Topical Mupirocin

Br J Dermatol. 1988 Aug;119(2):189-98.

Staphylococcal colonization in atopic dermatitis and the effect of topical mupirocin therapy.

Lever R, Hadley K, Downey D, Mackie R.
Source
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Abstract
Forty-nine patients with atopic dermatitis entered a double blind placebo controlled cross-over study of mupirocin, a new topical antistaphylococcal antibiotic. Forty-five patients were evaluable. Quantitative bacteriological assessment before treatment showed that heavy colonization of the skin with Staphylococcus aureus was present in nearly all patients even in the absence of overt infection. However, the bacterial count was significantly reduced by 2 weeks' treatment with topical mupirocin, but not by the placebo. Moreover, a significant reduction of clinical severity was also observed after treatment with mupirocin, which was maintained over the following 4 weeks, although recolonization occurred during this period, with bacterial counts rising to pre-treatment levels. Despite recolonization, clinical deterioration was not observed during the trial period. No serious side-effects were observed. Phage typing showed that 50% of patients carried more than one bacterial phage type. Recolonization in eight patients (17%) was with a 'new' strain that had not previously been isolated.

Topical Fluticasone

Br J Dermatol. 1999 Jun;140(6):1114-21.

The management of moderate to severe atopic dermatitis in adults with topical fluticasone propionate. The Netherlands Adult Atopic DermatitisStudy Group.

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Source
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Abstract
This study was designed to investigate a long-term therapeutic strategy for the management of recurring atopic dermatitis (AD) in adults using fluticasone propionate (FP) ointment (CutivateTM) whereby FP could help to prevent a relapse of AD once symptoms were under control. Adult patients with chronic, moderate to severe AD entered this multicentre study. All patients were initially treated with FP 0.005% (g/g) ointment in two different regimens. Patients whose AD had been completely healed by these treatments then entered a long-term treatment phase applying FP or placebo ointment once daily, two times per week for 16 weeks to 'known' healed lesions. By the end of the initial treatment period, mean SCORAD values had significantly ($P < 0.0005$) improved from baseline. Patients who entered the maintenance phase and were treated with intermittent FP for up to 16 weeks, demonstrated its superior efficacy ($P = 0.018$) over placebo, maintaining the improvements achieved after the initial treatment phase, reducing risk of relapse and delaying time to relapse ($P = 0.013$). No significant changes were detected in either treatment group in serum cortisol levels or in skin thickness measurements. Intermittent FP applied two times per week maintained a significant level of control, and delayed relapse of AD by comparison with placebo.
Br J Dermatol. 2002 Sep;147(3):528-37.

Intermittent dosing of fluticasone propionate cream for reducing the risk of relapse in atopic dermatitis patients.

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Source
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Abstract

BACKGROUND:
One of the most troublesome features of atopic dermatitis (AD) is its chronic relapsing nature, and there is a lack of published evidence on the best treatment strategy for long-term management of the disease.

OBJECTIVE:
To compare an intermittent dosing regimen of fluticasone propionate (FP) cream 0.05% (twice per week) with its vehicle base in reducing the risk of relapse when added to regular daily emollient in adult and paediatric subjects with stabilized AD.

METHODS:
Subjects (aged 3 months to 65 years) with moderate or severe AD were enrolled into an open-label Stabilization Phase of up to 4 weeks on daily emollients plus FP twice daily. Those subjects who achieved 'treatment success' (Global Assessment Score </= 2, erythema, pruritus, and papulation/induration/oedema scores </= 1) entered the double-blind Maintenance Phase. They continued with regular emollients and were randomized at a 2 : 1 ratio to either intermittent FP or vehicle, once daily 4 days per week for 4 weeks followed by once daily 2 days per week for 16 weeks. Subjects who relapsed on intermittent FP were discontinued from the study. Those who did not relapse continued for an additional 24 weeks on intermittent dosing for safety monitoring.

