Tinea corporis due to Trichophyton simii - a first case from Iran

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First Published: December 2008
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A 25-year-old man was examined for tinea corporis. Microscopic examination of direct 10% KOH mount of skin scraping revealed the presence of hyaline, septate, branching hyphae. Cultures inoculated with portions of skin scrapings yielded, after two weeks Trichophyton simii. The identification of the fungus was based on colony morphology on mycobiotic agar and microscopic characteristics on slide cultures. Microscopic features of T. simii were cylindrical, 3–7 celled, thin-walled macroconidia. In older culture, macroconidia converted into chlamydospores, which is an important characteristic of T. simii.

Keywords Trichophyton simii, tinea corporis, dermatophyte, Iran

Introduction

Tinea corporis is a common dermatophytosis of human smooth skin caused by large groups of fungi known as dermatophytes. The latter are keratinophilic and invade keratinized tissues of the human body, such as hairs, skin and nails. Dermatophytes have worldwide distribution, although some species are restricted to specific geographic areas. The zoophilic species, Microsporum canis, Trichophyton verrucosum and T. mentagrophytes have been reported as the most common causative agents of tinea corporis in Iran [1–3]. In contrast, T. simii is a rare zoophilic dermatophyte and is usually endemic in Brazil, Guinea and India [4–6].

Case report

A 25-year-old male poultry worker with 3–4 weeks history of tinea corporis was referred for mycological examinations. Typical ringworm lesion involved smooth skin of forearm (Fig. 1). Skin scrapings were microscopically examined in 10% KOH. Hyaline, septate, branching hyphae were observed in these samples. Skin samples were also inoculated onto slants of Mycobiotic agar (Difco, East Molesey, UK) and incubated at ambient temperature for two weeks. The resulting isolate was identified on the basis of its macroscopic and microscopic features [4,7]. T. simii grew rapidly, producing a flat fine granular colony with a diffuse margin, with white to pale yellow obverse colour. Microscopic characteristics of T. simii were the abundant formation of cylindrical to fusiform, 3–7 celled, thin-walled macroconidia. The size of macroconidia was approximately 30–75 × 6–10 μm. In the older culture, macroconidia converted into chlamydospores which are an important characteristic of T. simii (Fig. 2). In addition, microconidia of T. simii were abundant, pyriform to clavate and borne on short stalk along hyphae (3–4 × 2–3 μm). Skin scrapings were cultured on two separate occasions and in both instances T. simii was recovered. In the present study, the patient was successfully treated with oral griseofulvin (12.5 mg/kg/day) and topical clotrimazole (1% cream) for five weeks and in follow-up, there have been no indications of reoccurrence of the infection.

Discussion and conclusion

Tinea corporis is a dermatophytosis that occurs on the smooth skin of the human body and is worldwide in distribution. Several authors have reported tinea
corporis as the most common dermatophytosis in Iran [1–3,8].

The clinical features of the tinea corporis caused by *T. simii* are similar to those of infections caused by other dermatophytes. Tinea corporis occurs on the trunk and extremities and follicular papules, pustules or vesicles may be found on the borders of the lesions. The present case was characterized by scaly annular lesions with erythematous edge and sharp margins. Both zoophilic and anthropophilic dermatophytes are common in children, whereas tinea corporis in adults is often the result of chronic infection with *Trichophyton rubrum*, an anthropophilic dermatophyte. Tinea corporis due to geophilic and zoophilic species are often inflammatory. The distribution of dermatophytes varies among the cities of Iran. Rastegar Lari *et al.* [2] reported *Epidermophyton floccosum* as the main etiologic agents of tinea corporis in Tehran. On the other hand, Omidynia *et al.* [8] described *T. verrucosum* as the most common causative agents of tinea corporis in Hamadan. *T. simii* is a zoophilic dermatophyte and known to be associated with monkeys. However, *T. simii* occasionally causes ringworm in humans. Our patient lived in the rural area of Ahvaz and he had animal contacts in his recent history. Although they were domestic animals without evidence of dermatophytic lesions (based on the patient’s information), probable contact with wild animals’ residues was the cause of his tinea corporis. Venugopal and Venugopal reported tinea capitis due to *T. simii* in Saudi Arabia [9]. *T. simii* was also isolated from tinea cruris (four cases), tinea capitis (one case) and tinea corporis (one case) in Saudi Arabia [10]. Kamalan and Thambiah described five cases of tinea capitis due to *T. simii* in Madras [5].

*Trichophyton simii* is more prevalent in India [5,6]. Ranganathan *et al.* [6] discussed two cases of *T. simii* in cattle in Madras, India. Mitra *et al.* [11] recovered a single isolate of *T. simii* from cattle in India. Several authors have reported recovering *T. simii* from soil in India [12,13]. In conclusion, *T. simii* is reported for the first time as the cause of tinea corporis in the rural area of Ahvaz, Iran. Although this fungus has not been previously isolated from animals, human or soil in Iran, we believe that *T. simii* is possibly present in others cities of Iran.

**Acknowledgements**

We are grateful to the Department of Mycopathology, Jundishapur University of Medical Sciences, for their help.

**Declaration of interest:** The authors report no conflicts of interest. The authors alone are responsible for the content and writing of the paper. The authors are employees of the Iranian government and this work was prepared as part of their official duties.

**References**


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