

Title: *Chaetomium globosum* infection in a dog from Joinville, Santa Catarina, Brazil

Authors: Garces, H. G.¹, Fialkowski, M. M.², Schramm, L. C.², Hrycyk, M. F.¹, Bagagli E.¹, Bosco, S. M. G.¹

Institution:¹Department of Microbiology and Immunology, Institute of Biosciences. UNESP - Universidade Estadual Paulista (District de Rubião Junior S/N-18.618.970 - Botucatu, SP), ²Badanievet, Services in Veterinay Clinical Pathology (Mondai Street 366 – 89.221.370 – Joinville, SC).

Abstract:

Chaetomium globosum is a filamentous fungus (Ascomycota) that lives as saprobic in soil, straw and dung, and as endophytic in live plants. It presents cellulolytic activity and it has been used in decomposition of plants in the paper industry and other activity related to the cellulose decomposition as well. Few cases have been reported in the literature related to infection by *C. globosum* in man and dogs. Here we present a clinical case of cutaneous infection by *C. globosum* in a female dog, mixed-breed dog, non neutered, about 18 months old, rescued from the street. The animal had spent its last two months in a temporary home in Joinville, Brazil, where it underwent improper nutrition and sanitary conditions. The animal presented circular crusted lesions with alopecia, measuring approximately 2 cm, in the ear board. Sample of the lesion was collected by scraping with scalpel and seeded in Dermatobac® medium. After 7 days of culture, a white to gray cottonous colony was recovered and then it was seeded in Sabouraud Agar (Difco) for establishing the colony morphology in its macro and microscopis aspects, and also to perform DNA extraction for sequencing the ITS-5.8S region of ribossomal DNA. PCR was carried out with GoTaq Master Mix (Promega) with the universal panfungal primers ITS4-ITS5. The amplicon was purified with ExoSap (USB) and submitted to sequencing (Applied Byosystem-Hitachi, 3500 Genetic Analyzer). Both morphology and sequencing confirmed the identification of *C. globosum* as the causative agent of the infection. The animal was treated initially with (Natelene®-Virbac) and after the diagnosis was stablished the treatment was changed to oral itraconazol 10 mg/Kg once a day untill the remission of the lesion and kept for 30 days after the clinical cure. Several fungi may cause skin lesions in dogs, including dermatophytes. Although the treatment of cutaneous mycosis is limited to few antifungal compounds, itraconazol has been one of the most employed ones and it seems to be a good alternative for cutaneous infection by this fungus. *Chaetomium globosum* infection has been listed among the emerging fungal infection in immunocompromised hosts. It seems that the condition of malnutrition of this dog may lead to infection from environment. This is the first report of *C. globosum* infection in dog in Brazil and veterinarians should be aware of the correct diagnosis and differentiate it from other fungi for epidemiological purposes.

Keywords: *Chaetomium globosum*, geophilic fungus, cutaneous infection, dog.

Finantial support: FAPESP