Dermatology Practical & Conceptual

Dermoscopy of Annular Atrophic Lichen Planus on a Dark Phototype: A Case Series

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Introduction

Annular atrophic lichen planus (AALP) is considered one of the rarest morphological variants of LP [1], it affects usually the limbs, penis, scrotum or intertriginous areas [2]. Histologically, AALP is characterized by an extensive elastolysis caused by lymphatic cells [3].

Dermoscopic findings of AALP have not been well described. The aim of this report is to investigate dermoscopic features of this rare variant of LP in dark skinned patients.

Case Presentation

Five dark-skinned patients (phototype V) with AALP were included in this case series. Patients ranged in age from 7 to 35 years (median age was 22.2 years), there was a male predominance (3/5 patients), 3 of these patients were adults, and 2 of them were children from the same family (the mother and her 2 children). No specific history has been noted.

All patients presented itchy papules, and plaques of annular morphology with a hyper-pigmented-atrophic center and a violaceous raised border, individual lesions ranged in size from 0.5 to 2 cm, the eruptions were located on the upper limbs in 2 adult patients, and generalized on the trunk, the back and the limbs in three patients from the same family. None of the patients had oral mucosal, vulval, scalp, or nail lesions.

Upon dermoscopic analysis, we observed mixed features of grayish-white annular and reticular Wickham Striae (WS) at the periphery of the lesions, and clustered brown-grey dots on a light brown background in the center (black-hole pattern). In active lesions, dotted vessels around WS were noticed on a background of erythema. In late lesions, we observed heterogeneous granular pigmented dots on and around WS, white starburst scar-like areas were noticed in some spots (Figure 1).

