A Case of Tinea Scroti Due to *Microsporum gypseum*

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We report a 69 year-old male patient with *Microsporum gypseum* infection on his scrotum. The lesion was a form of annular erythema, not the diffuse erythema with scaling usually seen in the cases of tinea scroti due to anthropophilic dermatophytes. The fungus was seen as clusters of short hyphae in the scale from the lesion and was identified as *M. gypseum*. The patient had been confined to bed and the route of contagion was not detected. The lesion healed rapidly with topical application of isoconazole cream.

*Microsporum gypseum*, a representative of geophilic dermatophytes, has been reported to cause inflammatory ringworm of the exposed area on the human skin.

Tinea lesions on the scrotum are rare and are caused mainly by anthropophilic dermatophytes, usually becoming diffuse erythema with pityriasis but without clear borders. This paper deals with a case of vesiculopustular form of tinea scroti of a 69 year-old male due to *M. gypseum*.

**Case Report**

A 69 year-old male patient noticed an itchy erythema on his left scrotal skin lasting for several days. He was confined to bed because of a rectum cancer of several year's duration with lung and liver metastases. His wife had been taking care of him but she had no skin lesion, nor had there been any chance of the patient having contact with soil or animals.

During the examination at a dermatological clinic by one of us (H.S.), the lesion revealed an annular erythema of 1 cm in diameter with central healing. Papules, pustules and desquamation were also seen on the border (Fig. 1). The diagnosis of tinea scroti was made from its clinical picture, and scales taken from the lesion were sent to the Department of Dermatology, Nagasaki University Hospital for mycological examinations. Clusters of short hyphae were seen by potassium hydroxide preparation (Fig. 2) and *M. gypseum* was isolated on Sabouraud dextrose agar (Figs. 3 and 4).

The patient had slight edema on his legs but there were no complications from the infection. The lesion healed rapidly with topical application of isoconazole cream.

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Fig. 1. Circinate lesion on the left side of the scrotum (arrow).

Fig. 2. KOH-preparation of the scale from the lesion. Note the clusters of short hyphae. 800x.
no remarkable abnormalities on his clinical laboratory
findings except for accelerated ESR and elevated serum
alkaline phosphatase level.

The lesion was treated by topical use of isoconazole
cream and healed soon after without recurrence. It was
also found that the patient had tinea unguium lesions on
his right toe nails for many years, but the causative fungus
of these lesions was identified as *Trichophyton rubrum*.

**Discussion**

This case has several unique characteristics: 1) *M.
gypseum* affecting the scrotum, 2) The lesion was seen as
annular erythema with moderately intensive inflammatory
border, and 3) No detectable route of infection. Reports of
the human infections by *M. gypseum* have been concerned
mainly with kerion of scalp or vesiculopustular-type
lesions on glabrous skin of exposed areas which have been
classified as inflammatory ringworm, a characteristic of
non-anthropophilic dermatophyte infections.

The clinical pictures of dermatophyte infections depend
mainly on the inflammatory reactions of the host against
the parasite. This is apparent, for example, in the case of
tinea corporis lesions with minimal inflammatory reac-
tions of the patients suffering from malignant lymphoma
associated with immune deficiency.

There is also a tendency of host-parasite relationship
wherein the longer the parasitic history of the causative
fungi to the host, the milder the inflammatory reactions of
the host against the parasite. This is also the case in der-
matophyte infections. Thus the inflammatory lesions
produced by *M. gypseum* express the non-anthropophilic
nature of this fungus.

Scrotum skin is only rarely affected by dermatophytes
even when the neighboring inguinal skin has tinea lesions.
Clinically, tinea scroti is usually a form of diffuse ery-
thema exhibiting minimal inflammatory reactions, which
is in contrast to that of tinea cruris or tinea corporis.

Scrotum skin has a relatively small number of Langer-
hans cells. This may be one of the reasons for the mild in-
flammatory reaction to the tinea lesion of the scrotum
compared to that of the inguinofemoral area. Still, the
scrotum skin in this case reacted intensively to form a in-
flammatory circinate lesion when invaded by *M. gypseum*.

As mentioned earlier the patient had been confined to
bed, and the patient’s genital region had been kept moist
nearly all day long. It might be suggested that this is the
reason *M. gypseum* was able to colonize easily on the
scrotum skin and cause infection. The route by which *M.
gypseum* was introduced to the patient’s skin, however, is
unknown.

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