

Case Report

Cutaneous candidiasis in a dog

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Abstract: Candidiasis is a yeast disease caused by fungi of the genus *Candida*, a commensal organism of men and animals microbiota. The pathology is dependent on the immune status of the host and the pathogenic fungus potential. It can present different clinical conditions, as dermatomycoses, otitis, endophthalmitis, cystitis, and in more severe cases, lead to septicemia. This report aims to describe a case of cutaneous candidiasis in a canine in the city of Pelotas, Rio Grande do Sul, Brazil. The patient had multifocal circumscribed alopecia. To conduct the diagnosis was made skin scraping, culture and antibiogram; as well as skin biopsy for histopathological examination. The diagnosis of candidiasis and established therapy resulted in resolution of the disease. The absence of clinical case records in the studied region underestimates the prevalence and importance of this disease, which requires careful clinical and laboratory tests to confirm the diagnosis. In this sense, diagnostic aids are indispensable for the establishment of differential diagnosis with other skin diseases, thereby enabling the preconization of a safe and effective treatment.

Keywords: *Candida albicans*, canine, commensal flora, skin disease, diagnosis, fungi.

INTRODUCTION

Candidiasis is an opportunistic fungal disease caused by the genus *Candida*, presents yeast form when saprophyte, but in culture or tissue contact form blastoconidia, pseudo-hyphae and hyphae [1, 2]. This genus has about 200 recognized species, 20 of these are considered pathogenic, and *C. albicans* the most prevalent species in dogs and cats [3]. These organisms are widely distributed in the environment and are commensal microbiota of animals and humans. The disease occurs when there is host-parasite disequilibrium, with the degree of infection related to the immune status of the host. Are highly pathogenic, with growth capacity at 37 ° C, germination, adherence on host cells and secretion of exoenzymes mainly proteinase and phospholipase [4, 5]. Predisposing host factors include age, autoimmune and metabolic diseases, nutritional and hormonal disorders, indiscriminate use of glucocorticoids, antibiotics and drugs capable of causing neutropenia [4, 6].

The clinical manifestations are diverse, as dermatomycoses, ear infections, cystitis, endophthalmitis, and more severe, sepsis frames. The skin lesions are characterized by erythematous moist

erosions with an irregular contour and there may be alopecia, crusting, ulceration and edema [7]. Some authors refer to direct microscopy samples obtained from skin scraping, the isolation of the agent in the culture medium, and skin biopsy for histopathological evaluation main methods for diagnosis of these diseases; as well as to establish the differential diagnosis skin diseases caused by other etiologies [8]. For the treatment of cutaneous candidiasis are recommended systemic or topical antifungal drugs, as the degree of lesion involvement. Itraconazole [9], fluconazole and ketoconazole are indicated for systemic therapies, as in topical treatments are recommended nystatin, ketoconazole, miconazole, gentian violet and potassium permanganate [10].

Although this disease is widely known in human medicine, there are still few reports involving pets. This study aims to describe the results of clinical and laboratory exams of a canine with cutaneous candidiasis.

CASE HISTORY

A male canine, Beagle, 4 years old, came to assistance in a Veterinary Clinic in Pelotas, Brazil, with

multifocal alopecia and no itching. During the anamnesis was informed that in previous query was diagnosed atopy and was carried out treatment with corticosteroids (Deflazacort®, Hidroxizine®) and antimicrobial therapy (Cefalexina®). The patient is fed only with a hypoallergenic diet. During the clinical examination the animal showed rectal temperature 38.5°, unchanged lymph nodes and good hydration status; with the sole change a circumscribed alopecia without the presence of pruritus. Scraped off skin was made and the direct examination did not reveal the presence of ectoparasites. It was recommended cephalixin 20mg / kg 12-12h for 25 days and prednisone 1 mg / kg 12-12h for 7 days. The gradual reduction of corticosteroid dose was held until the 21^o day of treatment. After 14 days of initiation of treatment, the patient returned with pyoderma, increased alopecia area and intense itching. It was then made collection of material for culture and antibiogram in the laboratory, and biopsy of a skin fragment for histopathologic routing. In the culture grew several colonies of *Candida albicans* and *Staphylococcus aureus*. The result of the histopathological examination showed intraepidermal sub corneal dermatitis associated with *Candida* sp. Based on the results it was instituted systemic antifungal treatment with itraconazole, 10mg / kg 12-12h for 30 days. After treatment the patient returned with complete resolution of the infection.

DISCUSSION

The proliferation of opportunistic microorganisms is common in immunocompromised patients or after prolonged use of immunosuppressive drug therapies. In this case, microorganisms which are part of the microbiota normally non-pathogenic can have their overgrowth and become pathogenic [11]. In this study the use of glucocorticoids and antibiotics for relatively long time may have favored the proliferation of fungi of the genus *Candida albicans*. During the clinical examination of the patient was only observed presence of multifocal alopecia, without presence of itching, crusting, ulceration and edema, common signs of candidiasis [9, 12]. In direct microscopy from skin scraping of affected areas it was not possible to visualize fungal structures as blastoconidia and pseudo-hyphae [5]. The absence of characteristic clinical signs, the negative result of the direct examination for fungal infection associated with prolonged antimicrobial and glucocorticoid therapy resulted in the aggravation of the original disease.

Several reports emphasize the importance of laboratory tests to identify the cause of skin disease, as well as the consequences of an erroneously established therapy [13]. In our study, the collection of material for bacterial and fungal evaluation was essential for the correct diagnosis of candidiasis and for preconization an effective therapy. Similarly, the histopathology confirmed by the findings of numerous ovoid organisms

(some budding), viewed more intensely in the stratum corneum, the presence of *C. albicans* in the assessed material. The preview histiocytic inflammatory infiltrate with perivascular and intracorneal distribution (subcorneal) and the presence of microorganisms in ovoid budding in the stratum corneum have been described previously, and confirm the histological findings of the injuries described in this report [6].

Some authors have reported fungal resistance to treatment with triazole compounds. However, these drugs have wide spectrum of antifungal activity and low toxicity [14], reason was the drug of choice for treatment of this canine. It was not found the presence of fungal resistance to recommended treatment, which could be seen through the favorable evolution of the disease after initiation of therapy. Also, no toxic effect due to use of this drug has not been observed.

CONCLUSION

Cutaneous candidiasis is a disease with low prevalence in the medical clinic of small animals in the area under study, and secondarily can occur with immunosuppressive diseases or treatments. However, the disease can be easily diagnosed by specific laboratory tests, and when properly identified can be treated effectively and safely.

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