

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.

Table Pathology Results of Palmoplantar Biopsies

Pathology	No. of Cases (%)
Inconclusive	68 (88.3)
Psoriasis	2 (2.6)
Eczema	4 (5.2)
Mycosis	1 (1.3)
Others	2 (2.6)
	<ul style="list-style-type: none"> • Lichen nitidus • Damaged biopsy tissue

The results are presented in the Table. Only 10% of the biopsies and gave definitive diagnoses (95% CI, 5%-19%). The percentage of biopsies that led to a change in initial empirical treatment was low: 1.3% (95% CI, 0%-7%). In the interview, 14% of patients reported symptoms for more than a week after the biopsy (95% CI, 5%-29%).

We believe our study is the first to attempt to analyze the usefulness of palmoplantar biopsies in daily practice. There are few references to this issue in the medical literature. Requena⁶ recommended avoiding biopsy of psoriasiform lesions on the palms or soles if lesions were present on other areas of the body as palmoplantar psoriasis is more spongiotic and this may confuse the differential diagnosis with eczema. Thorman and Heilesen⁷ took 47 biopsies of palmoplantar pustules and only 3 cases showed clear signs of psoriasis.

In terms of morbidity, the medical literature makes frequent mention of the recommendation not to use surgery in plantar warts due to the high incidence of painful scars.⁸ Morbidity in our study was low. However, memory bias has probably affected the results of the telephone interviews and may have led to underestimation of morbidity. Adjustment for this bias would probably reduce the usefulness of these biopsies even further.

Our study also has the following limitations:

The definition of a result as 'inconclusive' was arbitrary and, to some degree, this oversimplifies dermatopathological evaluation of inflammatory skin conditions in which the need for good clinical-pathological correlation is well known. However, even if we had considered descriptions defined as 'indicative of' as conclusive, there would have been an increased proportion of definitive results but no impact on the percentage of changes of treatment as there was no uncertainty in relation to diagnoses of mycosis. Hence, these variations would not in fact lead to relevant changes in clinical practice.

There was no patient follow-up in terms of later appointments or evaluation of response to treatment, so the degree of concordance with the uncertain diagnoses could not be determined. However, response to treatment could not be used to determine the diagnosis in any case, as the same treatment is prescribed for both psoriasis and eczema—the 2 conditions that raise pathological doubt.

The same pathologist evaluated all the biopsies, removing the possibility of interobserver variability. Our pathologist is an experienced dermato-pathologist and is therefore assumed to have greater diagnostic capacity than a general pathologist. If the biopsies had been reviewed by several

general pathologists, the percentage of definitive results would probably have been lower, yet another reason to avoid such biopsies.

The small size of the sample indicates that we already do very few biopsies with these indications and this could be considered a limitation. In our opinion, the confidence intervals calculated for the main study variables are of similar clinical significance (conclusive biopsies, 5%-19%; changed treatment, 0%-7%). The sample size is adequate for these elements. However, the confidence interval for morbidity outcomes was broader (5%-29% reported discomfort) and reflects an insufficient sample size. Our sample was also too small to consider the less common diagnoses.

In conclusion, biopsies from palms or soles with hyperkeratotic or vesiculopustular symptoms have low diagnostic yield. For each change of treatment, 77 biopsies are required and 11 patients suffer discomfort for more than a week. Therefore, we recommend avoidance of this practice and the use of other diagnostic tools, such as direct examination with potassium hydroxide or culture. Once infectious causes are ruled out, empirical treatment is justified and biopsy should only be used where there is consideration of differential diagnoses in which clear histological differentiation can be expected.

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