of melanoma.⁴

The histological diameter of this melanocytic lesion was 2 mm and contrasted with its clinical appearance which was of a broader and irregular macule 7 mm wide.

The final diagnosis was of a small melanocytic nevus arising in the contest of areolar melanosis.

Clinical and dermoscopic features of this condition are frequently worrisome and pose a diagnostic challenge on their own.⁵⁻⁷

Areolar melanosis broadens the spectrum of atypical, pigmented lesions occurring in genital and extragenital sites and pose a challenge both to the clinician and to the pathologist. Due to its atypical clinical and dermoscopic presentation, a histological confirmation is always required in order to rule out malignant melanoma.



Figure 1. Clinical presentation.

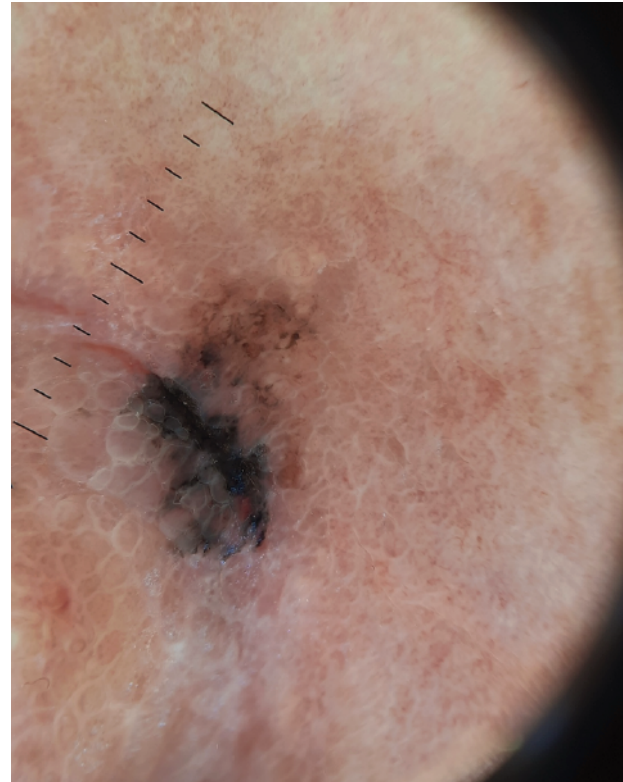


Figure 2. Dermoscopic features showing atypical pigment network.

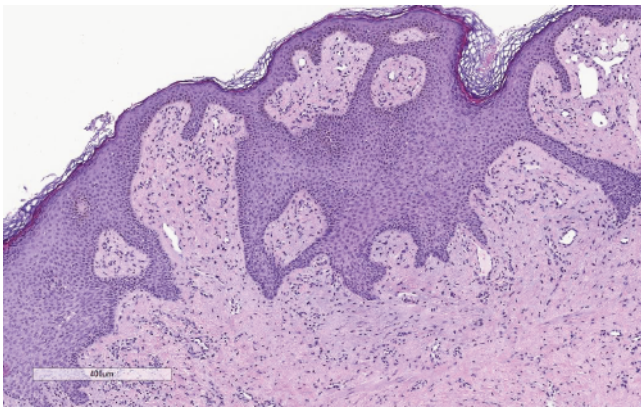


Figure 3. Acanthosis and pigmentation of basal layer without significant increment of melanocytes.

