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# An Unexpected Dermatophyte? Two Remarkable Cases of Tinea Barbae by Trichophyton benhamiae

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## Introduction

*Trichophyton* (*T.*) *benhamiae* is considered an emergent zoophilic dermatophyte, with more cases being reported from various countries around the world. We hereby present two cases of tinea barbae by *T. benhamiae*.

## Case Presentation

*Case 1*. A 48-year-old man attended the emergency department with a 1-month history of facial lesions treated with ciclopirox and mupirocin ointment. He had a healthy pet dog. On examination, he had extensive impetiginized crusts all over the nasolabial triangle. Removal of the crusts revealed erythematous, vegetating plaques on the nasolabial folds (Figure 1).

*Case 2*. Another 50-year-old man, owner of a healthy dog, came to the outpatient clinic complaining of a two-week facial rash previously treated with topical clobetasol and gentamicin without improvement. On examination he had an erythematous plaque on his chin, with some pustules and erosions covered by serous-hematic crust, and a 2-3 cm nodule in the plaque's border (Figure 2). Some of his closest family members were being treated for tinea corporis.

Scales were gathered for fungal culture. In both cases, *T. benhamiae* was identified by MALDI-TOF (matrix-assisted laser desorption/ionization time-of-flight) mass spectrometry analysis. Terbinafine 250 mg daily for three months completely cleared the lesions in both patients.

## Conclusions

*T. benhamiae*, previously known as *Arthroderma* (*A.*) *benhamiae*, is nowadays a species on its own according to the latest dermatophyte taxonomy, based on the analysis of the internal transcribed spacer (ITS) ribosomal DNA region [1,2].

Every year, more cases of *T. benhamiae* are being reported worldwide particularly among children. This zoophilic dermatophyte is mainly transmitted by guinea pigs,

**Figure 1.** Case 1: clinical image of tinea barbae caused by *Trichophyton benhamiae*. Erythematous vegetating plaques on the nasolabial folds, devoid of hair in some areas.

**Figure 2.** Case 2: clinical picture of tinea barbae caused by *Trichophyton benhamiae*. Erythematous plaques in the chin and right cheek, with erosions and pustules, with a 2-3 cm nodule in the chin plaque border.

and seldom by other infected animals like rabbits, cats, dogs and even a fox [3]. Our patients were both adults and only had contact with their pet dogs, which were apparently unaffected; however, we have no information about their veterinary evaluation. Retrospectively our patients couldn't remember being near a guinea pig, which can be silent carriers of *T. benhamiae* [4]. We haven't found studies about *T. benhamiae* colonization in dogs.

Clinically, it usually causes highly inflammatory tinea corporis and faciei which can be confused with impetigo, delaying a correct diagnosis [5]. There are scattered reports of kerion celsi and onychomycosis [3,5]. To the best of our knowledge, only one case of tinea barbae by *T. benhamiae* has been previously reported by Braun et al in 2013, a 24-year-old male in which the authors identified *A. benhamiae* by PCR in the patient and in his guinea pig [6].

Identification of *T. benhamiae* requires molecular methods due to its similarity to other fungal species in standard cultures. Yellow subtype of this fungus grows in colonies that may be diagnosed as *Microsporum canis*, and the unusual white subtype is usually identified as *T. mentagrophytes*. Polymerase chain reaction (PCR) of the ITS region and MALDI-TOF both allow for a correct diagnosis [7].

Treatment is akin to that of other dermatophyte infections. If the infection covers an extensive area or hair follicles are affected, oral treatment is preferred, terbinafine being the first choice [3,5].

Tinea barbae by *T. benhamiae* seems to be rare. Previous contact with animals, especially guinea pigs, and inflammatory lesions on physical examination should prompt the diagnosis of *T. benhamiae* infection. Molecular diagnostic methods like PCR and MALDI-TOF are necessary to ensure correct identification of this emergent dermatophyte.

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