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# Short Communications

## Treatment of *Malassezia* overgrowth with itraconazole in 15 cats

E. Bensignor

*Malassezia* species yeasts are part of the normal cutaneous microflora of many warm-blooded vertebrates (Bond and others 1997, 2008, Guillot and Bond 1999). These fungi are not considered to be common pathogens in cats. However, reports of infection of cats with various species of *Malassezia* (*Malassezia sympodialis*, *Malassezia slooffiae*, *Malassezia nana*, *Malassezia globosa* and more frequently *Malassezia pachydermatis*) are increasingly common.

This short communication describes a prospective study aiming to describe epidemiological, clinical, mycological and therapeutic data regarding cases of *Malassezia* overgrowth in cats presented at a specialist dermatology practice in France.

Cats presented with cutaneous lesions between 2007 and 2009 were included in the study. For each case, cytological examination using adhesive tape and modified Wright's stain was performed. The piece of tape was applied successively to lesional areas two to three times before staining and was then mounted on a slide for microscopic examination. Cats were included if microscopic examination showed more than two yeasts per high-power field (x 400) on several random fields of each slide and if no bacterial infection, characterised by neutrophils and intracellular cocci, was demonstrated. Epidemiological and clinical data were recorded for each case. A clinical score was calculated (0 to 30) and pruritus was determined on a visual scale (0 to 10), as described previously by Bensignor (2006). Fungal cultures were made using the contact plate technique with modified Dixon's medium applied to lesional skin. Identification of *Malassezia* species was performed using macroscopic and microscopic features and also by the Tween diffusion test, the Cremophor assimilation test and the splitting of aesculin, as described by Guillot and others (1996). The cats were treated with 5 to 10 mg/kg itraconazole (Itrafungol/Janssen), administered orally once a day, as the sole therapy for their dermatological condition. A follow-up visit was scheduled one month after inclusion in the study to examine the cat for clinical, cytological and mycological improvement and to treat any underlying disease, if diagnosed.

Fifteen cats of various breeds and ages were included. Dermatitis was either localised (eight cases) or generalised (seven cases), and pruritus, erythema and greasy exudate were the main lesions in all cases (Fig 1). Otitis externa was observed in 12 cases; other areas of the body were also involved in some of the cases of localised dermatitis (the face in four cases, the chin in two, the neck in two, the legs in one, the abdomen in two and the perianal area in three).

Numerous colonies of *Malassezia* species were observed in the skin smears obtained using acetate tape in all cases. *M. pachydermatis* was observed in samples from all 15 cats; in addition, *M. globosa* was observed in two cases and *M. sympodialis* in one case. The different spe-



FIG 1: *Malassezia* pododermatitis and onychitis in a cat (case 10)

cies were isolated from the skin and from the ears. In cases of otitis externa, the swabs demonstrated high numbers of yeasts in each case.

Underlying causes were diagnosed in 12 cats: flea allergy dermatitis in four, atopic dermatitis in three, an adverse reaction to food in three, diabetes mellitus in one and pancreatic carcinoma in one. In the remaining three cases, no underlying disease was diagnosed despite extensive work-up.

The antifungal treatment with itraconazole was effective in all cases: an improvement of at least 66 per cent of the clinical score, a reduction of more than 75 per cent of the pruritus score and a decrease in the mycological counts was obtained (Fig 2). No secondary effect was noted as a consequence of the treatment.

Although rare, *Malassezia* species overgrowth should be considered in every case of localised or generalised erythema associated with seborrhoea in cats. Cytological examination is the most useful technique for assessment of the density of *Malassezia* yeasts on the skin surface. The observation of more than two yeasts per high-power field is suggestive, but as no published study has pro-

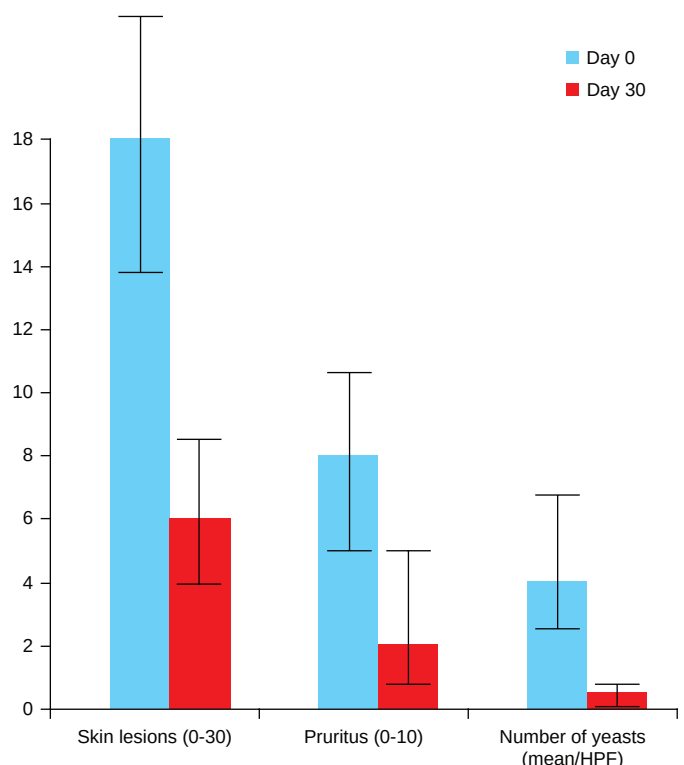


FIG 2: Mean clinical score (scale 0 to 30), pruritus score (scale 0 to 10) and number of yeasts per high-power field (HPF) in 15 cats with *Malassezia* dermatitis before and after treatment with oral itraconazole

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vided details of the yeast density on normal feline skin, the use of threshold values is still a matter of debate (Guillot and Bond 1999). Contact-plate fungal cultures also provide a convenient and rapid technique for isolation and counting of yeast colonies. This method also allows the identification of lipid-dependent species of *Malassezia* if lipid-supplemented media (for example, modified Dixon) are used. *M. pachydermatis* is the main species identified in pet carnivores, but cats seem to be also frequently coinfecting with lipid-dependent species, as observed in three of the 15 cases described here (Nardoni and others 2005). Investigations to determine an underlying cause for *Malassezia* overgrowth (for example, allergic dermatitis, retroviral infection, paraneoplastic syndrome, diabetes mellitus, hyperthyroidism) is also required (Ordeix and others 2007, Perrins and others 2007).

Treatment with azole derivatives, such as itraconazole administered orally, seems to be effective in most cases. The positive clinical response to antifungal treatment as the sole therapy in these cases supports the diagnosis of *Malassezia* overgrowth in the cats, similar to reports in dogs (Guillot and Bond 1999).

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