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Pulse Administration of Itraconazole for the Treatment of *Malassezia* Dermatitis in Dogs*

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Malassezia is a genus of single–cell commensal yeasts with a thick cell wall found on mammalian and avaian skin. One of the most important advances in veterinary dermatology in recent years has been the realization that *Malasseziai* can be associated with generalized dermatitis and that antifungal therapy can have a dramatic effect in these cases. Current recommendations for treatment of *Malassezia pachydermatis* infection include topical and systemic treatments. When topical therapy is impractical or ineffective, systemic triazole antifungals can be used and the most widely used systemic azole drug is ketoconazole. Ketoconazole is highly hepatotoxic, teratogenic and inhibits testosterone and cortisol production (Akerstedt and Vollset, 1996; Bruner and Blakemore, 1999; Nambi, 2002). Itraconazole is preferred to ketoconazole because of its better tissue penetration, longer elimination half life and less toxicity (Patterson and Frank, 2002; Kukanich, 2008). This article assesses the usefulness of pulse therapy itraconazole in comparison with oral ketoconazole and topical acetic acid in the management and malassezia dermatitis dogs.

Materials and Methods

Dogs attending the Small Animal Clinic – Out Patient unit of Madras Veterinary College Teaching Hospital were screened for *Malassezia pachydermatis* infection. A diagnosis of *Malassezia pachydermatis* infection was made on the basis of history, clinical signs and cytologic evidence for at least one yeast organism / oil immersion field. The selected dogs were also subjected to serum biochemistry studies. Out of 72 clinical cases that were found positive for *Malassezia* dermatitis, 30 dogs were randomly selected and divided into three treatment groups of 10 animals each and were subjected to treatment trial for three weeks with oral ketoconazole (10mg/kg, SID, PO) plus 2% topical acetic acid (50:50 dilution with water), oral itraconazole (5mg/kg/day for two consecutive days a week) plus topical acetic acid and topical acetic acid alone daily respectively. The data collected were statistically analyzed as per standard procedures.

Results and Discussion

The predominant clinical signs recorded were pruritus (100%), erythema (69.6%), rancid odour (94.2%), alopecia (74.6%), scales (79.5%), greasiness (62%), hyperpigmentation (78.5%), hyperkeratinization (53.1%), crusts (24.7%), ulcer (7.4%) and excoriation (3.53%).

In ketoconazole oral and acetic acid topical group (Group 1) 80% (8/10) of dogs showed complete remission of clinical signs at the end of third week. Rest of the dogs showed pruritus, musty odour and hyperpigmentation even after the treatment trial. In itraconazole oral and acetic acid topical group (Group 2) 80% (8/10) of dogs showed complete remission of clinical signs and were found negative on cytological examination at the end of third week. Only 30% of dogs in acetic acid topical group (Group 3) showed complete remission of clinical signs and remaining 70% of dogs showed pruritus, musty odour the hyperpigmentation at the end of third week.

Follow – up samples were collected on day 21 from the same sites of the dogs included in the study. In group 1, samples of only 2 animals

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were found to contain ≥1 yeast organisms per oil immersion field. In Group 2, 8 animals were found to be negative for cytological examination performed on day 21. But in acetic acid topical group (Group 3), only 3 animals were negative for cytological examination on day 21. Trial with ketoconazole oral and acetic acid externally resulted in significant elevation of liver enzymes above the accepted physiological range which was not seen in both itraconazole oral in pulse administration and acetic acid external group and the group that was treated with acetic acid externally only. Bensignor (2005) reported that itraconazole pulse therapy was effective as daily ketoconazole in the therapy of canine Malassezia dermatitis. Bond (2006) reported that itraconazole was less toxic and had better tissue penetration compared with ketoconazole.

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