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Being a Mole Spy: A Resilient Job (An Interesting Case Report)

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Abstract: ***Context: Complicated Pigmented lesions of skin has always been a pathologists' nightmare. Distinguishing benign nevi from malignant melanoma using current histo - pathological criteria may be very challenging; large Congenital melanocytic Nevus (CMN) have a 2% to 42% risk of malignant transformation, with a 6% to 14% life - time risk of malignant melanoma. Case Report: We hereby present a case of 21 - year - old female patient admitted to our hospital with a mole on natal cleft area which had increased in size since last one year. Surgical excision was done and sent for Histopathological examination. Routine H&E showed a melanocytic lesion all over the dermis with heavy pigmentation, however, the epidermis appeared uninvolved. Bleach H&E along with IHC was performed for a definitive diagnosis of Congenital melanocytic nevus (CMN). Discussion & Conclusion: Congenital melanocytic nevi (CMN) are present at birth in 1% to 2% of newborns. Distinguishing benign nevi or Proliferative nevus (PN) from malignant melanoma is one the most difficult areas in dermatopathology and ancillary techniques should be used for confirmation of diagnosis. Ancillary techniques –Immunohistochemistry (IHC), In - Situ Hybridization (ISH) and Molecular & Genetic analysis provides a definitive diagnosis.***

Keywords: Congenital melanocytic Nevus (CMN), Melanoma, Proliferative Nevus (PN) Immunohistochemistry (IHC)

1. Introduction

Complicated Pigmented lesions of skin has always been a pathologists' nightmare. Distinguishing benign nevi from malignant melanoma using current histopathological criteria may be very challenging.1Appearance at birth or later of a nodular or hyperpigmented area within a CMN simulates malignant melanoma and prompts biopsy. Although their clinical and pathologic features seem ominous, Proliferative nevus (PNs) typically are benign and may regress, although atypical features cause greater concern.2Congenital melanocytic nevi (CMN) are present at birth in 1% to 2% of newborns, and large CMN have a 2% to 42% risk of malignant transformation, with a 6% to 14% life - time risk of malignant melanoma.3, 4

2. Case Report

A 21 - year - old female patient came with history of a Mole in Natal cleft area present since birth, but now increasing in size since last one year. The mole was not associated with pain, bleeding or ulceration. Also, a satellite nodule was present on the buttock 4 cm from the primary mole. Wide local surgical excision of the mole was done along with the satellite lesion and sent for histopathological examination.

Grossly, natal cleft lesion was 6.5 x 5 x 3 cm with overlying skin measuring 5.5 x 4.5 cm and the closest margin was posterior, around 0.8 cm. There was no evidence of ulceration or fungating growth. Cut surface shows blackish discoloration infiltrating the subcutaneous tissue (Figure 1). The satellite lesion was 3 x 2.5 x 2 cm with unremarkable cut surface (Figure 2).

H&E microscopy shows a neoplastic lesion. The neoplastic cells are spindled to epithelioid, heavily pigmented and arranged in fascicular and dendritic pattern having oval nucleus and moderately eosinophilic cytoplasm. There is presence of abundant melanin pigment and melanophages (Figure 3). Few areas show spindled nevus cells wrapping around skin appendages and seen dissecting dermal collagen with extension into subcutis (Figure 4). Bleach H&E was performed to remove the melanin pigment and observe the morphology of neoplastic cells (Figure 5). IHC was done using Mib - 1 and p16. The neoplastic cells expressed p16 while there was hardly any Mib - 1 labelling seen.

3. Discussion

Proliferative nevus (PN) with or without atypical features pose a challenge in clinical management and pathologic interpretation. These can be recognized both congenitally and later during infancy and early childhood.3, 5Normal melanocytes require a complex synergy of growth factors and mitogens for proliferation.6, 7, 11Analysis of cell cycle and proliferative markers Mib - 1, p16 (cyclin - dependent kinase inhibitor A) and c - myc in CMN and PN revealed many similarities and a few differences.6, 8Studies have mentioned a low mitotic rate and a low level of Mib - 1 proliferative activity in both lesions, but all of the atypical PNs displayed Mib - 1 reactivity, in contrast to only half of the CMN and the ordinary PNs.9, 10, 11However, most CMN lack p16 mutations, in contrast to malignant melanomas.10

