

Pagetoid Dyskeratosis of the Palm with Parallel Ridge Pattern

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Abstract

Pagetoid dyskeratosis is a benign incidental pathologic finding. It clinically presents as a brownish macule, and histopathologic findings show pale cells resembling cells of Paget disease within the epidermis. Pagetoid dyskeratosis of the hand can mimic a malignant melanoma and should be included in the differential diagnosis of pigmented palmar lesions that show a parallel cutaneous ridge pattern on dermoscopy.

Keywords: Pagetoid dyskeratosis; Parallel ridge pattern; Malignant melanoma; Dermoscopy

Abbreviations

PD: Pagetoid Dyskeratosis; CK: Cytokeratin; CEA: Carcinoembryonic antigen; EMA: Epithelial Membrane Antigen; HMB-45: Human Melanoma Black 45

Introduction

Pagetoid dyskeratosis (PD) is an incidental pathologic finding that appears in several skin conditions. Etiology and pathogenesis of this condition are still unknown, although it appears to be related to recurrent friction over the area.

Case Report

An otherwise healthy 49-year-old Caucasian male was seen with a 4-months history of an asymptomatic focal brownish pigmentation on her left palm. He had not any personal or family history of palmoplantar keratoderma. There was no history of trauma or contact with chemical substances or dyes. He worked as a waiter and used the mop and the broom everyday.

Examination showed a dark brown, hyperpigmented macule measuring approximately 2 cm (Figure 1A). This hyperpigmented macule presented well-defined borders but not showed a linear appearance. Dermoscopic examination showed a parallel pattern of the cutaneous ridges (Figure 1B).

Incisional biopsy of the lesion revealed the presence of pale cells distributed throughout the epidermis, mainly in the upper part of the epidermal ridges. These large, rounded cells had a pale cytoplasm and a pyknotic nucleus surrounded by a clear halo, in a pagetoid pattern (Figure 2). Casts of dyskeratotic cells were identified in the stratum corneum at the level of epidermal ridges (Figure 3). There was no proliferation of melanocytes or melanin granules in the epidermis. Perl's iron stain was negative. Immunohistochemical analysis revealed

that pale cells were negative for CK-7, CK-20, CEA and EMA (Figure 4).

Based on this histopathological findings, the patient was diagnosed with pagetoid dyskeratosis of the hand. No treatment was performed.

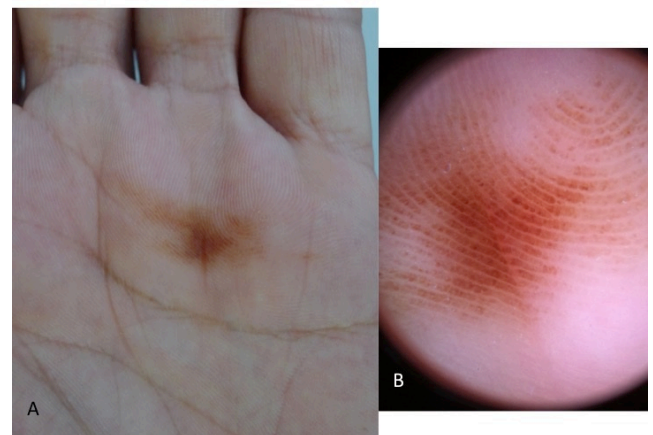


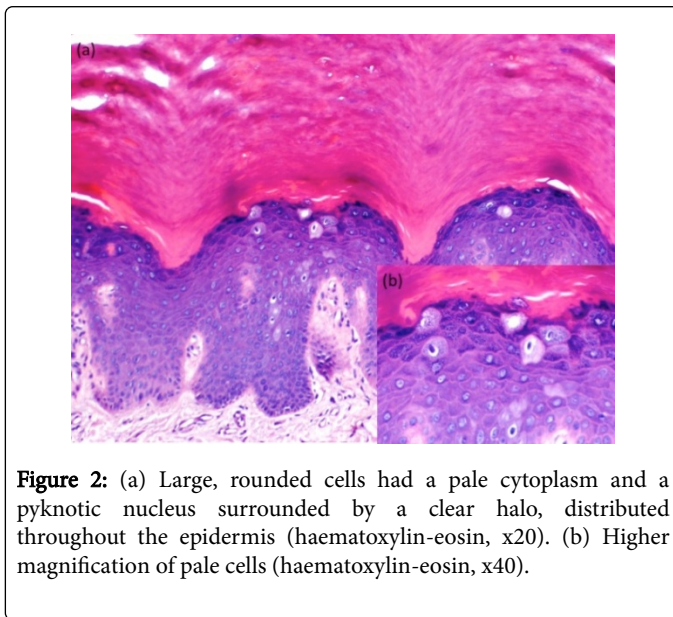
Figure 1: (a) An asymptomatic brownish macule on left palm measuring approximately 2 cm. (b) Dermoscopy shows a parallel ridge pattern.

Discussion

PD is an incidental but not uncommon pathologic finding present in more than 2% of skin biopsies. PD cells would arise from the normal population of keratinocytes, which under certain circumstances might be induced to proliferate. Recurrent friction may be considered as a possible triggering factor [1,2]. In our case, recurrent friction with the mop and broom handle could explain this cutaneous condition. However, other factors may bear some influence in PD development because it has been recognized in areas where the

epidermis is not exposed to trauma and in lesions without indirect signs of rubbing such as hyperkeratosis or hypergranulosis [1].

