Two cases of granuloma faciale showing rosettes

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Abstract

Granuloma faciale (GF) is a rare benign chronic inflammatory dermatosis often difficult to distinguish clinically from other diseases, both inflammatory and neoplastic. Dermoscopy can be a helpful diagnostic tool and indeed several dermoscopic criteria observed in GF have been described in literature. We present two patients affected by GF in which we have observed rosettes.

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Introduction

Granuloma faciale (GF) is a rare benign chronic inflammatory dermatosis often difficult to distinguish clinically from other diseases, both inflammatory and neoplastic. Several dermoscopic criteria observed in GF have been described in literature. We present two patients affected by GF in which we have observed rosettes.

Case Report #1

A 50-year-old man presented to our clinic for multiple erythematous plaques on the forehead that developed gradually over a year (Figure 1a). He complained of constant itching at that site.

Otherwise, healthy, he didn't take any medication. The only significant anamnestic note was the diagnosis 20 years ago of pulmonary sarcoidosis, treated and cured with betamethasone over 1 year, since then he has followed bi-annual check-ups.

At clinical examination, multiple erythematous round-oval plaques were present on the forehead. Dermoscopy with polarized light showed an erythematous-pink background, dilatated vessels, white streaks, and multiple rosettes of about 0,1-0,2 mm diameter all over the lesions (Figure 1b). The rest of his skin was unaffected. A general physical examination did not reveal any gross alteration.

The main clinical and dermoscopic differential diagnoses were lupus erythematosus tumidus, sarcoidosis, and B-cell lymphoma.

An incisional biopsy of one of the frontal plaques was performed; histology showed an irregular epidermal hyperplasia with hypergranulosis, and under a grenz zone in the reticular dermis a diffuse lymphohistiocytic infiltrate with eosinophils and several telangiectatic vessels without vasculitis or fibrosis (Figure 1c-e). A diagnosis of GF was made.

Routine laboratory investigations, glucose-6-phosphate dehydrogenase deficiency, angiotensin-converting enzyme, and interleukin-6 receptor resulted within normal limits; autoantibody panels including antinuclear antibody and extractable nuclear antigen were negative. He performed a lung computed tomography scan that showed some traces of pulmonary thickening, a result of the previous sarcoidosis. A topic therapy with tacrolimus 0,1% ointment twice daily was prescribed.

Case Report #2

A 56-year-old man with a previous history of psoriasis arthritis treated with topic diclofenac, suffered for years of asymptomatic erythematous maculae of the scalp for which he tried various topical corticosteroid treatments and calcineurin inhibitors such as pimecrolimus without improvement.

The dermatological examination noted several polymorphic

erythematous patches and plaques on both parietal regions and vertex (Figure 2a). Observation with polarized dermoscopy showed a pink-red background, elongated telangiectasias, perifollicular whitish halo, and multiple rosettes of about 0,1-0,2 mm diameter (Figure 2b). A biopsy showed a dense interstitial, perivascular, and periadnexal mixed lympho-epithelioid infiltrate with eosinophils, and dilatated vessels without vasculitis.

