Case report

Extensive tinea corporis due to *Trichophyton rubrum* on the trunk

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Abstract
In the present cases we describe two normal patients who developed extensive tinea corporis that was complicated by multiple subcutaneous papules and pustule caused by *Trichophyton rubrum*. This form of dermatophytosis has only rarely been described. Two 18 and 20-year-old men were examined for tinea corporis. Direct KOH preparations from skin scrapings showed septate branching mycelium and arthroconidia in both patients. *T. rubrum* was also identified in cultures.

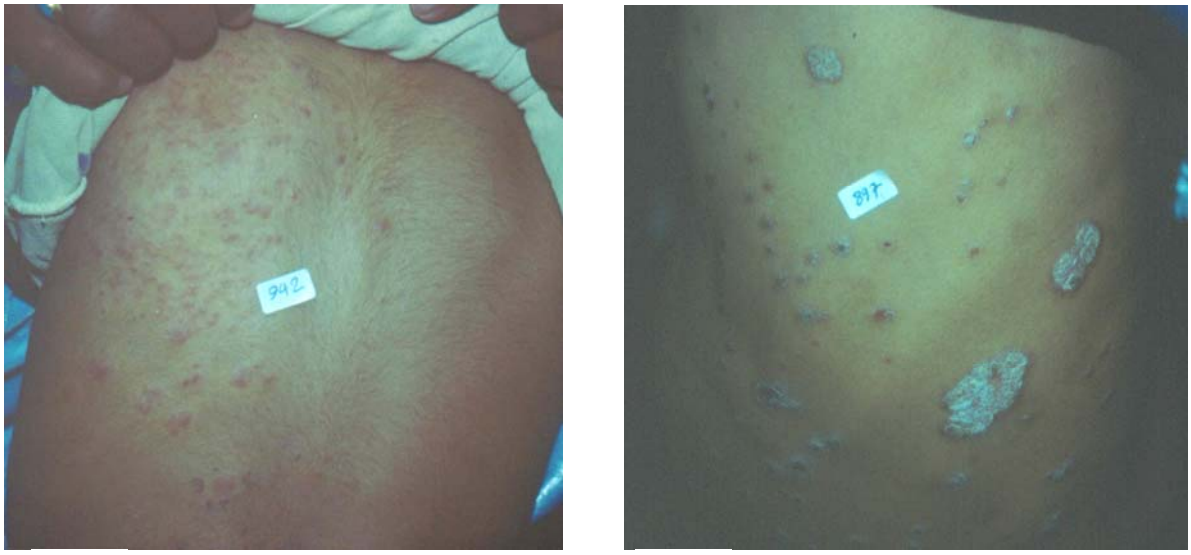
Keywords: *Trichophyton rubrum*, Dermatophytosis, Tinea corporis

Cases history
Case 1; an 18-year-old man living in a village (Ahvaz) was presented to our clinic with a four month history of pruritus involving the trunk. Physical examination revealed extensive erythematous, sharply demarcated lesions with pustules on the trunk (Fig. 1a). Case 2; a 20-year-old man living in the rural area of Ahvaz, suspected to tinea corporis was examined. Patient had a history of more than four months duration of multiple erythematous, scaly abscesses on his trunk and chest (Fig. 1b). Psoriasis like lesions was also detected on the case. Both patients did not receive any treatment for fungal diseases.

Skin scrapings were collected using sterile scalpel from both patients. Microscopic examination of KOH preparations revealed hyaline septate branching mycelium with several arthroconidia. The samples were also cultured on to slants of Mycobiotic agar (Difco, East Molesey, UK) and incubated aerobically at ambient temperature for four weeks. *T. rubrum* was identified in both cases based on colony morphology on Sabouraud's dextrose agar, pigment production on corn meal agar with 2% dextrose, lack of *in vitro* hair perforation, and negative for urease enzyme. In the present study, patients were successfully treated with systemic griseofulvin and topical clotrimazole daily for around six weeks.

Discussion
Dermatophytosis is an infection of the hair, nail and skin caused by dermatophytes species. Dermatophytes are keratinophilic fungi that invade keratinized organs of human and animals (hair, nail and skin).

Clinically eight types of tinea have been described in human. Tinea corporis is one of the most important types and relatively common dermatophytosis in the world [1, 2]. The disease is usually restricted to the stratum corneum of the epidermis. The most common etiologic agents of tinea corporis are *T. rubrum and T. mentagrophytes* [2-4]. *T. rubrum* is an anthropophilic dermatophyte and more common in Iran [1, 3-5]. We describe two patients who had extensive tinea corporis caused by *T. rubrum* in Ahvaz, Iran. Tinea corporis is a cutaneous infection with worldwide distribution.



