

External otitis in dog due to *Candida guilliermondii*

PETRU CAZACU^{*1}, MIHAI MAREȘ²

(1) Laboratorul de Histologie, Departamentul de Științe Fundamentale al USAMV «Ion Ionescu de la Brad» Iași, (2) Laboratorul de Micologie-Micotoxicologie, Departamentul de Sănătate Publică al USAMV «Ion Ionescu de la Brad» și Departamentul de Cercetare al Universității «Petre Andrei», Iași, Romania

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Otită externă cu *Candida guilliermondii* la câine

Abstract: In this paper we describe two cases of recurrent otitis externa in dog due to *Candida guilliermondii*. The identification of the isolated strains has been performed through morphological features and biochemical tests. Both strains have been susceptible to common antifungals. The treatment with ketoconazole conducted to a complete healing in 10-15 days.

Keywords: *otitis externa*, *dog*, *Candida guilliermondii*

Rezumat: În acest articol sunt descrise două cazuri de otită externă recidivantă determinate de *Candida guilliermondii*. Identificarea tulpinilor izolate s-a realizat pe baza caracterelor morfologice și a proprietăților biochimice. Ambele tulpini s-au dovedit sensibile la antifungicele uzuale. Tratamentul cu ketoconazol a dus la vindecare completă în 10-15 zile.

Cuvinte cheie: *otită externă*, *câine*, *Candida guilliermondii*

Introduction

Otitis externa is the most common disease of the canine and feline ear canal exhibiting a prevalence rate of 5-20% and 2% respectively (1). This illness seems to have a multifactorial etiology and for this reason some cases become progressively refractory to therapy (2).

The main causative factors of otitis externa onset may be classified in primary factors (parasites, foreign bodies, hypersensitivity diseases, disorders of keratinization, autoimmune diseases), predisposing factors (anatomical conformation, ear canal maceration, treatment errors, obstructive ear disease, systemic disease, pyrexia) and perpetuating factors (bacteria, yeasts, otitis media) (2).

Yeasts like *Malassezia pachydermatis* and *Candida spp.* play an important role in the pathogenicity of ear canal diseases, especially in dogs (3).

* Dr. Petru Cazacu , Aleea Sadoveanu nr. 8, cod. 700489, e-mail: cazacupetru@gmail.com

Case report

Two dogs – a German Shepherd female of 3-year-old and a Cocker Spaniel male of 18-month-old have been admitted in our clinic for investigations and treatment of a recurrent bilateral otitis externa. Otic examination has shown pain, erythema and a high amount of reddish-brown discharge (photo 1). The tympanum of both ears was intact and no foreign bodies were found.

As microbiological investigations we used direct microscopic examination of stained smears of exudates collected from the horizontal portion of the external ear canal. Also, a little amount of the otic discharge has been plated onto Columbia Agar with 5% v/v sheep blood, Mac Conkey Agar and Sabouraud Dextrose Agar. For the isolates, the germ tube test and the hydrolysis of urea have been performed.



Photo n^o 1. Clinical aspect in a German Shepherd dog

After 48-72 hours of incubation at 30°C, a lot of yeast-like colonies were appeared on Sabouraud Agar plates. The colonies were whitish to cream colored, smooth and glabrous. Microscopically, numerous budding yeast-like cells spherical to sub spherical in shape and 2.0-4.0 × 3.0-6.5 μm in size have been found both on the smears of otic exudates and on the smears obtained from the developed colonies onto Sabouraud Dextrose Agar (photo 2).

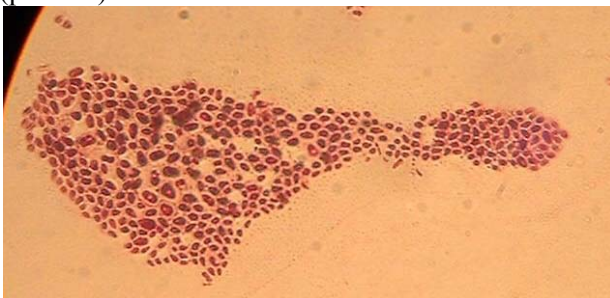


Photo n^o 2. Yeast cells; smear, Gram stain – x 900

Germ tube test has been negative and no hydrolysis of urea was observed. Using the ID32C strips and the miniAPI automatic reader (bioMérieux – France), the isolated strains have been identified as *Candida guilliermondii*. A susceptibility test on ATB fungus has been performed and it demonstrated that these two strains of *C. guilliermondii* are susceptible to amphotericin B, 5-flucytosine, nystatin, econazole, miconazole and ketoconazole. Multiple otic lavages using an aqueous solution of povidone-iodine and oral administration of ketoconazole 10 mg/kg body weight daily for 10-15 days consecutively have been conducted to a complete healing with no relapses in the following 3 month.

Discussions

Candida guilliermondii is a commensal microorganism of skin in dogs and in some circumstances can cause dermatitis (4). Its pathogenicity appears after broad spectrum antibiotic therapy, hypersensitivity diseases or other skin disorders. In our cases, the main factor seems to be a diagnosis error and an inappropriate treatment based on antibiotics exclusively. Thereafter, in the external ear canal a disbiosis appeared and the multiplication of yeast cells became more and more obvious – the fungal infection occurred.

By our knowledge, these are the first two cases of otitis externa in dog due to *Candida guilliermondii* cited in literature. After a PubMed database search, no available articles with similar cases have been found between 1965 and 2007.

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