

# Pigmented Bowen's disease presenting with a "starburst" pattern

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**ABSTRACT** Pigmented Bowen's disease (pBD) is an uncommon in situ squamous cell carcinoma of the skin usually presenting as a dark scaly plaque involving chronically exposed sites, which is not uncommonly mistaken for other similar pigmented lesions, such as melanoma, pigmented basal cell carcinoma or seborrheic keratosis [1,2]. Dermoscopy has been proven to improve its diagnosis by showing several findings, i.e., gray/brownish dots in linear arrangement, scales, coiled vessels, focal/multifocal amorphous hypopigmentation and bluish structureless areas [1,2]. However, pBD may sometimes display dermoscopic features which are typical of other pigmented lesions, thus making its recognition quite troublesome despite the use of dermoscopy [1,2].

We report a case of pBD with a "starburst" pattern, discussing its dermoscopic differential diagnosis.

## Case report

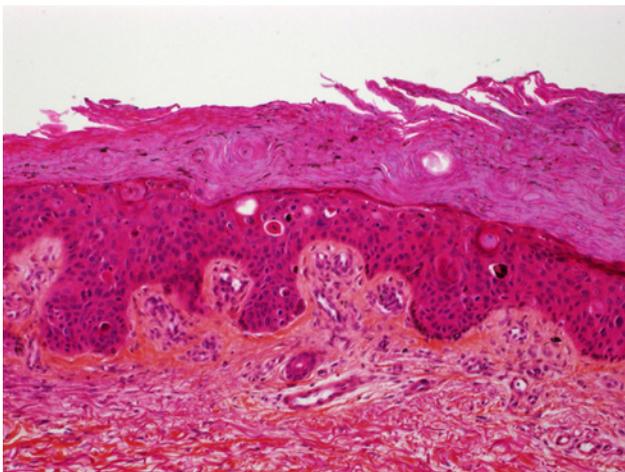
A 77-year-old woman with a prior renal transplantation presented with a four-month history of a progressively enlarging brownish macule on her left leg (Figure 1A). She was treated with mycophenolate mofetil and tacrolimus. Her past medical history included several non-melanoma skin cancers. Dermoscopic examination showed atypical brownish blurry streaks regularly distributed at periphery of the lesion, simulating a "starburst" pattern; adherent white scales were present but no vessels or pigmented dots were evident (Figure 1B). A complete excision of the lesion was performed. Histological examination

revealed parakeratotic hyperkeratosis with disorganization of the epidermal architecture and increased mitotic figures; keratinocytes with giant nuclei were associated to dyskeratotic and pigmented cells. The dermis showed a lymphohistiocytic infiltrate with absence of tumor invasion (Figure 2). Such findings were consistent with a diagnosis of pBD.

Several studies/case reports have shown that pBD may present unusual/confusing dermoscopic findings [1-2], including peripheral streaks, which have been reported in four instances [1-5]. However, differently from our patient, the streak-like projections observed in the previous cases did not represent the main dermoscopic clue, as they were associ-



**Figure 1.** (a) Clinical aspect of pigmented Bowen's disease. Brownish lesion of the left leg in a patient treated with immunosuppressive drugs for her renal transplantation. (b) Pigmented Bowen's disease. The dermoscopic examination showed atypical "out of focus" radial streaks (black arrow) with adherent scales (white arrow). No other dermoscopic features were present. [Copyright: ©2016 Maione et al.]



**Figure 2.** Histologic images of Bowen's disease showed parakeratosis, epidermal disorganization with individual cell dyskeratosis, increased mitotic figures and keratinocytes demonstrating greatly enlarged nuclei. (Hematoxylin-eosin stain; original magnification: 20x.). [Copyright: ©2016 Maione et al.]

ated with other relevant findings (e.g., pigmented network, polychromatic areas, blue veil and/or brown dots in a regular arrangement), and were not regularly distributed at the periphery to configure a "starburst" appearance [1-7].

## Conclusions

The "starburst" pattern is classically considered the dermoscopic hallmark of Spitz/Reed nevus. It is characterized by

the presence of pigmented sharply focused streaks radially distributed at the periphery of a lesion, which correspond to confluent junctional melanocytic nests and histological radial growth. The detection of the "starburst" pattern in pBD might be due to the fusion of regularly distributed peripheral dots into streak-like projections, which therefore represent melanin pigment in the epidermis or horny layer [1-2]. Importantly, different from the aforementioned melanocytic lesions, the brownish streaks visible in pBD are less defined and appear out of focus and are associated with other features typical of Bowen's disease [1-5], such as white scales, as seen in our patient.

In conclusion, our case underlines that pBD may present with a "starburst" pattern, thereby mimicking a Spitz/Reed nevus or a melanoma. Even though the definitive distinction from these melanocytic lesions relies on histological examination, we believe that an attentive analysis of the radial streaks and the search of other criteria of pBD could be useful for assisting the differential diagnosis. Further reports and studies are obviously needed to support such assumptions.

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