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CASES FOR DIAGNOSIS

Polychromic and Indurated Lesion on the Forearm

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Clinical History

The patient was a 38-year-old man with no past history of interest, who was seen for an asymptomatic nodular lesion on the right forearm that had been present for several years; the patient referred an increase in size and change in color over the previous 6 months.

Physical Examination

A polychromic, nodular lesion, with reddish-brown and blackish-gray areas, and a diameter of 1.5 cm, with a hard consistency and fixed to the skin, was observed on the right forearm. The lesion was larger on palpation than it appeared to be on inspection (Figure 1). There were no palpable locoregional lymph nodes.

Histopathology

The lesion was completely excised and histological study was performed. This revealed a lesion composed of pleomorphic, melanocytic cells in the dermis, extending into the subcutaneous cellular tissue, with a well-defined, smooth border (Figure 2). The lesion was formed of epithelioid and fusiform cells that penetrated between the connective tissue fibers, surrounded the hair shafts, and infiltrated the eccrine glands and adipose tissue (Figure 3). No cellular atypia or mitotic activity was identified. Immunohistochemistry showed cells positive for S100 and Melan A and negative for HMB45.

The proliferative activity measured using Ki67 was less than 5% in both the superficial and the deep parts of the lesion.

What Was the Diagnosis?

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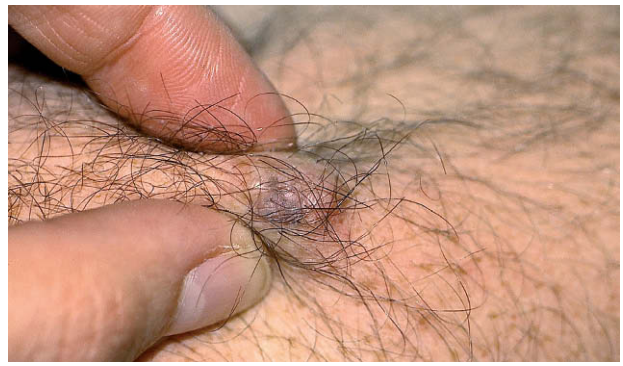

Figure 1.

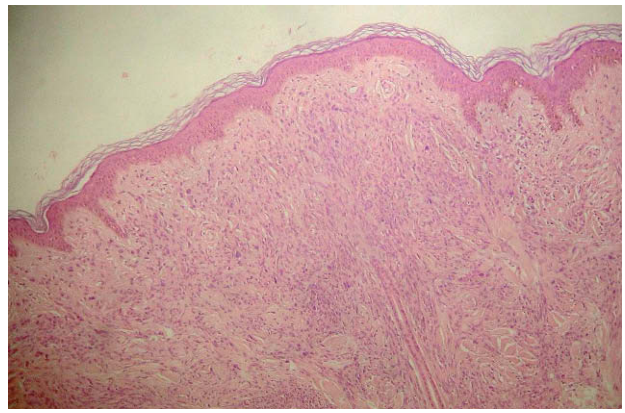

Figure 2.

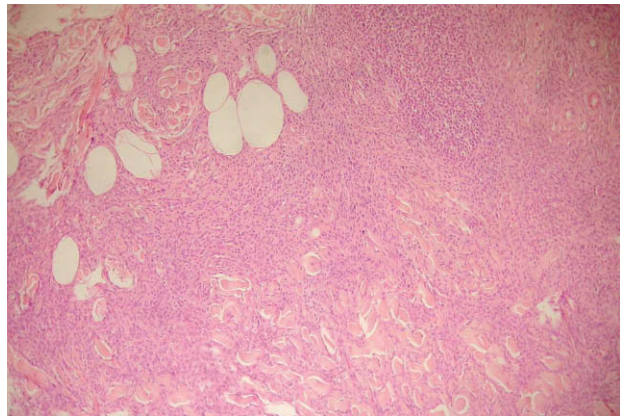

Figure 3.

Diagnosis

Deep penetrating nevus.

Clinical Course

After 1 year of follow-up, the patient has presented no local recurrence or locoregional lymph node disease.

Comment

The term deep penetrating nevus was first used by Seab et al[1] in 1989 to refer to a rare variant of acquired melanocytic nevus. It is characterized histologically by nests of pleomorphic melanocytes that penetrate deep into the reticular dermis and often invade the subcutaneous fat. In 1991, Barnhill et al[2] described plexiform spindle cell nevus with histological characteristics very similar to the deep penetrating nevus, and so the two terms are considered synonymous.

Clinically, the most common presentation is in the form of pigmented papules or nodules on the head, upper part of the trunk, or proximal part of the limbs in patients between 10 and 30 years of age; the prevalence is similar in both sexes. Simple excision is curative and recurrence is rare.

The majority of authors agree on the distinctive histological characteristics of deep penetrating nevus. However, some authors question whether it is a specific entity, considering it to be a form of combined nevus, as it shares certain clinical and histological characteristics with the cellular blue nevus, common blue nevus, and Spitz nevus, sometimes also finding elements of the common acquired melanocytic nevus.[3-5]

The lesions occasionally present cellular atypia and mitotic activity, characteristic of dysplastic nevi, although no author includes them in this group, as stated by Sanchez Yus et al[6] in their paper on this subject. Several authors highlight the fact that deep penetrating nevus is often confused with malignant melanoma, both clinically and histologically.[1-5,7] Elder and Xu[8] use the term melanocytic tumors of uncertain malignant potential to refer to proliferative melanocytic lesions that form tumors in the dermis and therefore have metastatic potential. Examples of these lesions include atypical Spitz nevus, deep penetrating nevus, possible nevoid melanomas, and cellular blue nevus, in which an increase in mitotic activity and cellular atypia sometimes prevents diagnosis of invasive melanoma from being ruled out.

Mehregan et al[9] stained 8 deep penetrating nevi with antibodies to proliferating cell nuclear antigen (PCNA) and found a low proliferative activity compared to melanoma.

With regard to the differential diagnosis with malignant melanoma, this latter lesion usually shows marked cellular and architectural atypia, whereas deep penetrating nevus does not present pagetoid extension of melanocytes, the epidermis is not usually thinned, there is no irregular acanthosis or fibroinflammatory reaction in the dermis, and PCNA is present in less than 5% of cells (in malignant melanomas it is found in 25-75% of cells).

Recurrence after simple excision is rare, although it has been reported in some series.[5]

In 1996, Graham[10] reported a single case of malignant deep penetrating nevus in a 23-year-old woman who had axillary metastasis and who remained disease-free 5 years after excision with axillary dissection.

The nevus in our patient showed morphological symmetry, no cellular atypia, mitotic activity, or nevoid component at the dermoepidermal junction were identified, and there was no dermal fibroinflammatory infiltrate; these characteristics support the benign nature of deep penetrating nevus.

Conflicts of Interest

The authors declare no conflicts of interest.

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