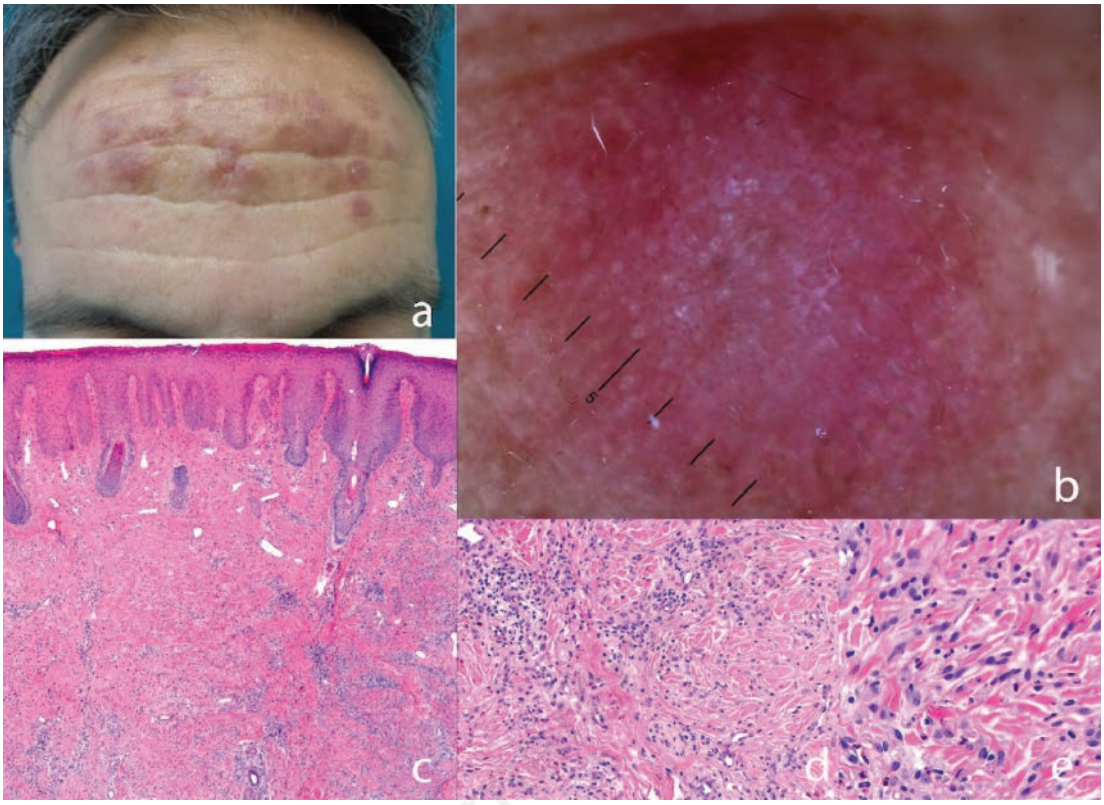

Figure 1. **a)** Multiple erythematous round-oval plaques were present on the forehead; **b**) dermoscopy with polarized light showed an erythematous-pink background, dilatated vessels, white streaks and multiple rosettes of about 0,1-0,2 mm diameter all over the lesions; **c**) irregular epidermal hyperplasia with hypergranulosis, and under a grenz zone in the reticular dermis a diffuse lymphohystiocitic infiltrate (HE, 40×); **d**) interstitial lymphohystiocitic infiltrate with eosinophils (HE, 100×); **e**) higher magnification of the interstitial lymphohystiocitic infiltrate with eosinophils (HE, 200×).

