1 | INTRODUCTION

Darier’s disease (DD) is a rare autosomal dominant disorder characterized by abnormal keratinization of the epidermis, nails, and mucous membranes (Sehgal & Srivastava, 2005). Treatment can sometimes be challenging and varies according to the severity of the disease (Burge, 1999; Sehgal & Srivastava, 2005). To date, improvement of DD with diclofenac sodium 3% gel has only been reported in three patients (Millán-Parrilla et al., 2014; Santos-Alarcón, Sanchis-Sanchez, & Mateu-Puchades, 2016). Herein, we describe a new patient who has been treated with topical diclofenac sodium 3% gel with a good outcome.

2 | CASE

A 34-year-old woman with a family history of DD presented with pruritic hyperkeratotic yellow-brown papules on her neck, chest, back, and arms. Histopathological examination revealed a keratin plug with focal parakeratosis, suprabasal acantholysis, and dyskeratotic cells forming corps ronds and grains, confirming the clinical diagnosis. Topical treatments with adapalene 0.1% gel and with methylprednisolone aceponate 0.1% cream were not successful. Our patient rejected treatment with oral retinoids; instead, diclofenac sodium 3% in hyaluronic acid 2.5% gel applied twice a day was prescribed. There was a marked improvement within 14 weeks of treatment (Figures 1 and 2) and pruritus ceased. Our patient remained asymptomatic for the following 6 months. No significant side effects were reported and no increase in blood pressure was registered during treatment.

3 | DISCUSSION

Treatment of DD may be difficult and should be individualized. Aggravating factors such as ultraviolet B (UVB) radiation, sweating, mechanical trauma, and oral lithium should be avoided. Oral retinoids, particularly acitretin and isotretinoin, are the most effective treatments and are recommended for severe and generalized cases (Burge, 1999; Sehgal & Srivastava, 2005). However, secondary effects such as mucosal dryness, itching, photosensitivity, and elevation of serum lipids and liver enzymes can occur and may be

FIGURE 1  Darier’s disease affecting patient’s back. (A) Pretreatment. (B) Following application of diclofenac sodium 3% gel twice a day for 14 weeks
poorly tolerated. In females at child-bearing age, retinoids are contraindicated during pregnancy and up to two years prior to it. Moreover, they may also cause skeletal hyperostosis and extraosseous calcification that limit long-term treatment (Burge, 1999). Topical retinoids such as tazarotene, isotretinoin, and adapalene can be useful, but erythema, burning, and irritation may appear (Burge, 1999; Sehgal & Srivastava, 2005). Other treatment modalities useful, but erythema, burning, and irritation may appear (Burge, 1999; Sehgal & Srivastava, 2005). Kamijo et al. (2012) proved that COX-2 expression induced by UVB increases prostaglandin E2 (PGE2) levels and reduces both the ATP2A2 gene expression and the production of SERCA2 in keratinocytes. They also proved that celecoxib treatment increases the ATP2A2 gene expression and restores the levels of SERCA2 protein in UVB radiated skin, suggesting that COX-2 inhibitors could counteract the downregulation of ATP2A2/SERCA2 in DD (Kamijo et al., 2012).

Since the proposed mechanism of action of diclofenac sodium gel includes COX-2 inhibition (Martin & Stockfleth, 2012), the reported patients (Millán-Parrilla et al., 2014; Santos-Alarcón et al., 2016) and our case would support the hypothesis of the pathogenic role of COX-2 and PGE2 in DD. Our patient improved after 14 weeks therapy. In the three reported cases, the duration of treatment was 3, 6, and 8 months (Millán-Parrilla et al., 2014; Santos-Alarcón et al., 2016), but no explanation has been suggested for these differences yet.

No reports regarding successful treatment of DD with systemic COX-2 inhibitors have been published so far. However, recent research suggest that topical administration of nonsteroidal anti-inflammatory drugs leads to higher concentration of the active principle in the dermis than when the drug is administered orally (Heyneman, Lawless-Liday, & Wall, 2000). Thus, systemic diclofenac may not appear to be as effective as topical diclofenac to treat DD.

Diclofenac sodium 3% gel seems to be an effective alternative to treat or prevent DD, although further studies are needed to confirm its efficacy and tolerance.

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How to cite this article: Palacios-Álvarez I, Andrés-Ramos I, Silva MY, Simal G. Treatment of Darier’s disease with diclofenac sodium 3% gel. Dermatologic Therapy. 2017;00:e12478. https://doi.org/10.1111/dth.12478