The effective use of isoconazole nitrate and diflucortolone valerate cream in the treatment of inguino-femoral skin fold mycosis

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Background

In the Russian Federation, *Trichophyton rubrum* is the predominant cause of dermatomycoses, and has been isolated in 65–75% of cases. With respect to damage to large skin folds, the significance of fungi of the *Candida* species increases substantially. They are detected in more than 30% of cases of intertrigo of the inguino-femoral folds, axillary creases and skin folds beneath the mammary glands.[1]

Case report

Patient history

A 61-year-old male pensioner presented complaining of severe pruritus due to a burning, macular, nodular and pustular skin rash of the right inguino-femoral fold. Desquamation of the skin was apparent. Upon questioning, the patient said that he had first noticed the symptoms of the disease about 1.5 months before coming to the clinic. He had not previously consulted any doctor for the complaint and had treated himself with over-the-counter (OTC) products containing clotrimazole. The patient noted that the effect of these OTC treatments was hardly noticeable and had only a temporary effect.

The patient had insulin-independent type 2 diabetes mellitus, for which he was taking the sulphonylurea glibenclamide. The patient reported that his wife had an extensive form of onychomycosis of the feet, a problem that she had endured for several years.

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Dermatological findings

Examination of the patient revealed damage to the skin of the right inguino-femoral fold (Fig. 1). There were large, clearly delineated maculae which were coalescing, red in colour, with fine flakes on the surface and vallate edges. There was folliculitis along the periphery and at places in the actual focus of the damage.

Investigation and diagnosis

Microscopic examination of the skin squamae revealed a mycelial form of fungus, with multiple septate hyphae being observed. Mycological culture showed growth of *Trichophyton rubrum*.

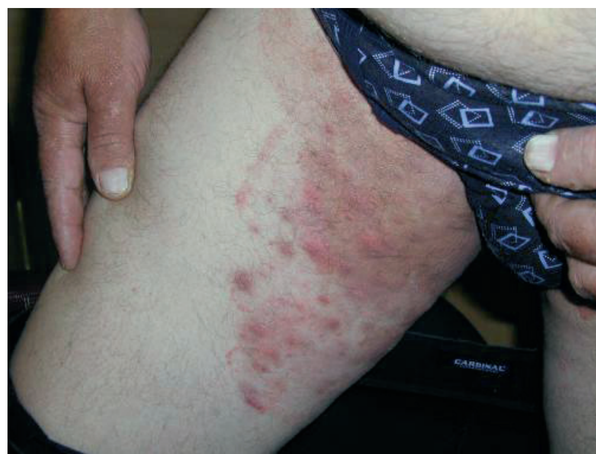

Figure 1 Intertrigo of the right inguino-femoral fold caused by *Trichopyton rubrum* before the start of treatment.

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Treatment and outcome

Isoconazole nitrate plus diflucortolone valerate cream (Travocort®; Intendis, Berlin, Germany) was prescribed and this was to be applied twice a day for 2 weeks to the main affected areas of the skin. The effect of this treatment was noticeable after the first day of treatment and all the patient's symptoms were completely resolved within 2 weeks.

The patient first noticed a reduction in pruritus and burning after just 24 hours with disappearance of these symptoms within 2 days. The intensity of the erythema also decreased within a couple of days and had completely resolved 9 days after the first application. The patient's folliculitis improved after 4 days and completely disappeared after 2 weeks. The desquamation decreased after 2 days and was completely resolved 7 days after starting treatment (Fig. 2).

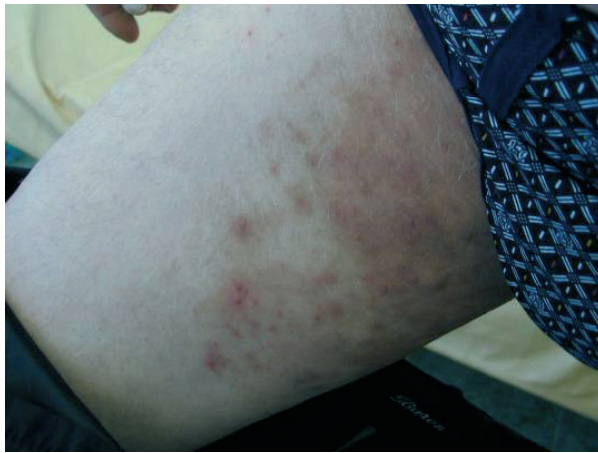

Figure 2 Decrease in erythema, resolution of desquamation, reduction in the quantity of folliculitis after 7 days' treatment.

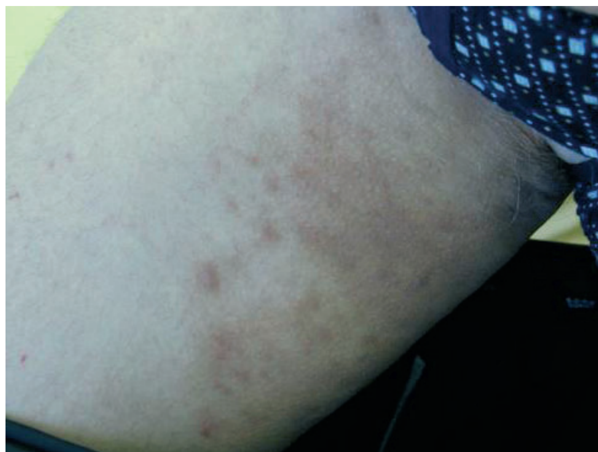

Figure 3 Resolution of the patient's symptoms at 2 weeks with secondary skin hyperpigmentation.

After completion of the treatment, secondary hyperpigmentation remained at the site of resolution of the mycotic focus of damage to the right inguino-femoral fold (Fig. 3). Microscopic and culture examinations were performed three times at 24-h intervals. No fungal mycelium was detected and there was no fungal growth upon culture.

Conclusion

The treatment of limited skin mycoses is not generally complicated, in view of the diverse range of modern anti-fungal products available for external use.[1–3] While they may be effective for some patients, topical anti-fungal agents may aggravate an inflammatory process, which is manifested by the intensification of pruritus, hyperaemia, exudation and the appearance of vesiculation and weeping. This may occur for two reasons: first, the causative agents of skin mycoses are not very sensitive to the prescribed anti-fungal agent; second, if the mycotic process has an acute course with a marked exudative reaction, then prescribing even an effective anti-fungal agent may result in intensification of manifestations of an inflammatory process. This occurs most commonly in patients suffering from chronic skin diseases and in patients predisposed to allergic reactions. In such cases, the anti-inflammatory activity of an anti-fungal product for topical use is found to be inadequate and there is a need to prescribe combined products containing anti-fungal agents and glucocorticosteroids.

In this case, the patient was diabetic and therefore at a high risk of developing a fungal infection of the skin. The fact that his wife had long-standing onychomycosis is also of interest and increases the patient's risk of infection. The patient self-medicated with topical anti-fungal creams but these did not alleviate his symptoms. While they may be effective for some patients, topical anti-fungal agents may aggravate an inflammatory process. In this case, the use of a topical cream containing both an anti-fungal agent and an anti-inflammatory agent was preferable and was successful in treating the patient's symptoms.

Conflict of interest

Dr Kotrekhova has received payment for speaking and involvement in clinical studies.

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