Successful Treatment of Genital Pruritus Using Topical Immunomodulators as a Single Therapy in Multi-morbid Patients

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Sir,

Anogenital pruritus is defined as pruritus affecting the skin of the anus, perianal and genital area. In men it frequently presents as scrotal pruritus and in females as vulval pruritus. It may be caused by skin diseases (e.g. eczema, psoriasis, irritant or allergic contact dermatitis), infections (e.g. candidiasis, parasitosis, lichen sclerosus, premalignant or malignant conditions), as well as by systemic diseases. Age, especially in female patients, determines the initial most common differential diagnoses that need to be considered (1). Acute genital pruritus is often caused by infections, allergic or irritant contact dermatitis, leading to prompt resolution after causal therapy. In a number of patients no underlying disease can be identified and the condition is termed "pruritus of undetermined origin". In the majority of these cases the disease course is chronic. Topical glucocorticosteroids have been described as first-line treatment for genital pruritus, but are sometimes not effective, and their long-term use is limited by local and potentially systemic side-effects. Previous reports showed anti-pruritic potency of topical calcineurin inhibitors, such as tacrolimus and pimecrolimus (2, 3).

CASE REPORTS

Case 1. A 67-year-old woman with severe cardiac arrhythmia, cardiomyopathy, diabetes mellitus type II, gout, subclinical hypothyroidism, iron and vitamin B12 deficiency and a history of childhood atopic dermatitis asked for relief of persistent daily genital pruritus occurring since autumn 2005. The average itch intensity was rated as 9 on a visual analogue scale (VAS) (range 0–10). Various topical glucocorticosteroids were ineffective. The skin of both labia showed erythema and severe lichenification, probably induced by intense scratching. Because of her severe cardiac disease and multiple drug intake the patient did not want any systemic treatment. Vitamin B12 and iron had been regularly substituted, but did not influence the intensity of pruritus. Topical pimecrolimus 1% cream therapy twice daily completely resolved pruritus within one week (VAS 0) and was discontinued after 4 weeks. The patient has since been symptom-free for 3 months.

Case 2. A 73-year-old man had been suffering from scrotal pruritus since October 2004 (VAS 8). He had no history of any skin disease, atopy or allergy. In 1994, he had been hospitalized for an encephalitis of unknown origin. He had been suffering from arterial hypertension, recurrent back pain and occasional heartburn. Various topical treatments, including glucocorticosteroids and pimecrolimus 1% cream, did not relieve his scrotal pruritus. Because of the history of encephalitis he rejected any further diagnostic tests and systemic treatments and requested symptomatic relief. The scrotum showed mild lichenifications. Topical tacrolimus 0.03% was started twice daily and the pruritus resolved completely within 2 weeks (VAS 0). After 6 weeks he continued to apply tacrolimus 0.03% twice a week for a further period of 8 weeks. He has now been almost free of pruritus for one year and uses tacrolimus approximately 3 applications a week every 2 months for minor pruritus (VAS 2).

DISCUSSION

Topical and systemic anti-pruritic therapies for genital pruritus have to be worked out individually in recognition of age, pre-existing diseases, medications, severity of pruritus and impact on quality of life (Table I). The first step is to identify any underlying disease and its causative therapy. These case reports demonstrate that topical immunomodulators are effective in localized forms of pruritus and can also be applied in complicated disease courses of multi-morbid patients. In women, in particular, iron deficiency may be a cause of genital pruritus, but a small case-controlled study did not provide evidence to support the routine determination of iron status in pruritus vulvae (4). As anogenital pruritus may also be attributed to lumbosacral radiculopathy,

Table I. *Symptomatic treatment options for genital pruritus depending on the clinical picture of the skin*

Topical
Menthol, camphor
Tannin preparations (cream, bath)
Local anaesthetics, e.g. polidocanol
Antiseptics, e.g. fusidic acid
Urea preparations, e.g. urea 5% cream
Glucocorticosteroids of lower potency (class IV–VII)
Immunomodulators: pimecrolimus 1%, tacrolimus 0.03% or 0.1%
N-palmitoylethanolamin (PEA)-containing cream
Systemic
Antihistamines, e.g. hydroxyzine 25–50 mg at night
Selective serotonin reuptake inhibitors e.g. paroxetine 10–40 mg/day, fluoxetine 40–80 mg/day
Gabapentin 300–3600 mg/day.

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paravertebral injections with a mixture of lidocaine and triamcinolone acetonide can alleviate symptoms (5). The anti-pruritic effect of topical immunomodulators is attributed mainly to the inhibition of inflammatory cytokines. They may also directly influence nerve fibre function by possible binding to receptors on unmyelinated nerve fibres (2). The permeation rate of pimecrolimus through the skin is lower by a factor of 9–10 compared with that of tacrolimus, which may be attributed to the higher overall lipophilicity of pimecrolimus (6). This may explain why, in contrast to tacrolimus, pimecrolimus was not an effective treatment in the case of scrotal pruritus described here. Both substances have a low degree of percutaneous absorption and no potential for skin atrophy, which is an important advantage when treating genital pruritus. Topical immunomodulators can be recommended as second-line therapy for chronic genital pruritus not responding to topical glucocorticosteroids, even in patients characterized by complicated disease courses.

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