

Proliferative Nodule in a Congenital Melanocytic Nevus

Nódulo proliferativo en un nevus melanocítico congénito

To the Editor:

There are several benign lesions that may appear on conventional melanocytic nevi and clinically or histologically simulate malignant transformation while they actually behave in a benign manner.¹ These include proliferative nodules, which show a particular tendency to develop on giant congenital melanocytic nevi (although they are also seen on smaller lesions) and, to a lesser degree, on acquired nevi.²⁻⁷ Clinically, they tend to present as a recent change in the color of the central part of the nevus, although they can also occasionally appear on lesions with no recent changes.^{3,5,6}

Proliferative nodules show a benign biological behavior in spite of the architectural abnormalities they present and care must be taken to avoid confusion with melanoma. Identification is especially important in prepubertal children, in whom melanoma is very rare.⁷

We present the case of an 8-year-old boy referred to us with a congenital nodular lesion on the back of the left-hand. The nodule measured 0.8 cm in diameter, had well-defined borders, a smooth and shiny surface, and a brownish-pink color (Figure 1). The lesion appeared before the boy was 1 year-old and had grown in proportion with

the child, showing no recent changes. The patient reported occasional pain with trauma. The nodule had a rubbery consistency and Darier sign was negative.

Provisional diagnosis of a granular cell tumor, mastocytoma, adnexal tumor, or melanocytic lesion prompted complete removal of the tumor.

Histology revealed a dermal melanocytic proliferation in which the superficial stratum had the characteristics of a common congenital nevus, but with an extensive underlying area of greater cell density, less clearly defined margins, and with expansive nodular growth at the base (Figure 2A-C). The cellular composition of the deep section was heterogeneous, with small uniform cells alternating with areas of large cells with very few mitoses (Figure 2D,E). Immunohistochemical analysis showed generalized immunostaining for melan-A and reactivity for Human Melanoma Black-45 (HMB-45) limited to the large cells (Figure 2F). Immunostaining with Ki67 revealed a proliferation index of 1%. Based on these findings, a diagnosis of a proliferative nodule on a melanocytic nevus was made.

Proliferative nodules consist of the proliferation of a clone of melanocytes that make up the nevus, but that acquire a morphology that differs from the other cells predominant in the lesion. Although these proliferations occasionally present architectural alterations that can be confused with melanoma, they have a benign behavior.¹⁻⁶

Nodules can be identified under a microscope at a low magnification and there is a clear contrast between the cells that make up the nodule and the adjacent melanocytes predominant in the nevus. The nodules are generally located in the papillary or mid dermis, although they occasionally extend into the deep dermis.⁵



Figure 1 Clearly defined pink nodular lesion with a smooth surface, located on the back of the left-hand.

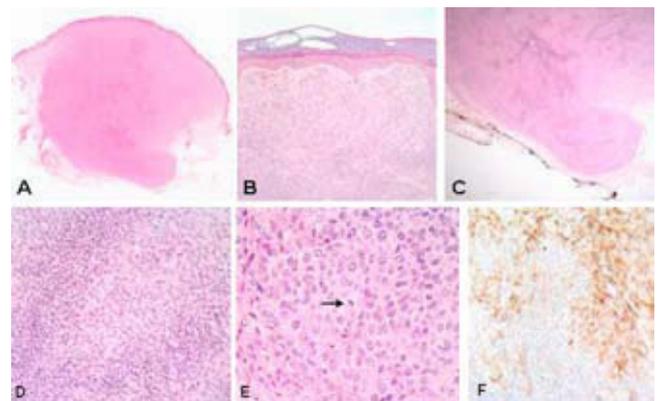


Figure 2 A-C. Dermal melanocytic proliferation with the characteristics of a common congenital nevus in the superficial component, but with an extensive underlying area of greater cell density, poorly defined margins, and expansive nodular growth at the base. D-E. The cell composition of the deep layers was heterogeneous. Small uniform cells alternate with areas of large cells with very few mitoses. F. Reactivity for human melanoma black (HMB) 45 limited to the population of large cells. Hematoxylin-eosin, A: $\times 1$; B: $\times 40$; C: $\times 25$; D: $\times 100$; E: $\times 400$; F: immunoperoxidase HMB-45, $\times 40$.

