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Deep penetrating nevus: A case report

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Abstract
Introduction: Deep penetrating nevus (DPN), also known as the plexiform spindle cell nevus, is a distinct variant of melanocytic nevus occurs as a pigmented lesion that exhibits deep infiltration into the reticular dermis and remains a histopathologic challenge to pathologists because of its resemblance to malignant melanoma and other benign lesions. It often goes unrecognized due to its relative rarity.
Case presentation: Here we report a case of DPN of vulvar in an 11-year-old Moroccan girl. A brief review of the literature shows that histologically it can be differentiated from other entities, including malignant melanoma.
Conclusion: DPN can be misdiagnosed as malignant melanoma, hence the importance of recognizing its clinical, epidemiological and especially histological characteristics.

Keywords: deep penetrating nevus, rare clinical form, melanoma, dermatopathology

Introduction

Deep penetrating nevus (DPN) is a pigmented melanocytic nevus recently described. Clinically, DPN is a unique darkly pigmented papule on the face, head, neck, trunk, or proximal extremity, usually less than 1 cm in diameter. DPN is unrecognized due to its relative rarity and may be misinterpreted as malignant melanoma because it possesses histopathological features that may be alarming and can be mistaken. It should also be distinguished from other pigmented benign lesions as blue nevus, pigmented Spitz nevus, or congenital melanocytic nevus. We report a rare case of congenital DPN, describing its clinical, dermoscopic and histopathological features, which should be taken into consideration in cases of young patients presenting a new or changing darkly pigmented papule or nodule.

Case Report

We report a case of an 11-year-old Moroccan girl with no noticeable disease history, she denied a family history of melanoma or other skin disorders, admitted in dermatological consultation for a unique asymptomatic congenital pigmented lesion located on the large right lip which had increasing in size. Clinical examination found a smooth-surfaced, well-defined, darkly pigmented and slightly bluish nodule measuring approximately 15 mm long axis, firm in consistency [Figure 1]. No lymph node was observed. Dermatoscopy of the lesion showed a homogenous, dark-blue pattern with a distinctly hypopigmented area at the center [Figure 2]. A complete surgical excision was performed at the age of 11 years in the prepubertal period. The anatomopathological analysis found a symmetrical and circumscribed dermo-hypodermic melanocyte proliferation forming regular cell flows with abundant cytoplasm. It was not seen cytological atypia [Figure 3, 4]. Based in these morphological aspects, a diagnosis of deep penetrating nevus (DPN) was made.

Physical examination of the rest of the patient's body skin was without particularities. At 36 months of decline, no recurrence was noted [Figure 5].

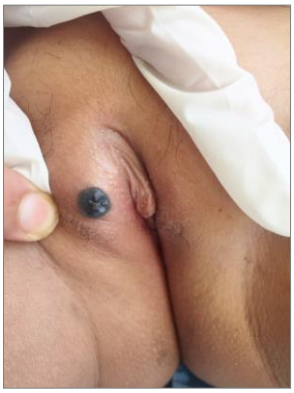

Fig 1: A 15 mm darkly pigmented and slightly bluish nodule of the large right lip

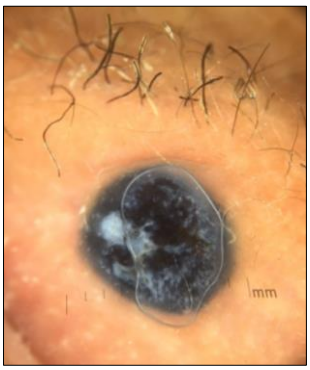

Fig 2: Dermatoscopy showing a homogenous, dark-blue pattern with a distinctly hypopigmented area at the center