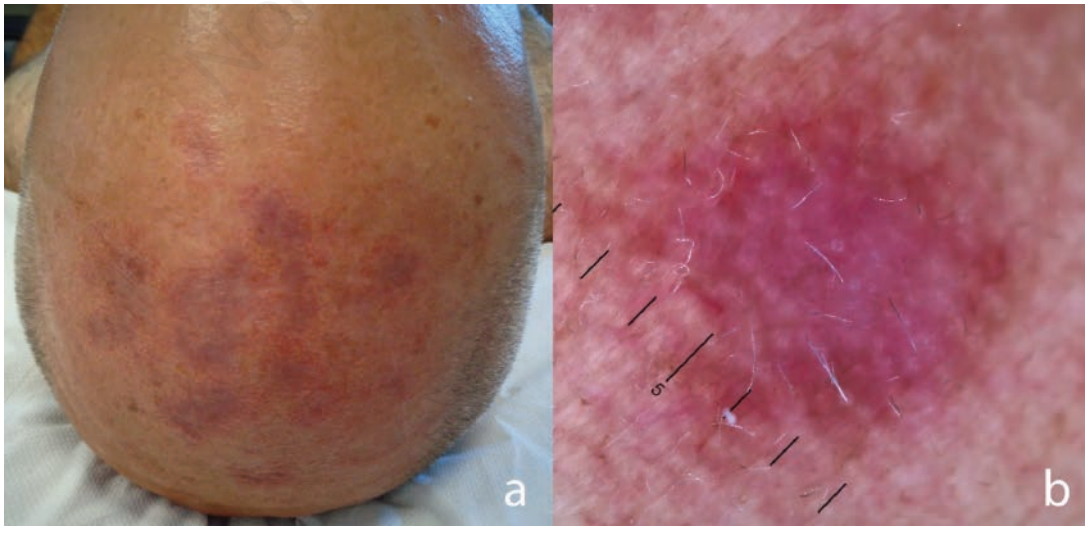

Figure 2. **a)** Several polymorphic erythematous patches and plaques on both parietal regions and vertex; **b**) dermoscopy showed a pink-red background, elongated telangiectasias, perifollicular whitish halo, and multiple rosettes of about 0,1-0,2 mm diameter.

Discussion

GF is a rare benign chronic inflammatory dermatosis that usually presents as solitary or multiple pink to purple papules or plaques typically located on the face. It is usually seen in middle-aged males.[1] The origin is unknown but different predisposing factors have been described such as actinic exposure, radiation, trauma, and allergy. The main clinical differential diagnoses are cutaneous sarcoidosis, discoid lupus erythematosus, erythema elevatum diutinum, lupus vulgaris, fixed drug eruption, lymphocitoma cutis, and cutaneous lymphomas.[2]

On dermoscopy, the background could be pink or red/erythematous.[2,3] Vascular findings described in the literature are: focused and elongated telangiectasias, prominent telangiectasias and linear arborizing vessels in a parallel arrangement, linear branching vessels, dilatated vessels, and ectatic vessels.[1,3,4]

Peculiar criteria of GF are related to follicular abnormalities described dermoscopically by dilatated follicular openings, perifollicular whitish halo, and follicular keratotic plugs.[2-7]

Non-specific criteria are shiny white streaks described sometimes as orthogonal, whitish grayish structureless area, blackened area, aggregation of brown dots and globules, and purpuric spots.[1-3,5,7] A new finding described by Jardim *et al*. is a yellowish area, histologically described as deposition of hemosiderin in the papillary dermis.[5]

Our cases showed numerous rosettes. Rosettes, also known as four-clod dots, are dermoscopic criteria described as four white dots oriented at the same angle, arranged as a four-leaf clover.[8] Rosettes have been attributed to an optical effect of cross-polarization by fibrous or horny material into the hair follicle.[3-8] To our knowledge, rosettes have not been observed in GF yet. First described in 2009 by Cuellar *et al*. in association with actinic keratosis, squamous cell carcinoma, and lichen planus-like keratosis, rosettes were later identified in discoid lupus erythematosus, dermatofibroma, scars, molluscum contagiosum, basal cell carcinoma, pseudolinfoma, melanoma, benign nevi.[8]

The main dermoscopic differential diagnoses in our cases included lupus erythematosus tumidus (LET), sarcoidosis, and B-cell lymphoma. LET is characterized by polymorphous vessels and follicular keratotic plugs on a pink-red background.[9] Sarcoidosis reveals orange structureless areas and white areas with overlying focused linear vessels.[7] B-cell lymphomas usually display orange structureless areas with unfocused linear vessels with branches (primary cutaneous marginal zone lymphoma) or orange globules along linear and linear-curved unfocused vessels (primary cutaneous follicle-center lymphoma); follicular plugs might be present.[10]

Conclusions

GF may be a simulator of many inflammatory and neoplastic diseases. When the clinic overlaps, dermoscopy could be helpful tool. Although rosettes are not specific to facial granuloma, they may be an additional criterion in formulating the diagnostic hypothesis.

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