4. Conclusion

In conclusion, Congenital melanocytic nevi (CMN) are neural crest - derived, benign proliferation of melanocytes originating in utero; occasionally simulate a malignant melanoma. In many CMN, mutations in the N - Ras gene have been shown, but not in the B - RAF gene, as characteristically occur in melanoma. Distinguishing benign nevi from malignant melanoma is one the most difficult areas in dermatopathology. Ancillary techniques – Immunohistochemistry (IHC), In - Situ Hybridization (ISH) and Molecular & Genetic analysis provides a definitive diagnosis.

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Conflict of interest: Nil

Ethical clearance: The study protocol was approved by the institutional ethical committee JN medical college Belagavi, Karnataka. All participants signed an informed consent form prior to taking part in the study.

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Figures

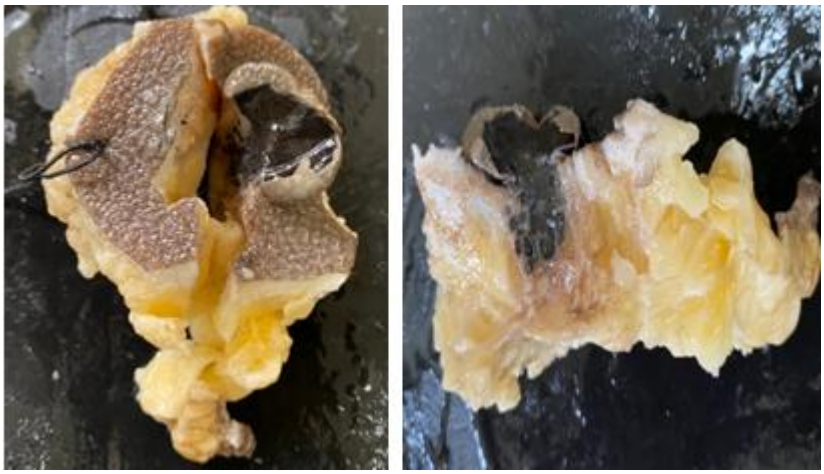

Figure 1: Gross picture of natal cleft mole

Figure 2: Gross picture of satellite lesion

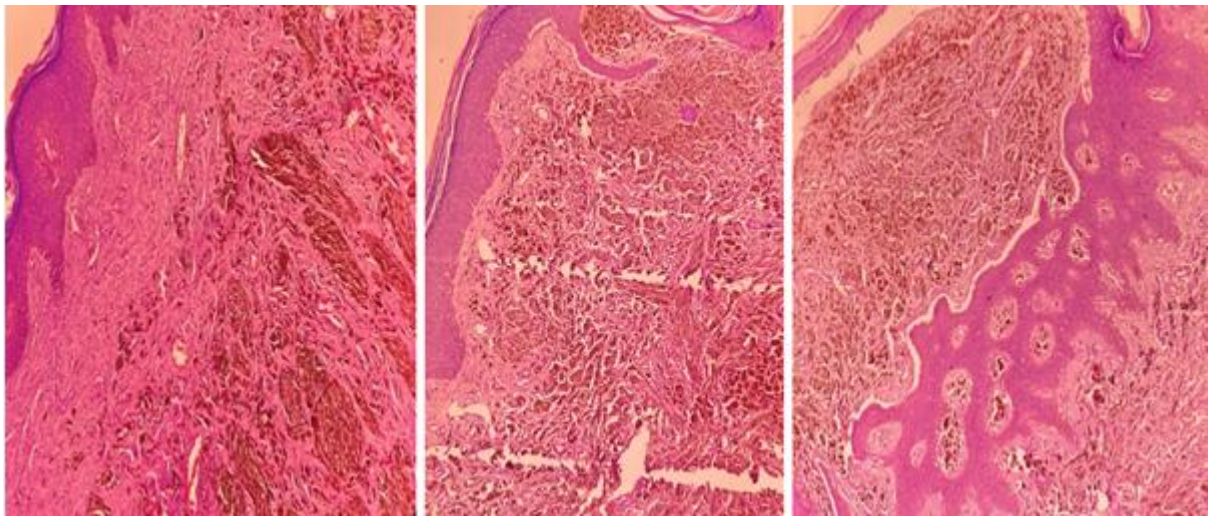

Figure 3: Microscopic images H&E

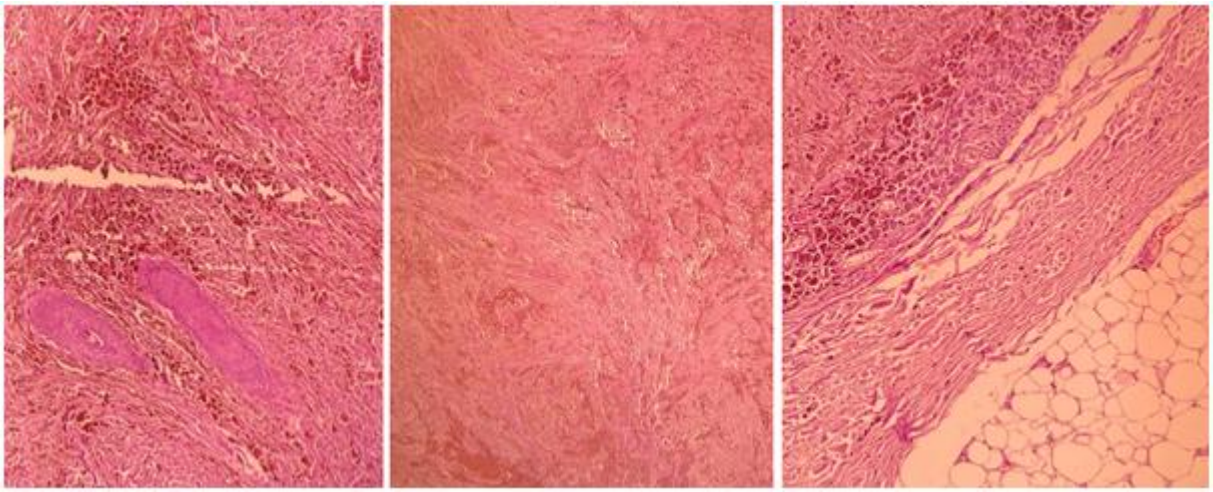

Figure 4: Microscopic images H&E

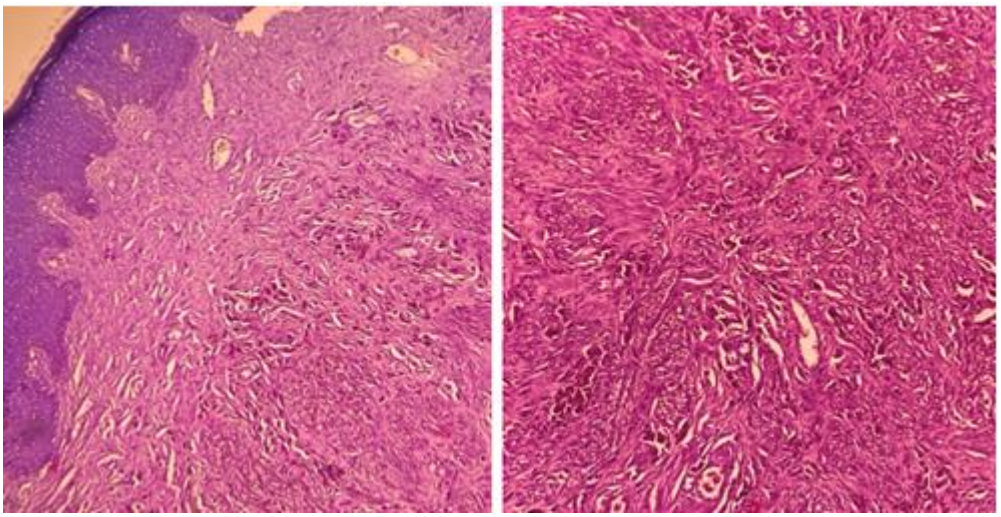

Figure 5: Bleach H&E