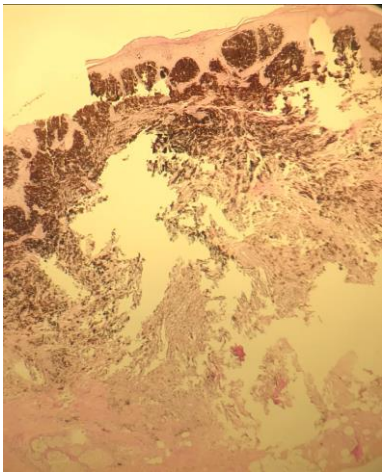

Fig 3: Melanocytic proliferation interesting the dermis and hypodermis with epidermal theca, presence of vertically oriented spindle-shaped epithelioid melanocyte nests extending into the reticular dermis (HES X 50)

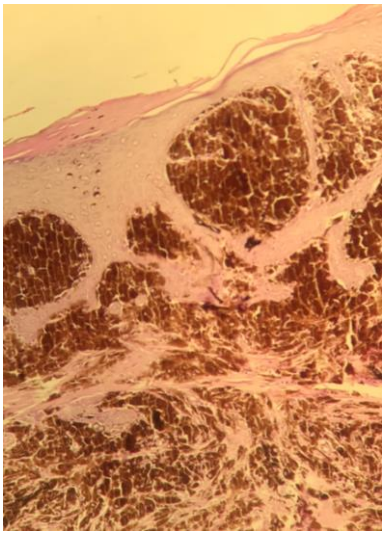

Fig 4: Proliferation is composed of rounded or oval cells with very intense pigmentation. (HESX100)

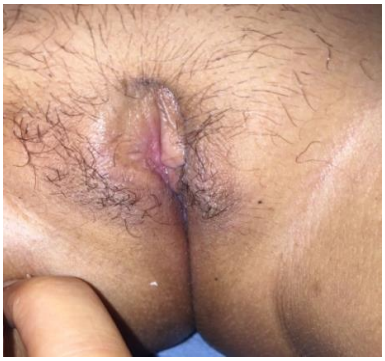

Fig 5: Clinical control after 36 months. no recurrence was noted.

Discussion

The "deep penetrating nevus" is a rare melanocytic tumor first described by Seab *et al*. in 1989 [1], who reported 70 patients with a darkly pigmented nevus composed of loosely organized nests of melanocytes with deep extension into the reticular dermis. The age of onset is broad ranging from 0 to 77 years, it is more common in young adults especially women under the age of 50 [2]. Congenital cases have been reported also one case of multiple deep penetrating nevi showing a linear distribution [3]. The most common clinical expression is that of a deeply pigmented (brown to black) papule, less than 1 cm in diameter, primarily located on the face, neck, trunk, and proximal extremities [4], less commonly, DPN occur on the lower extremities, and they have only rarely been described on distal extremities or mucosal surfaces [5]. The dermoscopic features of DPN have not been well established [6] Some authors described asymmetrical, regular, "negative" globular pattern with underlying homogenous blue-brown pigmentation [7] and polychromatic pattern (blue, brown and white) [8]. Histopathologically, DPN is a wedge-shaped deeply pigmented dermal and, rarely, subcutaneous lesion, with its base parallel to the epidermis and a subtle junctional component consisting of small round nests of typical melanocytes. In particular, unlike the blue nevus [9], whose cells have a rounded outline and are interspersed with rare melanophages; in addition, compared with other benign melanocyte lesions, the nevus cellularity is usually elevated in DPN patients. At higher magnification, nevus cells show pleomorphic nuclei with nuclear pseudoinclusions; mitotic activity is low or absent. Lesional cell nests tend to surround adnexal structures. When present, the inflammatory infiltrate is primarily composed of lymphoid elements [7, 10, 11].

The main differential diagnosis is melanoma, in 20% of cases but unlike melanomas, cells have little or no atypia, and mitoses are absent or very rare. Dermoscopic monitoring of these lesions, which is difficult, usually leads to a large surgical resection, especially in depth. Recurrences are very rare.

Conclusion

The DPN is a benign melanocytic lesion, which can mimic other lesions, most often malignant

Melanoma. In view of clinical and dermoscopic nonspecific data to establish the diagnosis, a histological study is always required.

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