Terbinafine & *Malassezia* spp Dermatitis

Long-term management of *Malassezia* spp dermatitis, a common pruritic skin disease in dogs, is focused on treating the underlying trigger and on topical therapy strategies. Acute episodes are commonly treated with oral antifungals. Terbinafine hydrochloride (TBF) does not use the fungal cytochrome P450 pathway, which may make it less vulnerable to drug interactions and side effects as compared with azole drugs. Because TBF is available as a low-cost generic formulation, it is an attractive alternative to azoles. In humans, TBF has been shown to concentrate and persist in skin.

In this study, healthy dogs (n = 10) were given 30 mg/kg PO q24h of a generic TBF formulation for 21 days. TBF concentrations were measured in serum, sebum, and stratum corneum of the paw and thorax before and 3 hours after TBF administration on multiple days from day 1 to 35. Serum concentrations were significantly higher than were paw stratum corneum, thorax stratum corneum, and sebum concentrations. TBF did not accumulate or persist in canine stratum corneum or sebum as compared with serum. The mean maximum concentration for paw and thorax stratum corneum and for sebum barely exceeded the published *Malassezia* spp minimum inhibitory concentration (MIC_{90}) of 0.25 µg/mL and never reached it in some subjects. Although multiple dogs had clinical laboratory values outside of the normal range, none of these values were considered clinically significant. Results indicated that, although well-tolerated, oral TBF doses >30 mg/kg q24h may be needed for efficacy in the treatment of canine *Malassezia* spp dermatitis, and further characterization of the *Malassezia* spp MIC and TBF efficacy would be useful.

Commentary

The major takeaway from this article is to avoid prescribing terbinafine for *Malassezia* spp dermatitis treatment. Terbinafine has been an attractive low-cost alternative to other azoles for treating *Malassezia* spp overgrowth, especially because it is part of many $4 and $12 prescription plans. In this commentator's experience, clinical response in dogs to terbinafine was unimpressive as compared with ketoconazole. This was somewhat perplexing because this drug was effective for treating dermatophytosis. The findings in this study helped explain why. This is yet another example of why it is important to design not only species-specific pharmacokinetic studies but also organ-specific studies.—*Karen A. Moriello, DVM, DACVD*

Source

Gimmler JR, White AG, Kennis RA, Cruz-Espindola C, Boothe DM. Determining canine skin concentrations of terbinafine to guide the treatment of *Malassezia* dermatitis. *Vet Dermatol*. 2015;26(6):411-416, e95-e96.

Oral TBF doses >30 mg/kg q24h may be needed for efficacy in the treatment of canine *Malassezia* spp dermatitis.