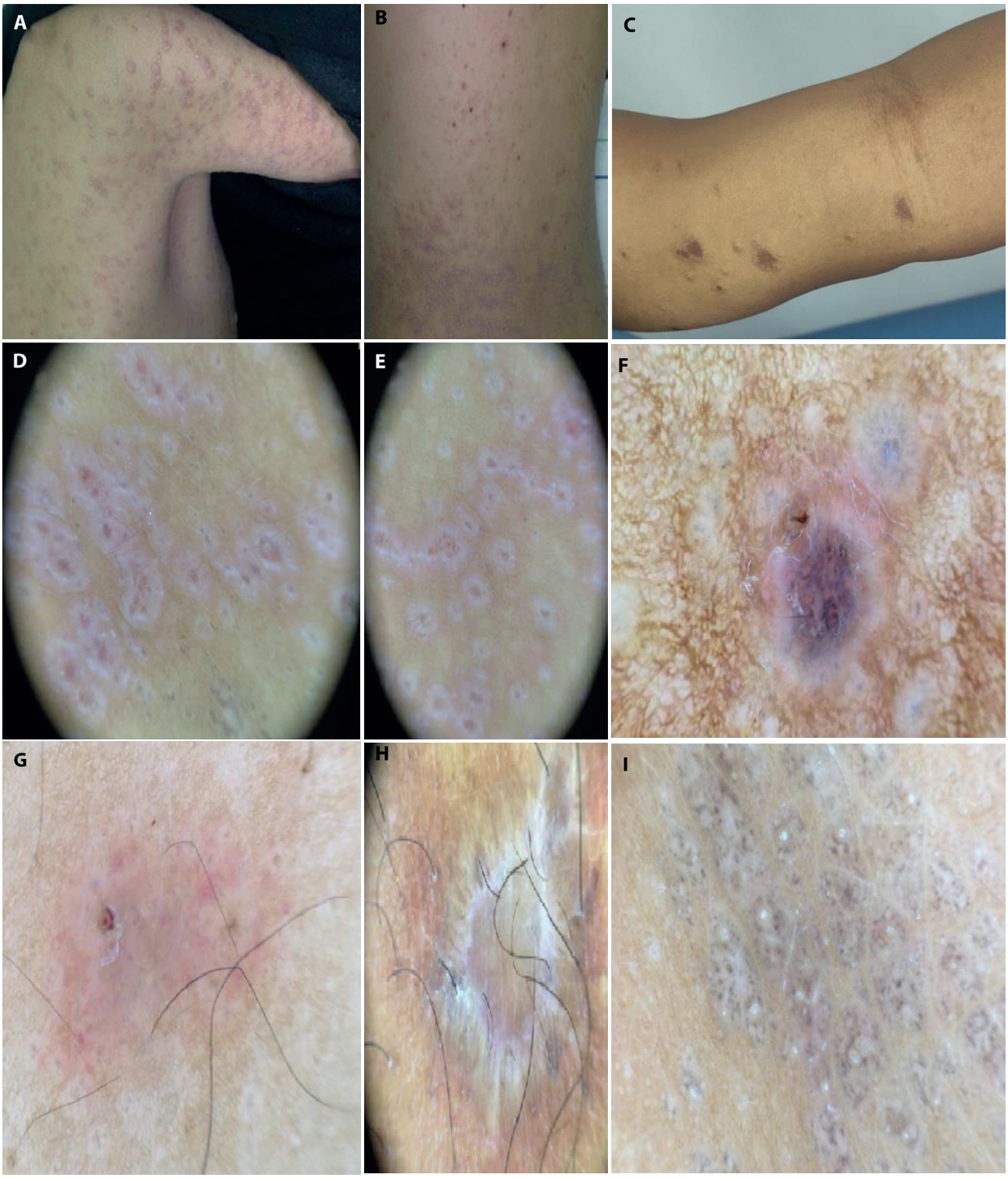

Figure 1. Pigmented annular atrophic lichen planus (AALP). (A,B) Clinical pictures of eruptive AALP. (C) Localized AALP on the limbs and the axilla. (D-F) Dermoscopy images showing grayish-white annular and reticular Wickham striae (WS) at the periphery of the lesions, and clustered brown-gray dots on a light brown background in the center (black-hole pattern). (G) Active lesions: dotted vessels around annular WS on a background of erythema. (H,I) Late inactive lesions: heterogeneous granular and arciform pigmented dots and globules on and around WS (I), white starburst scar-like areas (H).

Histopathology was performed in adult patients, classic histopathology of lichen planus was observed at the periphery of the lesion, with hair damage in some areas, while in the center, the epidermis was atrophic and flattened, with loss of rete ridges. Melanophages were noticed in the papillary dermis (Figure 2). Based on these findings, the diagnosis of AALP was reached. Adult patients were treated with topical steroids and oral doxycycline, oral erythromycin was prescribed for the two children. Four of them went into complete remission, while in one patient with eruptive

