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Dermoscopic characteristics of transient acantholytic dermatosis (Grover’s disease)

Grover’s disease (GD), also known as transient acantholytic dermatosis, is a rare skin disorder characterized by multiple pruritic, small, brownish-red papules that mainly affect the trunk in older men [1]. The exact pathogenesis of GD still remains unclear. Histopathology of GD is typically characterized by acantholysis with or without dyskeratosis [1]. Variations in histological patterns have led to the definition of several subtypes, including the most frequent Darier-like and spongiotic subtypes [2]. The clinical differentiation of GD from other papular dermatoses, such as prurigo simplex and dermatitis herpetiformis, can be challenging. Some dermoscopic clues of papular dermatoses have been described in the literature that may suggest the diagnosis, e.g. Wickham striae in lichen planus, orange-yellowish structureless areas in pityriasis lichenoides chronica, and a typical peripheral “cornoid lamella” in porokeratosis [3]. To date, there are only few reports of the dermoscopic features of GD. We report the dermoscopic characteristics of GD and their correlation to histopathological findings in two patients.

Patient 1 was a 58-year-old woman who presented with a 12-month history of pruritic skin lesions that had not responded to topical treatment with potent corticosteroids. Clinical examination revealed multiple disseminated pinkish-to-tan papules involving the trunk (figure 1A, C). Dermoscopy of the lesions showed sharply delineated erythematous papules with a slight central yellowish-brown erosion with a stellar-like (figure 1D) or round shape (figure 1E). The centre was encircled by a whitish raised rim on a pale pink background with multiple linear vessels (figure 1D, E).
Figure 1. Overview image of pinkish-to-tan papule on the trunk of Patient 1 (A). Clinical examination of Patient 2 reveals multiple erythematous papules of the upper body (B). Close-up view of one representative papule (C). Dermoscopy shows erythematous papules with either central yellowish-brown stellar-like structures (D), or more roundish erosions encircled by a whitish raised rim (E). A representative lesion of Patient 1 is depicted in the close-up photograph (F). Dermoscopy shows a brownish, bizarrely-shaped central polygon surrounded by a raised whitish rim (G). Histopathological examination (Patient 1), which was representative for both patients, shows focal erosions, covered by a thick mass of abnormal, prematurely-keratinized keratinocytes, acanthosis, and acantholytic dyskeratosis manifesting as corps ronds (asterisk) and grains (arrow) (haematoxylin-eosin stain; original magnifications: ×50 [H], ×200 [I]).

Histopathological examination in both cases revealed multiple foci of focal erosions, covered by a thick mass of abnormal, prematurely-keratinized keratinocytes with underlying acanthosis of the epidermis. Furthermore, acantholysis with suprabasal cleft formation, and dyskeratosis (manifesting as “corps ronds” in the granular layer and “grains” in the stratum corneum) were present. The superficial dermis showed a predominantly lymphocytic infiltrate admixed with some eosinophils (figure 1H, I). The histopathological findings were consistent with a Darier-like subtype of GD (DLGD). The focal erosions, covered by a thick mass of abnormal, prematurely-keratinized keratinocytes, corresponded to the central yellowish-brown stellar-like area seen on dermoscopy, and the histopathological feature of acanthosis corresponded to the whitish rim seen on dermoscopy [2]. Darier’s disease and DLGD may show similar dermoscopic features as they share many histological features. Hence, clinical presentation and symptoms, as well as the course of the disease, are crucial in differentiating these entities [4]. The clinical presentation, as well as the characteristic dermoscopic and histopathological features in both cases were consistent with a diagnosis of GD. Therefore, topical treatment with isotretinoin gel was initiated.

GD was first described in 1970 [5]. More recently, dermoscopic patterns that may facilitate the clinical diagnosis of GD were reported. A brown, star-like, central pattern was described by Giacomel et al. [6]. Sadayasu et al. reported an additional dermoscopic feature, consisting of a white band-like area surrounding the star-shaped central area [7]. Recently, Errichetti et al. suggested that GD might show distinct dermoscopic patterns depending on the histological subtype [2]. According to this study, the DLGD subtype is correlated with the dermoscopic pattern of a brown star-shaped centre, surrounded by a white halo, while the spongiotic histological subtype is associated with a yellowish-red background with white scales [2]. Both our patients showed dermoscopic features consistent with DLGD that were confirmed by histopathology.

In conclusion, we describe dermoscopic features of GD in two patients with the characteristic centrally-located, brownish-red, star-shaped or polygonal formation associated with the Darier-like histological subtype of the disease. Our findings may facilitate the differentiation of GD from other papular dermatoses without the requirement of invasive biopsies.