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Letter

Melanoma *in situ* or superficial basal cell carcinoma?

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Abstract

Dermoscopy is a non-invasive, *in vivo* technique that increases accuracy in the diagnosis of both melanocytic and non-melanocytic skin tumors. A 74-year-old woman presented with a 3-year history of a slow-growing, asymptomatic, slightly pigmented plaque on the back. The dermoscopic differential diagnosis of melanoma *in situ* versus superficial basal cell carcinoma is discussed, based on the presentation of peripheral brown irregular finger-like projections. These were also associated with peripheral fine short telangiectasias, shiny white to red structureless areas, a few brown globules, and small erosions. Histopathological examination confirmed the diagnosis of superficial pigmented basal cell carcinoma. A brief review of the dermoscopic structures associated with this common nonmelanocytic skin tumor is also made.

Keywords: Basal cell carcinoma, dermoscopy, malignant melanoma, skin cancer

Introduction

Dermoscopy is a rapid, non-invasive, *in vivo* technique that increases diagnostic accuracy in both melanocytic and non-melanocytic skin tumors [1].

Case synopsis

A 74-year old woman presented with a 3-year history of a slow-growing, asymptomatic, slightly pigmented plaque on the back. The patient had no personal or family history of skin cancer. She denied sunburns and her past medical record was unremarkable. The lesion was under treatment with multiple courses of topical antifungals for possible superficial mycosis. No clinical improvement was seen. Physical examination revealed a solitary plaque



Figure 1. Single plaque on the right lumbar region, with 2,1 cm of maximum diameter, ill-defined brown borders, few surface white scales and slight atrophy in the centre.

located on the right lumbar region, 2.1 cm in diameter, with ill-defined brown borders, a few surface white scales, and slight atrophy in the center.

Dermoscopic observation (under polarized light) enabled the visualization of peripheral brown irregular finger-like projections not arising from a pigment network. Peripheral fine short telangiectasias in association with central shiny white to red structureless areas, a few brown globules, and small erosions were also observed.

After clinical and dermoscopic correlation the differential diagnosis of melanoma *in situ* versus superficial basal cell carcinoma (BCC) was made. The peripheral irregular brown structures could correspond either to peripheral irregular streaks or leaf-like areas. Irregular streaks are commonly seen in malignant melanoma, while leaf-like structures are a rather pathognomonic finding in pigmented BCC. This structure did not arise from a pigment network, supporting the presence of leaf-like areas, not streaks. Simultaneous finding of fine short telangiectasias along with central white to red structureless areas, gray globules, and small erosions were additional clues for the diagnosis of superficial pigmented BCC.

Surgical excision of the lesion was performed and histopathological examination confirmed the presumptive diagnosis of superficial pigmented BCC. Features of solid aggregates of basaloid cells in the epidermis and papillary dermis were seen.

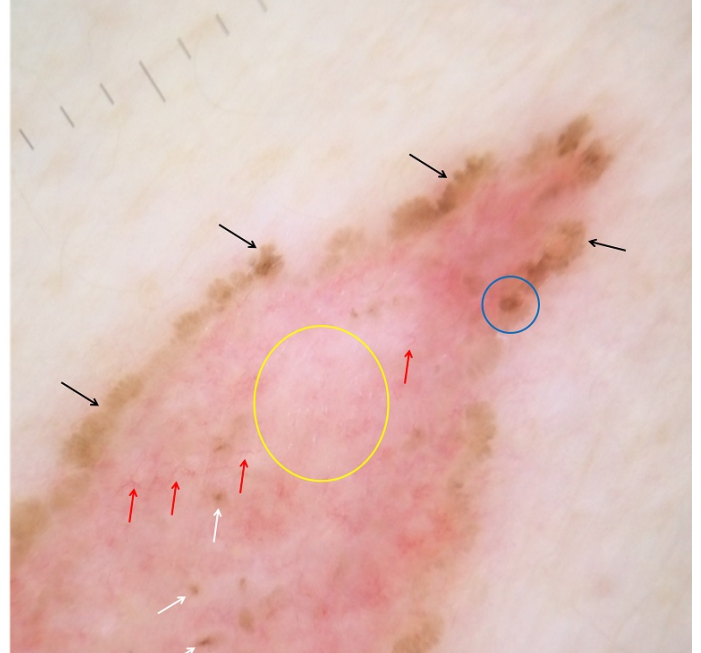


Figure 2. – Dermoscopic observation (polarized light): leaf-like areas (black arrows) mimicking peripheral irregular streaks, mostly peripheral fine short telangiectasias (red arrows), central shiny white to red structureless areas (yellow circle), few brown globules (white arrows) and small erosions (blue circle).

