

Views and Practice

Management of tinea pedis in a private clinic

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Pathogenic fungi are found in the environment and gain entry into the human body either through inhalation, ingestion or implantation into the skin. Airborne fungi may produce allergic reactions and asthma, while others may cause contact allergy. The ubiquitous existence of fungi and their resilient nature result in the high prevalence of fungal infections in the skin. Tinea pedis is a very common skin disease in Hong Kong especially during the hot and humid summer months, most often affecting adult males. Studies have shown that it affects about twenty percent of the population.¹ There are three types of tinea pedis as follows: interdigital, moccasin and vesiculobullous. It is typically transmitted in moist areas where people walk barefoot and can spread to other parts of the body.

I make the diagnosis clinically and as this is usually straightforward; skin scrapings are not routinely required. In addition, treatment for interdigital infection is effective and often the condition has resolved before the laboratory result is available. In addition, the yield of skin scrapings is not always high. However, in doubtful cases or when the

patient is unresponsive to treatment, I would perform skin scrapings for fungal smear and culture.

Relapse and recurrences are common. These may be due to re-infection, incomplete eradication of infection or poor compliance with treatment. Elimination of the causal factors is difficult. Tinea pedis is prevalent in tropical climates and may be compounded by wearing occlusive footwear. The incidence is higher among those who use communal baths, showers or pools. This condition is also common among industrial workers.

The type of lesion, site and extent of the disease are taken into account when I decide whether to use topical or systemic treatment. I use topical antifungal cream for interdigital infection. For the moccasin and vesiculobullous types of tinea pedis, I would add a systemic antifungal drug as the keratin layer is thickened. Likewise, for unresponsive interdigital or widespread infections, I would also use a systemic antifungal agent.

Topical therapy is effective in simple interdigital infections, which is the most common type of fungal infection. Although terbinafine cream is effective, I frequently encounter patients who cannot tolerate this treatment. The incidence of intolerance is higher with the spray form. This is also a problem when there is maceration and/or fissuring. The cause of intolerance ranges from itching to a burning sensation. As a result, I prefer to use the imidazole group of which there are a wide range of options. I advise my patients to use

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it consistently for four weeks despite symptomatic improvement and then return for follow up. Over the years, I have tried many different generic and brand products. In general, I find that patient acceptance and clinical cure rates are higher with brand products. My postulation is that although the formulation is similar, the base may make a difference in the delivery of the drug.

For systemic medications, my choice of treatment is terbinafine 250 mg daily. Treatment for two weeks is sufficient. I do not perform liver function tests routinely as the treatment interval is short. To date, I have not encountered any side-effects as reported by the patients. Itraconazole 200 mg daily for 2 weeks is equally effective, but the daily cost is higher. I find that griseofulvin is not as effective and I am also concerned about the risk of liver toxicity with ketoconazole. Hence, these latter two treatments are not my drug of choice.

If there is an exudative toe cleft infection, I would also prescribe potassium permanganate solution diluted for soaking. I advise my patients avoid exposure to fungal infection such as wearing slippers in communal changing rooms and swimming pools. They should be encouraged to wear non-occlusive shoes and socks in order to reduce heat and humidity, especially in the hot summer months. I find antifungal dusting powder useful in patients with frequent relapses and those who suffer from hyperhidrosis. Personal hygiene is important. Industrial workers may find changing socks during their breaks helpful.

Compliance is always a problem. Patients may have misconceptions about the management plan. They may stop therapy prematurely once symptomatic control is achieved. Frequently, they default follow-up in the private sector and they may purchase different kinds of products over the counter. There is no perfect solution for this kind of situation although I try to overcome this problem by giving out instruction leaflets.

As tinea pedis is a very common skin disease in Hong Kong, it is worth taking an active management approach to improve compliance, reduce the effects of this skin disease and help to improve the quality of life. There is an ongoing research project on the development of hygienic socks using micro-encapsulation technology. In theory, the antifungal microcapsules can be grafted onto textile fabric without bursting during the padding process. The rate of release of the antifungal agents can be controlled and the control of moisture is better than with ordinary socks. The proposed socks are an additional option to the current therapy for tinea pedis. At present, this is an experimental product at a rudimentary stage of development. Hopefully, it can offer a convenient and reliable alternative in the future.

Reference

1. Cheng SY, Chong LY. A prospective epidemiological study on tinea pedis and onychomycosis in Hong Kong. *Chin Med J (Engl)* 2002;115:860-5.