

Successful treatment of tinea pedis with a topical agent containing isoconazole nitrate and diflucortolone valerate

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Key words: Tinea pedis, isoconazole, diflucortolone

Background

In Korea, the incidence of tinea pedis in superficial mycoses averages 30–40%. The most common cause of tinea pedis is infection with *Trichophyton rubrum*.¹ Until recently, treatment has focused mainly on eradication of the fungus using an anti-fungal agent, but this is often not sufficient for relief of symptoms which can lead to bacterial superinfection.

Around 2500 patients with tinea pedis are seen in our clinic per year. This case, one of the worst cases in Korea, demonstrates the successful therapeutic effect of isoconazole in combination with an anti-inflammatory corticosteroid for not only the eradication of the dermatophytic infection but also for the relief of inflammatory symptoms of tinea pedis.

Case report

Patient history

A 36-year-old male office worker visited his local hospital complaining of severe pruritus and a mild painful sensation in the interdigital areas of the left foot. He was prescribed a methylprednisolone ointment under a diagnosis of foot eczema at a private clinic. His symptoms did not improve after 2 weeks of treatment. He then visited the Department of Dermatology at Korea University Anam Hospital. The patient's medical history was unremarkable and he was physically fit apart from the skin lesion. He had had no recent contact with animals nor people with similar infections.

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Accepted for publication 8 July 2008

Dermatological findings

An erythematous and dusky coloured crusted patch was observed on the second interdigital area of the left foot (Fig. 1). There was slight swelling, marked pruritus, fissuration and oozing.

Investigation and diagnosis

Using a potassium hydroxide preparation, scales of the interdigital area were examined under the microscope and septated hyphae were seen. A diagnosis of tinea pedis of the second interdigital area of the left foot was made, presumably due to *T. rubrum* infection. Culture was not performed because it would take too long to receive the results and immediate treatment was more important in this case.

Treatment and outcome

A bacterial superinfection was suspected and oral cefixime (Suprax®; Dong-A Pharm, Seoul, Korea)



Figure 1 Dermatological findings before treatment.



Figure 2 Skin condition much improved after 3 weeks of topical treatment with antifungal plus anti-inflammatory cream.

200 mg/day and topical fusidate sodium (Sod fusidate®; Sang-A Pharm, Seoul, Korea) ointment were initially prescribed. After 1 week of antibiotic treatment, the pain and swelling in the left foot subsided considerably. A topical cream containing isoconazole nitrate and diflucortolone valerate (Travocort®; Intendis, Berlin, Germany) was then prescribed and applied to the infected areas of the skin twice a day. Within 1 week of anti-fungal/anti-inflammatory treatment, there was a rapid reduction in the degree of pruritus and oozing from the lesion and the patient's rash became pale and much reduced in size. The scaling and tiny vesicles also disappeared within 3 weeks of treatment (Fig. 2). No side effects of treatment were observed. Final microscopic findings after 3 weeks of anti-fungal/anti-inflammatory treatment showed no evidence of fungal hyphae.

Conclusion

In many cases of cutaneous fungal infection, topical therapy is effective and sufficient. Isoconazole nitrate,

which belongs to the imidazole group, has two different anti-fungal actions. It reduces fungal ergosterol synthesis at low concentrations, and influences triglyceride and free fatty acid synthesis not only of fungi but also bacteria at high concentrations.² So we can expect anti-fungal and anti-bacterial effects in tinea pedis patients by using isoconazole nitrate cream. Adverse effects of isoconazole nitrate cream such as contact dermatitis are rarely reported.³ In severely inflamed cases, the most common symptom is severe pruritus. Also, oozing and pain may be experienced if the involved area is macerated.⁴ Sometimes, the symptom is not controlled well by using an anti-fungal agent only. In such cases, topical cream containing a combination of isoconazole nitrate and diflucortolone valerate is helpful for rapid reduction of pruritus, oozing and pain.

Conflict of interest

The author has no conflict of interest.

References

- 1 Kim ES, Kim DH, Chang SE *et al.* *Trichosporon* species in onychomycosis and tinea pedis. *Korean J Dermatol* 2003; **41**: 702–7.
- 2 Gugnani HC, Akpata LE, Gugnani MK, Srivastava R. Isoconazole nitrate in the treatment of topical dermatomycoses. *Mycoses* 1994; **1–2**: 39–41.
- 3 Lazarov A, Inqber A. Pustular allergic contact dermatitis to isoconazole nitrate. *Am J Contact Dermatitis* 1997; **8**: 229–30.
- 4 Elgart ML, Warren NG. Superficial and deep mycoses. In: Moschella SL, Hurley HJ *et al.* (eds), *Dermatology*, 3rd edn. Philadelphia: WB Saunders, 1992: 869.