RESULTS:
A total of 372 (247 paediatric, 125 adult) subjects were enrolled into the Stabilization Phase. Of these, 348 (231 children, 117 adults) were randomized into the Maintenance Phase. Analysis of the primary efficacy parameter showed that subjects receiving intermittent FP cream (twice per week), in addition to regular daily emollients in the Maintenance Phase, were 7.7 times less likely to have an AD relapse than subjects receiving intermittent vehicle cream/emollients [Mantel-Haenszel (MH) estimate of the odds ratio, 95% confidence interval (CI) 4.6, 12.8; P < 0.001]. Paediatric subjects were 8.1 times less likely to have an AD relapse (95% CI 4.3, 15.2; P < 0.001) and adult subjects were 7.0 times less likely to have an AD relapse (95% CI 3.0, 16.7; P < 0.001). For subjects receiving intermittent FP cream/emollient, the median time to relapse could not be estimated as the majority remained controlled at 20 weeks. For those receiving intermittent vehicle/emollient, the median time to relapse was 4.7 weeks. For paediatric and adult groups, this was 5.1 and 4.1 weeks, respectively. Median exposure to FP for all subjects was 337 days. There was only one study drug-related adverse event (acne) and there were no reports of skin thinning or atrophy associated with the use of FP cream in paediatric or adult subjects.

CONCLUSIONS:
In paediatric and adult subjects, once stabilized with regular FP treatment, the risk of relapse of AD can be significantly reduced by extended intermittent dosing with FP cream in addition to regular emollient therapy.

Topical Itraconazole

Activity of Orally, Topically, and Parenterally Administered Itraconazole in the Treatment of Superficial and Deep Mycoses: Animal Models

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Abstract

The activity of itraconazole in vitro was evaluated for 2,094 strains of 132 fungal species, one achloric alga, nine actinomycetes, and six bacterial species. Itraconazole was active against dermatophytes (271 strains),*Candida* species (1,303), *Cryptococcus neoformans* (27), *Torulopsis*species (170), *Pityrosporum* species (40), *Aspergillus* species (87),*Sporothrix schenckii* (12), dimorphic fungi, Dematiaceae, and various other organisms. This activity depended largely on the test conditions and the medium used. Itraconazole was as active as ketoconazole in the treatment of dermatophytoses and of both superficial and deep candidosis at oral doses about eight and four times lower, respectively, than the doses of ketoconazole required. Disseminated dermatophytosis was cured more rapidly by itraconazole than by ketoconazole. Parenteral and oral itraconazole were of equal efficacy for the treatment of systemic candidosis. Itraconazole used topically was more active than reference compounds against microsporosis, trichophytosis, and superficial candidosis. Given orally, itraconazole was effective therapy for aspergillosis and meningocerebral cryptococcosis in mice and for generalized cryptococcosis, histoplasmosis, and sporotrichosis in guinea pigs. No drug-related adverse effects were observed.

Fungal cultures on cyanoacrylate skin surface strippings as a dose-finding method for topical antifungals. A placebo-controlled study with 0·25% and 0·50% itraconazole cream

1995, Vol. 33, No. 2 , Pages 127-130 (doi:10.1080/02681219580000271)
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The antimycotic activities of 0·25% and 0·50% itraconazole cream were compared in the stratum corneum after once-daily applications for 1 week. Two groups of 12 healthy volunteers applied either itraconazole or placebo on the inner side of each forearm, in a double-blind design. Cyanoacrylate skin surface strippings (CSSS) were taken on days 8, 11 and 21. Conidia or yeasts of selected fungi (*Trichophyton rubrum, Trichophyton metagrophytes, Microsporum canis* and *Candida albicans*) were deposited on CSSS. Fungal growth on CSSS was assessed in time by computerized image analysis to derive the inhibitory effect of the previously applied antifungal preparations. Comparable antimycotic activity was found against dermatophytes for both concentrations. Itraconazole 0·50% appeared to be more active than 0·25% against *C. albicans*. The 0·50% concentration yielded prominent fungitoxic effect after 1 week of treatment, and showed a lingering effect in the stratum corneum for at least 3 days. This method could be useful in a pre-clinical setting and serve as a predictive tool for further clinical dose-finding studies with topical antimycotics.