

Macroscopic and Microscopic Findings of *Trichophyton erinacei*

Jun Suk Hong¹, Dong Won Lee¹, Moo Kyu Suh^{1†} and Gyoung Yim Ha²

¹Department of Dermatology, College of Medicine, Dongguk University, Gyeongju, Korea

²Department of Laboratory Medicine, College of Medicine, Dongguk University, Gyeongju, Korea

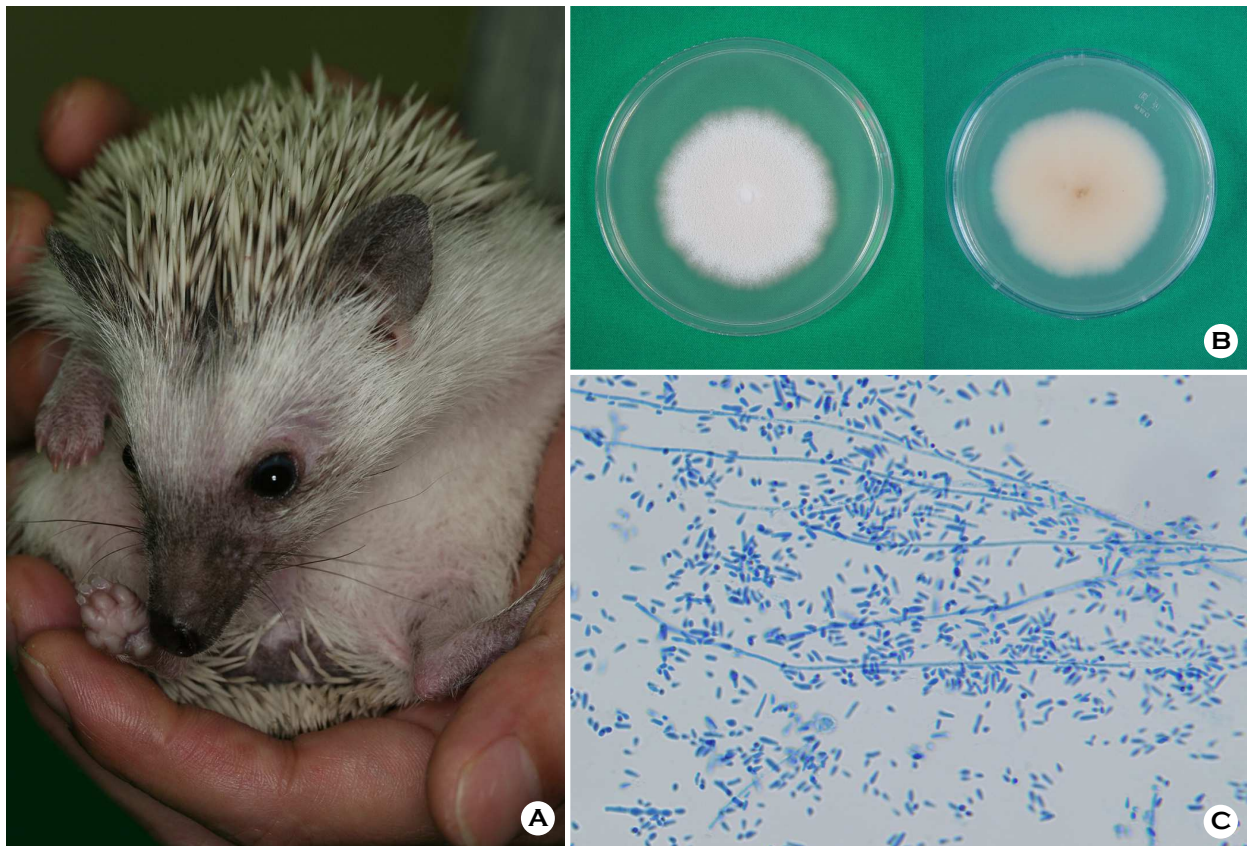


Fig. 1. (A) The pet hedgehog, *Atelerix albiventris*, is characterized by four toes on its rear legs. (B) White cottony surface and yellowish-brown pigmented undersurface colony on Sabouraud's dextrose agar after incubation at 25°C for 2 weeks and the reverse side of the agar plate (C) Numerous aggregated, pear-shaped, or elongated microconidia and several septated hyphae are seen (Lactophenol cotton blue, 400×).

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†Corresponding: Moo Kyu Suh, Department of Dermatology, College of Medicine, Dongguk University, 87 Dongdae-ro, Gyeongju, Kyungbuk, 38067, Korea.

Phone: +82-10-3805-9223, Fax: +82-54-770-8378, e-mail: smg@dongguk.ac.kr

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Trichophyton erinacei, a zoophilic strain of *T. mentagrophytes*, was first identified in New Zealand, then in the United Kingdom and Western Europe, and more recently in Japan and Korea^{1,2}. This organism is transmitted from hedgehogs and can cause highly inflammatory and pruritic eruptions, usually on the hands, and such a pathological state is known as tinea manus². However, infections at other sites have also been occasionally described; these include kerion, tinea corporis, tinea unguium, and tinea faciei¹.

The pet hedgehog species, *Atelerix albiventris*, is characterized by four toes on its rear legs (Fig. 1A). Macroscopically, *T. erinacei* has a white cottony appearance on the surface with a yellowish-brown pigmented undersurface (Fig. 1B). Unlike typical *T. mentagrophytes* characteristics such as spiral hyphae and grape-shaped microconidia, *T. erinacei* has characteristic microconidia that are elongated, pear-shaped, and attached along the side of the hyphae (Fig. 1C).

Macroconidia, when present, were slightly irregular in shape and size and have 2~6 septa. Reportedly, the combination of a white cottony surface and a yellow undersurface on Sabouraud's dextrose agar and pear-shaped microconidia is usually a distinctive characteristic of this species^{2,3}. Microscopic examination and macroscopic morphology are crucial for identifying the causative organism; however, physicians can identify species more precisely using molecular biological analyses.

Key Words: Morphology, *Trichophyton erinacei*

CONFLICTS OF INTEREST

In relation to this article, we declare that there is no conflict of interest.

ORCID

Jun Suk Hong: 0000-0001-8033-8260

Dong Won Lee: 0000-0002-6006-9670

Moo Kyu Suh: 0000-0002-7629-8363

Gyoung Yim Ha: 0000-0003-4767-2333

REFERENCES

1. Perrier P, Monod M. Tinea manuum caused by *Trichophyton erinacei*: first report in Switzerland. *Int J Dermatol* 2015;54:959-960
2. Rhee DY, Kim MS, Chang SE, Lee MW, Choi JH, Moon KC, et al. A case of tinea manuum caused by *Trichophyton mentagrophytes* var. *erinacei*: the first isolation in Korea. *Mycoses* 2009;52:287-290
3. Abarca ML, Castella G, Martorell J, Cabanes FJ. *Trichophyton erinacei* in pet hedgehogs in Spain: occurrence and revision of its taxonomic status. *Med Mycol* 2017;55:164-172