Granuloma faciale successfully treated with topical tacrolimus: a case report

H. Jedličková, J. Feit, and V. Semrádová

SUMMARY

Granuloma eosinophilicum faciale (GF) is a rare chronic inflammatory disorder of unknown etiology. Although the condition is benign, its treatment is often unsatisfactory. We describe a case of a 60-year-old man with GF resistant to therapy with topical corticosteroids and liquid nitrogen. After 4 months of treatment with topical tacrolimus the lesions resolved, with remission lasting for 2 years.

Introduction

Granuloma eosinophilicum faciale (GF) is a chronic inflammatory disorder appearing as solitary or multiple reddish-brown infiltrated lesions on the face, usually on the cheeks, nose, and forehead. The etiopathogenesis is unknown; vasculitis and neutrophilic inflammation are considered to be among the causes. Exposure to sunlight is considered a triggering factor, but other causative factors are unknown.

Case

A 60-year-old man presented with three infiltrated red nummular lesions on both cheeks (Fig. 1). He had no other health problems, his hematology did not reveal any pathologies, and screening for antinuclear antibodies was negative. A biopsy of a cheek lesion revealed a dense mixed inflammatory perivascular and interstitial infiltrate with abundant eosinophils and perivascular nuclear dust filling the dermis (Fig. 2). Immunohistochemically, both CD4 and CD8 lymphocytes were present. The findings were consistent with GF. The patient was advised to use sunscreen creams and was treated over the next 6 months with intermittent topical corticosteroids, with no significant reduction of infiltration. Cryospray treatment with liquid nitrogen was applied to all lesions without significant effect. The lesions persisted unchanged except for slight corticosteroid-induced atrophy, and so subsequently we chose tacrolimus 0.1% ointment applied twice a day. A month of application did not show any significant improvement, but after a further 3 months of tacrolimus treatment, a complete remission was observed.

Treatment with tacrolimus was stopped and the patient was advised to continue with sun protection.

KEY WORDS

granuloma faciale, therapy, tacrolimus

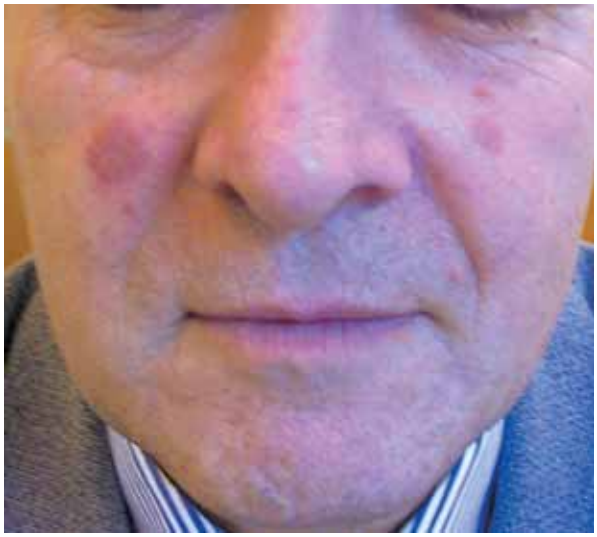

Figure 1. GF lesions on the face.

After 2 years of remission the patient spent a vacation at a seaside resort, where he did not use sun protective creams regularly, with the result of slight exacerbation of the lesions on the cheeks. Renewal of tacrolimus treatment again led to the remission of the lesions.

Discussion

GF is a persistent inflammatory process on sun-exposed skin of unknown etiology. Histologically a dense inflammatory infiltrate with numerous eosinophils, lymphocytes, histiocytes, neutrophils, and small-vessel vasculitis is found in the dermis. Extravasated erythrocytes with deposits of hemosiderin can be seen, clinically corresponding with the brownish color of the lesions. Granuloma is a misnomer because no granuloma formation can be found. A typical finding is a thin "grenz zone" between the undamaged epidermis and inflammation in the dermis. Immunohistochemically the lymphocytes are CD4+ and there is high lesional production of IL-5, a cytokine important for eosinophil recruitment (1). Proinflammatory cytokine interferon-ã has also been shown to play a role in GF (2).

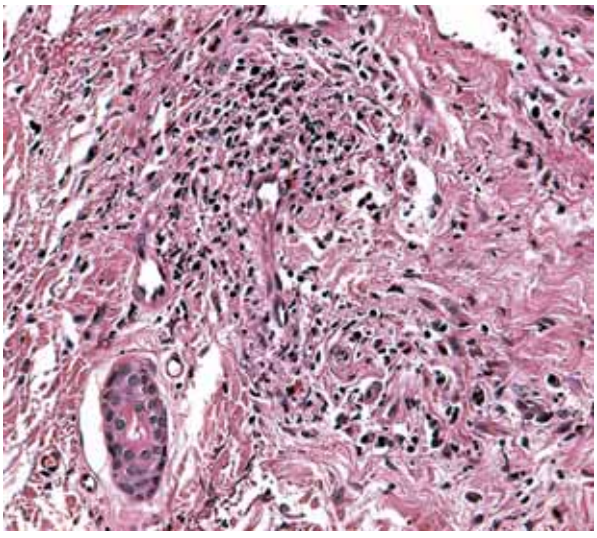

Figure 2. Mixed inflammatory infiltrate with nuclear dust and sparse eosinophils around damaged vessels. Hematoxylin eosin, original magnification 200×.

GF is a chronic disorder, generally without a tendency to spontaneous remission and with unsatisfactory treatment results. Topical intralesional corticosteroids, cryotherapy, laser therapy, radiation and PUVA therapy, surgical excision, and systemic administration of corticosteroids, dapsone, and antimalarials are among proposed treatments with variable results. Our patient had three small discoid lesions, and so we wished to avoid systemic treatment because of the unsatisfactory risk/benefit ratio.

Successful treatment of GF with topical tacrolimus has already been reported (3–5). Tacrolimus (FK-506) is a macrolide antibiotic used as an immunosuppressive drug in transplantology. It is registered as a topical preparation in the treatment of severe atopic dermatitis (6). Tacrolimus interacts with and inhibits calcineurin, thus inhibiting the T lymphocytes' signal transduction and production of cytokines. Tacrolimus also decreases the number of Langerhans cells and antigen-presenting cells in the skin and inhibits the propagation of the inflammatory cascade. Because an immunopathological etiology is suspected, it was assumed that topical immunosuppressants may show a positive therapeutic effect.

A number of reports of successful use of tacrolimus in off-label therapy have been published. Effective treatment with topical tacrolimus has been reported in vitiligo (7), lichen sclerosis of the vulva and penis (8), oral and genital lichen planus (9, 10), hand and foot eczema (11, 12), inverse psoriasis (13), pemphigoid (14), pemphigus (15), and localized scleroderma (16).

The reports of successful treatment of GF with tacrolimus are consistent with our findings. However, topical immunosuppressants should be administered carefully because of their potential carcinogenicity. We believe that short-term treatment is not overly risky and that topical tacrolimus is a good option for the treatment of resistant GF.

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AUTHORS' ADDRESSES

Hana Jedličková, MD, PhD, First Department of Dermatovenerology, Masaryk University, St. Anne University Hospital, Pekaøská 53, 656 91 Brno, Czech Republic, E-mail: hana.jedlickova@fnusa.cz
Vera Semrádová, MD, First Department of Dermatovenerology, Masaryk University, St. Anne University Hospital, same address
Josef Feit, MD, Department of Pathology, Masaryk University, Brno University Hospital, Brno, Czech Republic