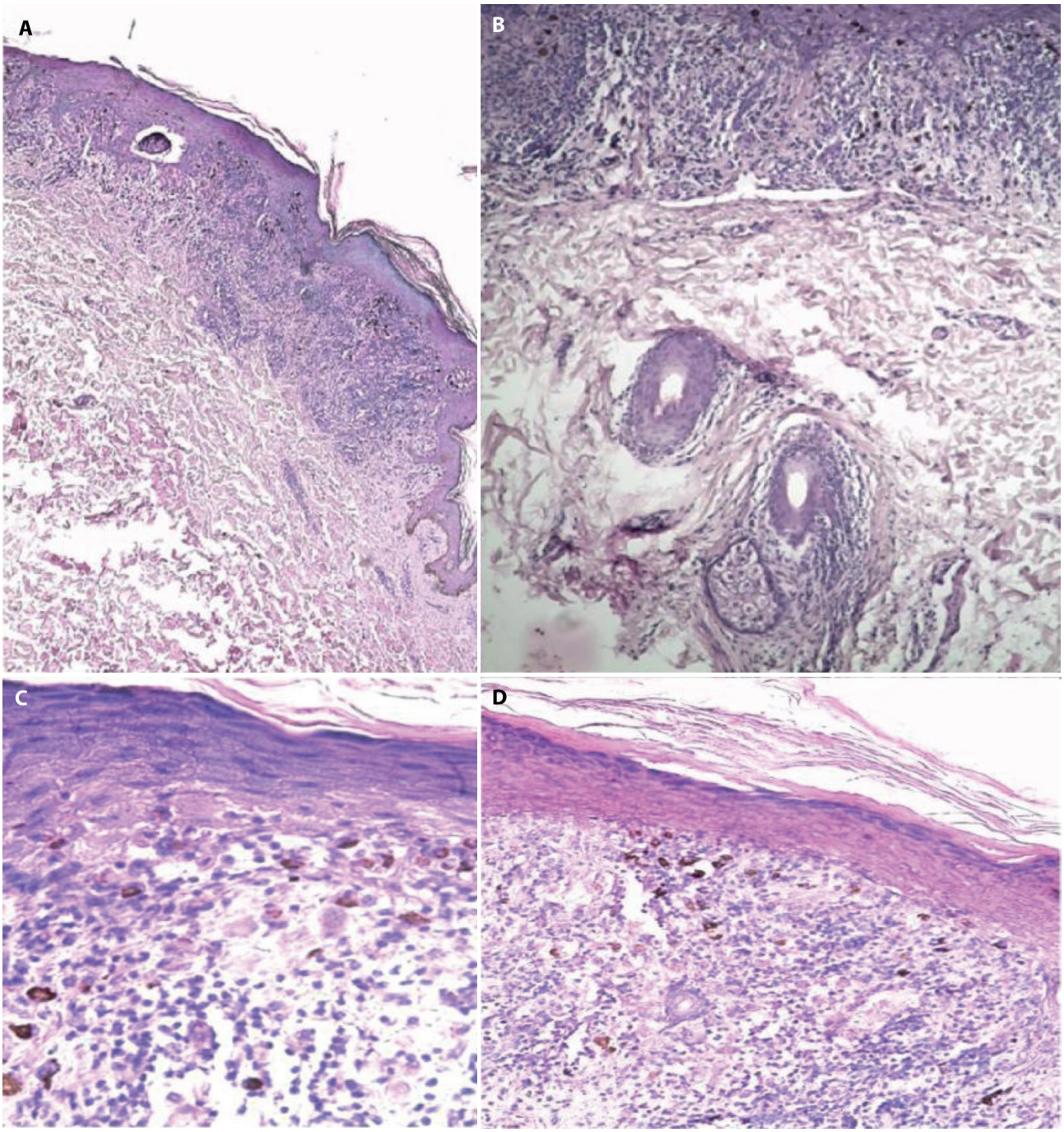

Figure 2. Pigmented annular atrophic lichen planus. Histopathology (H&E). (A) Magnification x 50) at the periphery of the lesion, band-like inflammatory lichenoid infiltrate intimately linked to the dermo-epidermal interface. (B) (x100). Hair damage by the inflammatory infiltrate. (C) (x400) and (D) (x 200) At the center of the lesion, lichenoid infiltrate with basal apoptotic bodies and melanophages in the superficial dermis.

AALP, two recurrences occurred, and oral steroids were then prescribed with a good evolution.

Conclusions

The role of dermoscopy in diagnosing AALP in dark skin was highlighted in one case report [2] and one study [4], the black hole pattern that was reported in this study was mixed with other patterns of LP, also the authors reported an absence of vascular features. While, in our case series, the black hole pattern was the predominant pattern and vascular structures were noticed around WS on a background of erythema in active early lesions. In addition, we described dermoscopic findings of inactive late lesions of AALP such as heterogeneous granular pigmented dots and white starburst scar-like areas.

One the other hand, in the previous case report [2], another different dermoscopic pigmented pattern was reported, which is diffuse fine peppering or perifollicular pigmentation, this may be due to the different clinical

presentation in that case as annular macules without a raised edge, which explains the absence of the black hole pattern; that translates the difference of structures in the edge and the center of the annular atrophic lesion as it was described on histopathology.

This case series did not only highlight dermoscopic findings, but we also report some facts about this rare variant of LP. For instance, the familiar onset of the lesions is spurring the reflection of a specific genetic predisposition, especially in the eruptive subtype of AALP. Concerning the localized subtype of AALP, it was previously reported and described on male genitalia, intertriginous areas and extremities, and could be admixed with classic lesions of LP [5].

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