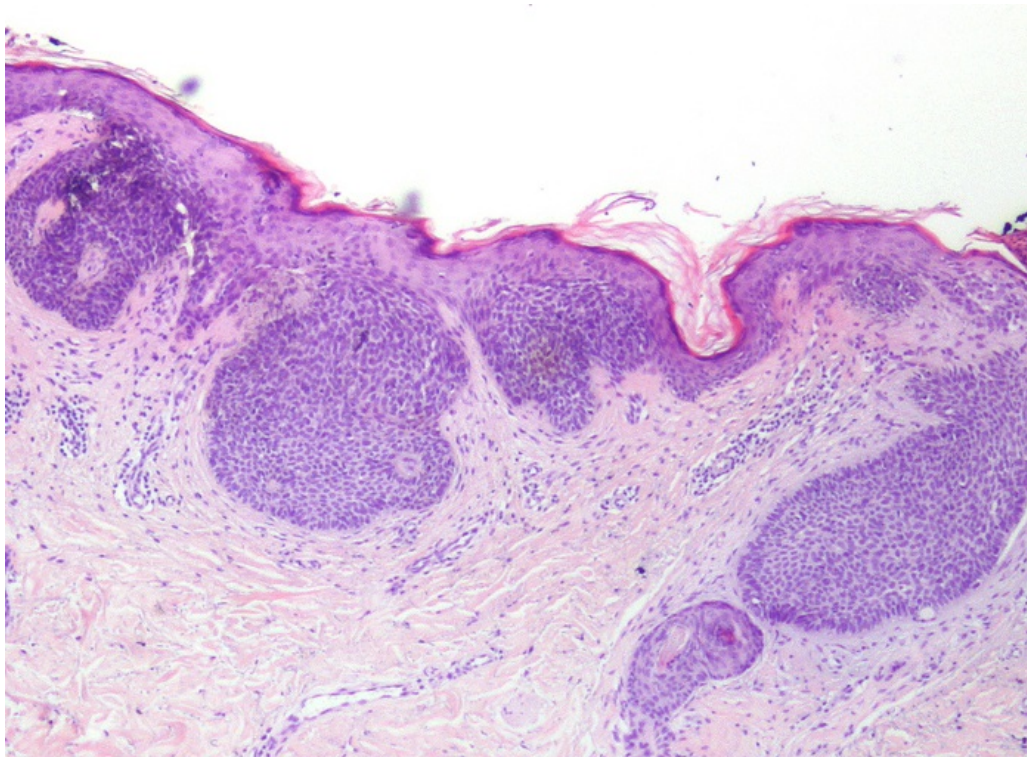


Figure 3. Histopathological examination (hematoxylin and eosin, x40): solid aggregates of atypical basaloid cells in the epidermis and papillary dermis confirmed the diagnosis of superficial basal cell carcinoma.

Discussion

BCC is the most common skin cancer, accounting for 70 – 75% of all cases of nonmelanoma skin cancer. BCC can be divided into 4 main subtypes: nodular, micronodular, infiltrating, and superficial [2]. Fully developed superficial BCC exhibits clinical features that facilitate its differentiation from other subtypes. However, early lesions are often difficult to differentiate from other inflammatory diseases, such as psoriasis and dermatitis, or other neoplasms, including Bowen’s disease and other BCC subtypes. It can also mimic dermatophyte infection [3]. In this case, an apparently scaly, “centrifugal” growing lesion with “active dark” border with “central clearing” was mistaken for superficial mycosis and accordingly treated with topical agents for several months. Dermoscopy has been shown to facilitate discrimination between different subtypes of BCC and also from

other melanocytic, non-melanocytic, pigmented, and nonpigmented skin tumors. In this case, dermoscopy allowed the differentiation between melanoma *in situ* and superficial pigmented BCC. The peripheral brown structures could correlate to streaks or leaf-like structures. Streaks are heavily pigmented, black-gray or brown peripheral finger-like projections, sometimes with a bulbous end. Irregular streaks are asymmetrically arranged and can be seen in melanoma or atypical Spitz nevus together with other criteria of melanocytic lesions [1]. Leaf-like areas are discrete pigmented homogeneous brown to gray-black patches with a leaf-like configuration, usually not arising from adjacent confluent, pigmented areas. These areas correspond to variably pigmented aggregations of atypical basaloid cells in the papillary dermis. They are associated with a 6.6 higher chance for superficial BCC. Conversely, a leaf-like pigmentation at the periphery of an otherwise “featureless” melanoma may lead to the wrong diagnosis of pigmented BCC [4].

In this case, leaf-like structures were seen in association with other dermoscopic structures supporting the diagnosis of superficial pigmented BCC. Fine short telangiectasias are a variant of arborizing vessels. They are thinner and shorter with fewer ramifications than arborizing vessels, often only distinct at the border of the BCC [5]. They are related to a 2.6 times higher chance for the diagnosis of superficial BCC [4]. These fine vessels were associated with shiny white to red structureless areas located in the centre of the lesion together with multiple small ulcerations or erosions. Shiny white to structureless areas reflect the macroscopic translucency of the superficial BCC and should be discriminated from chrysalis structures also observed in melanoma, which are absent in this case under polarized dermoscopy [4,5]. Multiple blue-gray globules are another pathognomonic finding in pigmented BCC, characterized by ovoid or round structures, smaller than blue-gray nests, but larger than blue-gray dots. They correspond in histopathology to heavily pigmented, small nests of basaloid cells in the papillary dermis [5].

In conclusion, dermoscopy is a valuable tool for predicting the diagnosis of superficial BCC based mainly on the detection of leaf-like structures and short superficial telangiectasias [6].

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