Two patterns have been described. The most common pattern is formed of 1 or several large, clearly defined nodules; the other pattern, observed in 25 % of cases, is for small compact collections of melanocytes distributed diffusely through the dermis in the form of fascicles mixed in with the other nevus cells.⁵ The cells forming the nodules are large, with epithelioid or fusiform morphology and slightly larger nuclei than the adjacent nevus cells.

Positive immunostaining for HMB-45 is associated with the presence of immature melanosomes (types I and II). Normally, in a congenital or acquired nevus, immunostaining decreases from the superficial to deeper areas. The presence of immunostaining in the proliferative nodule can only suggest that these cells have immature melanosomes.

The main differential diagnosis is with melanoma. The existence of marked pleomorphism, significant mitotic activity, necrosis, and the presence of a well-defined nodule suggest melanoma.⁸ Proliferative nodules, on the other hand, have uniform nuclei and no mitotic activity, necrosis, ulceration, hyperchromasia, patterns of destructive growth, or circumscription.^{2,5} Despite the fact that some cells may display a minimal degree of nuclear atypia, cell proliferation is low, as can be demonstrated by immunohistochemical analysis. In fact, the term 'proliferative' is used only descriptively, as the condition is not considered to be a true cell proliferation but rather a structural modification of the melanocytes that constitute the nodules as a result of their terminal differentiation.⁶

In conclusion, the presence of a nodular lesion and changes in color of a nevus should lead us to consider the possibility of a proliferative nodule, characterized by a benign nature.

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Value of Palmar and Plantar Biopsies of Hyperkeratotic and Vesicular Pustular Lesions: A Cross-sectional Study

Utilidad de las biopsias palmoplantares en lesiones hiperqueratósicas y vesiculopustulosas. Estudio transversal

To the Editor:

The differential diagnosis of hyperkeratotic and vesiculopustular lesions on the palms and soles is complicated and skin biopsy is occasionally used as a diagnostic tool. The main diagnoses are eczema, psoriasis (pustular and nonpustular), and mycosis.¹ There is treatment overlap between eczema and psoriasis² and topical corticosteroids are the first-line treatment.^{3,5}

We have performed a cross-sectional study reviewing pathology records from 1983 to 2006 in order to evaluate the usefulness of this practice. The sample included all biopsies from palms and soles associated with a clinical description of acquired hyperkeratosis or vesiculopustular

lesions suggestive of at least 1 of the following diagnoses: eczema, psoriasis, or mycosis. Only pathology results providing a definitive diagnosis were considered. Any result qualified by the statements: 'indicative of' or 'compatible with' was discarded as inconclusive. Initially, mycosis was established as the only diagnosis to implicate a change in treatment, although all the diagnoses were later reviewed to evaluate this possibility. Secondary morbidity was determined by means of telephone interviews with around half of the patients from the sample (36 patients biopsied in the last 15 years).

Our study aims to evaluate the usefulness of these biopsies in daily clinical practice, and we therefore did not review the clinical and microscopic findings but accepted the clinical and pathological criteria as correct.

The Stata 9.2 statistical package was used to analyze the figures. Confidence intervals (CI) were calculated using the binomial method. Our hospital accepted the study protocol.

We obtained 77 biopsies requested by 13 dermatologists: 41 from palms and 35 from soles (in 1 case the origin was not specified), 45 biopsies of hyperkeratotic lesions and 32 vesiculopustular lesions. The group of patients included 40 men and 37 women aged between 8 and 83 years. All the biopsies were evaluated by the same pathologist.