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Successful Response to Topical Tacrolimus for a Granuloma Faciale in an Elderly Patient

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Key Words

Granuloma, face • Tacrolimus • Aged subjects

Granuloma faciale (GF) is an uncommon cutaneous disease which presents most often in middle-aged patients. Although its etiology is still unclear, many reports suggest that GF is a local form of cutaneous vasculitis. Many facts suggest that GF and erythema elevatum diutinum may be produced by a similar or the same pathogenic mechanism. For example, both are chronic localized forms of cutaneous leukocytoclastic vasculitis that result in patterned fibrosis. However, erythema elevatum diutinum often occurs in systemically ill patients as bilaterally symmetrical

plaques, papules or nodules over the dorsa of joints, and GF usually appears as one or a few plaques on the face. In addition, eosinophils and plasma cells are prominent in GF, whereas neutrophils are plentiful in erythema elevatum diutinum [1]. GF is often quite resistant to therapy [2–6]. Topical calcineurin inhibitors may represent a useful alternative to topical corticosteroids for the treatment of a number of other inflammatory skin diseases different from atopic dermatitis [7].

We report a 90-year-old male patient without remarkable medical history who presented to our department with an asymptomatic lesion on the nasal tip. This lesion had been present for 6 months, and gradual enlargement had been observed.

Physical examination revealed an oval, well-delimited, reddish yellow plaque, 2.5×1.5 cm in size, with a smooth and brilliant surface. Focal telangiectasia and follicular openings were also found (fig. 1). A biopsy specimen was obtained which showed a dense dermal polymorphous inflammatory infiltrate with neutrophils, lymphocytes, plasma cells and numerous eosinophils. A narrow grenz zone and a mild fibrosis area were also found. With these histological findings, a diagnosis of GF was made.

Therapy with topical 0.1% tacrolimus ointment twice daily was started after he had not responded to the application of topical corticosteroids. Treatment was stopped after 3 months with remission lasting for 1 year. Only slight reddish coloration at the edges of the lesion remained (fig. 2). No burning sensation was noted.

Fig. 1. Reddish yellow plaque at the tip of the nose.

Fig. 2. After therapy, only slightly colored edges of the lesion remain.

Table 1. Previously reported experiences with topical calcineurin inhibitors for GF

Authors	Sex	Age years	Location	Previous treatment	Prescribed treatment	Evolution
Tomson et al. [2], 2009	male	50	cheeks	oxytetracycline, cryotherapy	topical tacrolimus 0.1% twice daily, 1 year	lesions reappeared, topical tacrolimus again
Tomson et al. [2], 2009	male	65	cheeks and forehead	mometasone furoate 0.1% cream	topical tacrolimus 0.03% twice daily, 6 months	no recurrence
Jedlicková et al. [11], 2008	male	60	unknown	topical corticosteroids, cryotherapy	topical tacrolimus 0.1% twice daily, 4 months	no recurrence
Marcovall et al. [4], 2006	male	64	forehead and preauricular	topical corticosteroids	topical tacrolimus 0.1% twice daily, 2 months	almost completely disappeared
Eetam et al. [12], 2006	female	41	nasal dorsum and left malar region	none	topical pimecrolimus 1% twice daily, 2 months	resolved
Mitchell [6], 2004	male	59	cheeks	excision, intralesional corticosteroids	topical tacrolimus 0.1%, 10 months	resolved
Ludwig et al. [3], 2003	female	64	forehead, cheeks and nose	none	topical tacrolimus 0.1% twice daily, 6 months	most of the lesions resolved

Because of the prominent location of GF on the face, treatment is often desired [3]. Therefore, topical, intralesional and systemic corticosteroids, electrosurgery, cryotherapy, diverse modalities of laser, dapson, clofazimine, colchicine, PUVA therapy, dermabrasion or surgical excision have previously been applied with different responses [2–4]. In addition, topical calcineurin inhibitors have been shown to be effective in several inflammatory diseases [3, 7] such as pemphigus foliaceus, discoid lupus erythematosus, granulomatous periorificial dermatitis [8], erosive pustular dermatosis of the scalp [9] and even in other rare conditions such as cutaneous plasmacytosis [10]. So, encouraged by previous successful experiences with topical tacrolimus in GF (table 1), we started this treatment in our patient with a good therapeutic response.

Immunophenotypic molecular analysis of the dermal infiltrate in GF reveals that most lymphocytes are clonally expanded, memory T-helper CD4+ cells. Furthermore, it is suggested that the accumulation of the inflammatory infiltrate in GF lesions is mediated by γ -interferon. Tacrolimus acts by binding and inactivating calcineurin, so T-cell activation and proliferation are blocked. As a result, secretion of γ -interferon is inhibited [2]. In addition, a decrease in interleukin 5 production by topical tacrolimus may lead to a reduction of the number of eosinophils present in the lesions [4]. In contrast to topical corticosteroids, skin atrophy is not observed after long-term treatment with topical calcineurin inhibitors [3]. In conclusion, the approach to use topical tacrolimus appears to be reasonable in the management of this condition. We would like to point out the presentation of GF in an elderly population and the effective and well-tolerated therapeutic response in our patient. Finally, we suggest that topical tacrolimus could be an effective and safe treatment option for GF.

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