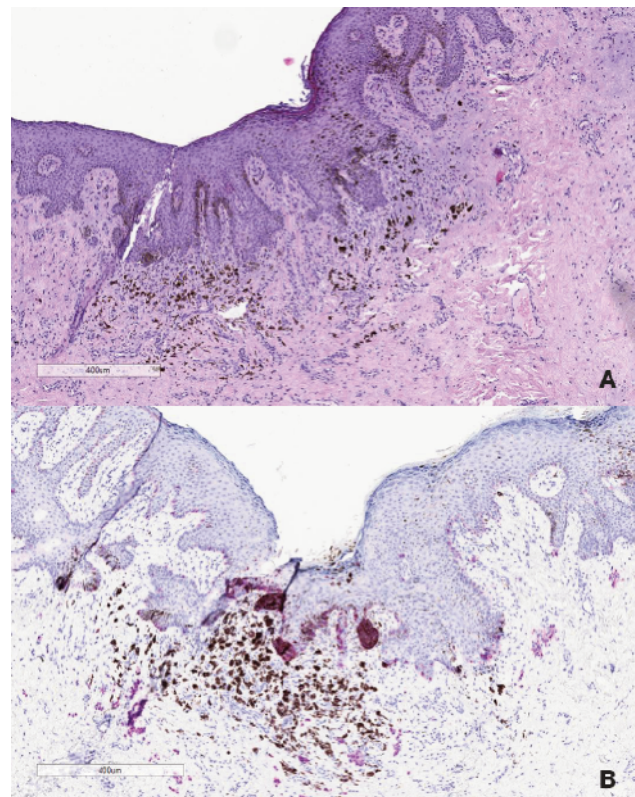
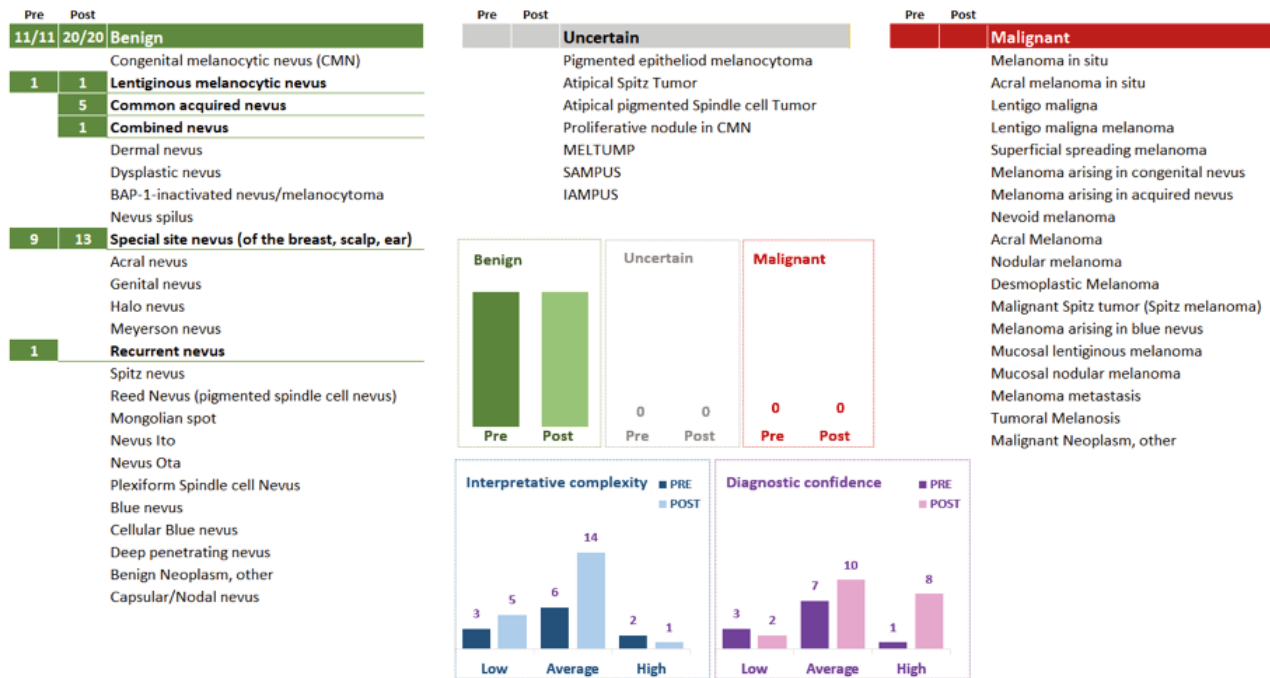


Figure 4. A) Compound nevus with junctional elements in a lentiginous fashion and small nests. B) HMB45 immunostaining.

Table 1. Results of the online discussion on the lesion.



Diagnoses: Pre - Before the meeting; Post - During the meeting. Interpretative complexity: Dark blue – Before the meeting; Light blue – During the meeting. Diagnostic confidence: Purple – Before the meeting; Pink – During the meeting.

References

- Wong RC, Ellis CN. Physiologic skin changes in pregnancy. *J Am Acad Dermatol* 1984;10:929-40.
- Isbary G, Coras-Stepanek B, Dyll-Smith D, et al. Five patients with melanosis of the nipple and areola clinically mimicking melanoma. *J Eur Acad Dermatol Venereol* 2014;28:1251-4.
- Ellis DL, Wheeland RG, Soloman H. Estrogen and progesterone receptors in melanocytic lesions. *Arch Dermatol* 1985;121:1282.
- Rongioletti F, Urso C, Batolo D, et al. Melanocytic nevi of the breast: a histologic case-control study. *J Cutan Pathol* 2004;31:137-40.
- Sceppa JA, Smith BL, Marghoob AA, Gottlieb GJ. Melanosis of the areola and nipple. *J Am Acad Dermatol* 2008;59:S33-4.
- Antonov NK, Bosenberg MW, Halasz CL. Melanosis of the areola and nipple with an atypical pigment network. *Int J Dermatol* 2016;55:811-3.
- Isbary G, Coras-Stepanek B, Dyll-Smith D, et al. Five patients with melanosis of the nipple and areola clinically mimicking melanoma. *J Eur Acad Dermatol Venereol* 2014;28:1251-4.