

An Epidemic of Tinea Corporis Caused by *Trichophyton tonsurans* among Wrestlers in Sweden

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An epidemic of tinea corporis due to *Trichophyton tonsurans* among wrestlers in Sweden is described. Totally 19 patients, 14 patients from Malmö and 5 from Gothenburg, were found. The suspected source of this epidemic was from a wrestlers' team from the USA visiting Sweden in April, 1993. All patients were treated orally with either griseofulvin, fluconazole or terbinafine, and all were cured. To prevent spreading, epidemiological tracing of secondary cases is important.

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In a sport like wrestling, with intense physical contact, skin infections caused by bacteria and virus, especially herpes simplex (1) and molluscum contagiosum (2), are well known.

Tinea corporis among wrestlers has earlier been rare, with only one epidemic, caused by *Trichophyton verrucosum*, reported in 1966 (3). Since 1992 an increasing number of reports on epidemics among wrestlers caused by *T. tonsurans* has been reported in the USA (4–6). In Europe, however, *T. tonsurans* infections seem to be rare.

This is the first report of epidemic outbursts of tinea corporis gladiatorum caused by *T. tonsurans* in two cities in Sweden.

CASE REPORT

During the summer of 1993 we examined in Malmö, on two different occasions, two young men with discrete, slightly scaling annular-macular skin lesions on the cheek and arm, respectively. Mycological culture revealed *T. tonsurans* in both patients. As the two patients were members of the same wrestling club, it was decided to examine all members of the club. Twenty wrestlers, aged 14 to 33 years, were examined, and in 19 we could find scaling lesions; 14 out of 19 had *T. tonsurans*, proven by mycological culture, as well. In general the lesions were very discrete, superficial and without the typical ringworm pattern. They rather resembled pityriasis alba (Fig. 1). Only in a few cases were there inflammatory features. The skin lesions were localized on the upper part of the body, the medial aspect of the arms, the face, the neck and the trunk. No scalp involvement was found. One additional case, the wife of one of the wrestlers, also had tinea corporis, caused by *T. tonsurans*.

From the autumn of 1993 until the summer of 1994 we found four wrestlers in one club in Gothenburg with more typical tinea corporis, also caused by *T. tonsurans*, localized to the face, neck and arms and one wrestler from another club with one lesion on his right forearm. At a visit to one of the wrestling clubs in the summer of 1994, examination of the wrestlers proved that none of the other 45 members had any tinea corporis-like lesions.

Scrapings from the edges of the lesions in all patients were examined microscopically (potassium-hydroxide/KOH/20%) and cultured on Sabouraud's agar without supplements, dermatophyte test medium and

Sabouraud's agar with thiamine. Plates were incubated at 32°C for up to 3 weeks.

Treatment and follow-up

All patients received systemic oral treatment with griseofulvin, fluconazole or terbinafine. Three patients were treated as part of a multicenter study comparing griseofulvin 500 mg QD with fluconazole 150 mg once a week for up to 6 weeks. Terbinafine was given as 250 mg QD to 16 patients for 4 weeks. All patients treated were cured.

RESULTS

In Malmö totally 14 patients with tinea corporis and in Gothenburg totally 5 patients with tinea corporis were found among wrestlers; the wife of one of these wrestlers also had tinea corporis. *T. tonsurans* was cultured in all patients.

After our visits to the clubs there was a break of the wrestling activities for 2 weeks, during which time the carpets were daily washed with a chlorine-containing disinfectant (Klorin, Colgate-Palmolive AB, Täby, Sweden) and sprayed with a disinfectant (Attack, Hågersten, Sweden). Since then there have been no new cases of tinea corporis in the clubs.

DISCUSSION

In Sweden tinea corporis is most commonly caused by *T. rubrum*, *Microsporum canis* and *T. mentagrophytes*. Only sporadic cases of tinea corporis caused by *T. tonsurans* have previously been reported, the majority of which were contracted abroad. In the USA *T. tonsurans* is the most common cause of tinea corporis (7) and tinea capitis (8), and among wrestlers three epidemics have been reported (4–6).

This is the first report of epidemic outbursts of *T. tonsurans*



Fig. 1. Pityriasis alba-like tinea corporis lesions on the arm of a wrestler infected by *Trichophyton tonsurans*.

infection in Sweden and, to our knowledge, in Europe. Clinical signs are often very discrete, easily overlooked and easily mistaken as pityriasis alba or seborrhoeic dermatitis, but typical ringworm lesions are also seen. Our patients had not been abroad for a long time. The suspected source of the Swedish epidemic was from a wrestlers' team from the USA, who participated in an international wrestling competition in Sweden in April 1993.

T. tonsurans is a contagious anthropophilic dermatophyte. To prevent spreading of the infection, epidemiological tracing of secondary cases is important. The spreading frequency in other countries indicates a great contagiousness, also indirectly through fomites (9). In our patients, however, there is no suspicion of any indirect contact. The localization of the skin lesions suggests a direct transmission of the infection. Shoulder, neck, face and arms are areas frequently in close contact with the opponent's skin.

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