PD of the palm can show a parallel cutaneous ridge pattern on dermoscopy and therefore mimic a malignant melanoma. We report a patient with a hyperpigmented macule located on the palm with a parallel pattern of the cutaneous ridges on dermoscopy that simulated a malignant melanoma.



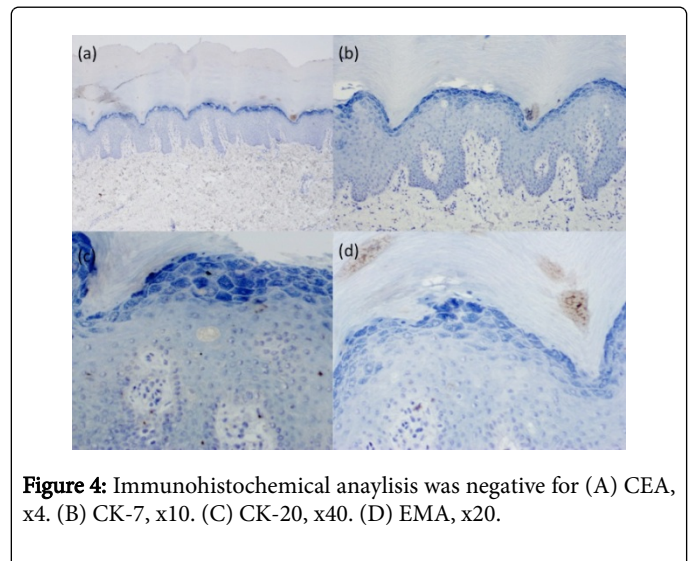
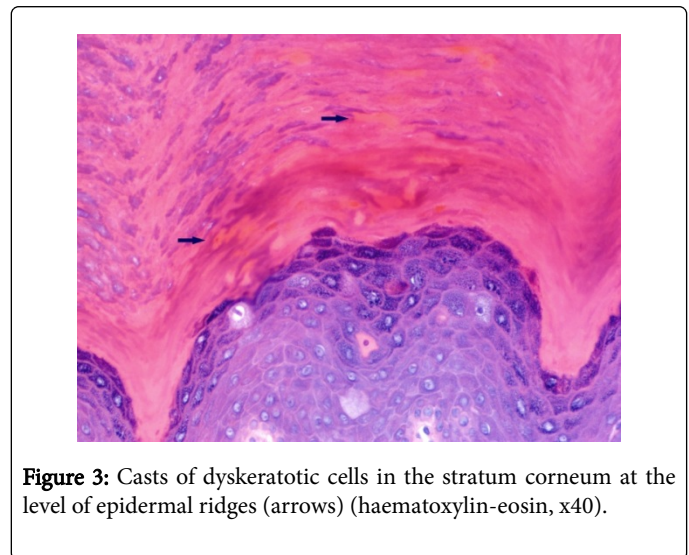
PD clinically presents as a brownish macule due to the presence of degenerating keratinocytes in otherwise normal epidermis. Lesions are usually located at areas prone to friction, such as intertriginous areas, trunk, buttocks, hands (palms and fingers), face, perianal area, vulva and penis [1].

Histopathologic findings show pale cells larger than normal keratinocytes with an oval, pyknotic nucleus surrounded by a clear halo and an eosinophilic cytoplasm. They are usually clustered in groups of less than 15 cells and located in the middle and upper layers of the epidermis. Atypia and mitoses are not found. We describe the presence of casts of these dyskeratotic cells in the stratum corneum but only at the level of epidermal ridges which relates to parallel ridge pattern on dermoscopy. These cells usually express high-molecular-weight keratins but not the low-molecular-weight types, human papillomavirus, S100 and HMB-45 [1,2].

PD may be recognized in different cutaneous lesions, but polypoid lesions such as melanocytic nevi, soft fibromas, angiofibromas and acrochordons, seem to be the most usually involved. These exophytic lesions are more commonly exposed to physical injury, such as friction. PD cells have also been recognized in other skin conditions, such as lentigos, lichen simplex chronicus, hypertrophic scars or seborrheic keratosis [1,2].

Presence of pagetoid cells in a skin biopsy requires for a histologic differential diagnosis that may include in situ pagetoid squamous cell carcinoma, extramammary Paget disease, superficial spreading malignant pagetoid melanoma, epidermotropic metastasis, clear cell papulosis, and penile koilocytoses. PD cells can also be misdiagnosed with Toker cells, which consist of clear cells found in 10% of people of both sex in the nipple epidermis [3].

So far, five cases of PD of the hands have been reported [4-7]. In two of these cases dermoscopic examination revealed a parallel ridge pattern as in our patient [6,7], but in any of these cases there were histopathologic findings of melanocytic cells proliferation or melanin granules presence. Although this dermoscopic pattern is suggestive of malignant melanoma, other conditions could also show it, such as melanocytic nevus [8], plantar warts [9] and Laugier-Hunziker-Baran syndrome [10].



In conclusion, PD is a benign phenomenon with distinct morphologic features that might be considered as a reactive process of premature keratinization. PD must be included in the differential diagnosis of pigmented palmar lesions that show a parallel cutaneous ridge pattern on dermoscopy.

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