(a) (b)

Fig. 1: Extensive tinea corporis due to *T. rubrum* (a, b)

The disease is more common in warm humid climates. Chadeganipour *et al*. [1] have reported tinea corporis as the most prevalent clinical type of dermatophytosis in Isfahan. Tinea corporis typically presents an annular lesion with scales. However, several authors have reported clinical atypical forms of disease [6-8]. Hoetzenecker *et al*. [7] reported a case of widespread dermatophytosis with *T. rubrum* in an immunocompetent patient. Grau Salvat *et al*. [9] reported a 71-year-old man with disseminated erythematous and squamous lesions, which were treated with corticosteroid creams for seven months. Serarslan [10] also reported a case of widespread tinea corporis due to *T. rubrum*, which was treated with topical corticosteroid. Generally, dermatophytes can enter the dermis through hair follicles. *T. rubrum* is an anthropophilic dermatophyte causing tinea in humans. Anthropophilic species are usually associated with chronic lesions in humans. *T. rubrum* usually causes ringworm of the foot. Superficial infection with *T. rubrum* is often non inflammatory. Dahl and Grando [11] believe that *T. rubrum* has adapted to the skin of human beings. However, extensive lesions and multiple subcutaneous abscesses due to *T. rubrum* were identified in immunocompromised patients [12, 13].

In conclusion *T. rubrum* was isolated from two patients, with extensive tinea corporis, in Ahvaz. *T. rubrum* is more prevalent in Iran. However, rare cases of extensive tinea corporis due to *T. rubrum* have been reported in the current study.

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References

1) Chadeganipour M, Shadzi S, Dehghan P, Movahed M. Prevalence and aetiology of dermatophytoses in Isfahan, Iran. *Mycoses* 1997; 40: 321-324.
2) Maraki S, Nioti E, Mantadakis E, Tselentis Y. A 7-year survey of dermatophytoses in Crete, Greece. *Mycoses* 2007; 50: 481-484.
3) Chadegani M, Momeni A, Shadzi S, Javaheri MA. A study of dermatophytoses in Esfahan. *Mycopathologia* 1987; 98: 101-104.
4) Omidynia E, Farshchian M, Sadjjadi M, Zamanian A, Rashidpouraei R.A study of dermatophytoses in Hamadan, the governmentship of West Iran. *Mycopathologia* 1996; 133: 9-13.
5) Rastegar Lari A, Akhlaghi L, Falahati M, Alaghehbandan R. Characteristics of dermatophytoses among children in an area south of Tehran, Iran. *Mycoses* 2005; 48: 32–37.
6) Kim HS, Cho BK, Oh ST. A case of tinea corporis purpurica. *Mycoses* 2007; 50: 314–316.
7) Hoetzenecker W, Schanz S, Schaller M, Fierlbeck G. Generalized tinea corporis due to *Trichophyton rubrum* in ichthyosis vulgaris. *Journal of the European Academy of Dermatology and Venereology* 2007; 21: 1129-1131.
8) Kobayashi M, Ishida E, Yasuda H, Yamamoto O, Tokura Y. Tinea profunda cysticum caused by *Trichophyton rubrum*. *Journal of the American Academy Dermatology* 2006; 54: S11-S13.
9) Grau Salvat C, Pont Sanjuan V, Sánchez-Carazo JL, Vilata Corell JJ, Aliaga Boniche A. Disseminated inflammatory tinea: An unusual presentation. *Revista Iberoamericana de Micologia* 1998; 15: 100-102.
10) Serarslan G. Pustular psoriasis-like tinea incognito due to *Trichophyton rubrum*. *Mycoses* 2007; 50: 523–524.
11) Dahl MV, Grando SA. Chronic dermatophytosis: what is special about *Trichophyton rubrum*? *Advances in Dermatology* 1994; 9: 97-110.
12) Engelhard D, Or R, Naparstek E, Leibovici V. Treatment with itraconazole of widespread tinea corporis due to *Trichophyton rubrum* in a bone marrow transplant recipient. *Bone Marrow Transplantation* 1988; 3:517-519.
13) Meinhof W, Hornstein OP, Scheiffarth F. Multiple subcutaneous *Trichophyton rubrum* abscesses. Pathomorphosis of a generalized superficial tinea due to impaired immunological resistance. *Hautarzt* 1976; 27: 318-327.

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