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Professional Ice Hockey Players: A High-Risk Group for Fungal Infection of the Foot?

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Key Words

Ice hockey players · Tinea pedis · Onychomycosis

Tinea pedis and onychomycosis are a public health problem due to a high worldwide incidence and prevalence and due to the risk of spread of fungal elements to others [1–3]. Warm, humid climates and occlusive clothing and shoes are among other well-recognized relevant risk factors [4].

Professional ice hockey players, wearing occlusive skates around often sweat-saturated socks for several hours per day during training and competition with possible coldness-induced pedal vasoconstriction seemed to be a perfect model for a mycotic high-risk group. The necessity to share wardrobe, showering facilities and gym with other team members at different places during the season as well as the burden to stay often in various hotels are thought to be additional risk factors.

Fortunately, we had the opportunity to examine 28 players of the professional ice hockey team 'Munich Barons', winner of the German 2000 championship, clinically and by culture, for pedal mycotic affection after informed consent had been given by each player. The players' age range was 18–28 years (average age 23.5 years). To our surprise, neither a single case of tinea pedis nor onychomycosis was detected.

At first glance, this interesting result may reflect only incidentally high personal as well as institutional hygiene standards encountered in that special team at a certain time point. Nevertheless, at a closer look, our results fit well the outcome of a recent study, conducted by the European Nail Society [1, 5]. Herein, 10,339 patients in 20 countries underwent a foot check made by dermatologists. Culture-positive mycotic affection of the feet was found in 31.6% of all patients (tinea pedis: 8.2%; onychomycosis: 10.1%; tinea pedis + onychomycosis: 11.7%). Tinea pedis was detected in 20.5% in the age group from 18 to 65 years, compared to onychomycosis, which was seen in 19.9% of persons [1, 5].

Multivariate regression analysis found a family disposition towards pedal dermatophyte infection as the single most important risk factor for fungal affection, followed by foot deformity, attendance of public swimming facilities, male gender, foot trauma, peripheral neuropathy, diabetes and impairment of vascular supply [1, 5].

Although a positive risk factor with regard to attendance of wet sanitary rooms, sex as well as trauma to the foot with possible effects on the neuronal, vascular and osseous apparatus was encountered, a family disposition or diabetic disease had been absent in all cases by history. In addition, the young players presented in physical top condition without signs of impairment of the immune system. A further point is the fact that nearly 2 out of 3 players were born and raised in the USA, Canada or Scandinavia, where individual sanitary precautions appear to be more elaborated than in other countries. To support this assumption, for example we did not observe any single player walking barefoot in the wardrobe or gym area.

In conclusion, although circumstances point towards an increased risk in acquiring pedal fungal infection in professional ice hockey players, personal physical condition as well as individual and institutional provisions seem to build a substantial counterbalance against mycotic affection.

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References

1 Roseeuw D: Achilles foot screening project: Preliminary results of patients screened by dermatologists. J Eur Acad Dermatol Venereol 1999;12(suppl 1):S6–9.
2 Merlin K, Kilkenny M, Plunkett A, Marks R: The prevalence of common skin conditions in Australian school students. 4. Tinea pedis. Br J Dermatol 1999;140:897–901.
3 Abu-Elteen KH, Abdul-Malek M: Prevalence of dermatophytoses in the Zarqa district of Jordan. Mycopathologia 1999;145:137–142.
4 Elewski BE: Onychomycosis: Treatment, quality of life, and economic issues. Am J Clin Dermatol 2000;1:19–26.
5 Haneke E, Nolting S, Seebacher C, et al: Neue Erkenntnisse zur Epidemiologie von Fusserkrankungen; in Plettenberg A, Meigel WN, Moll I (eds): Dermatologie an der Schwelle zum neuen Jahrtausend. Berlin, Springer, 2000, pp 377–378.

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