



Summary of recommendations for general practitioners based on the clinical consensus guidelines.

Biology, diagnosis and treatment of *Malassezia* dermatitis in dogs and cats

Clinical Consensus Guidelines of the World Association for Veterinary Dermatology

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Aetiopathogenesis

- *Malassezia* is unique in that it is strictly lipid dependent.
- Eighteen species of *Malassezia* have been described so far.
- Few tests available to differentiate between different species of *Malassezia*, and other techniques such as DNA sequencing or mass spectrometry, may be required for species identification.
- *Malassezia* is a normal inhabitant of healthy canine skin and mucosae.
- Population sizes of *Malassezia* vary between anatomical sites and different breeds.
- *Malassezia* overgrowth on the stratum corneum is dependent on the metabolic activity of the yeast and host innate and adaptive immune responses.
- Interactions with other commensals may also play a role.
- Range of host immune responses recognised (none, immediate hypersensitivity response, delayed-type hypersensitivity response, and contact.)
- Dog breeds at increased risk are West Highland white terriers, English setters, shih tzus, basset hounds, American cocker spaniels, boxers, dachshunds, poodles, and Australian silky terriers.
- Cat breeds at increased risk are Devon rex and sphynx cats.
- Dogs with *Malassezia* dermatitis often have concurrent hypersensitivity disorders, cornification defects, or endocrinopathies.
- Cats with *Malassezia* dermatitis most often have hypersensitivity disorder or, visceral neoplasia, or other serious internal disease.

Clinical signs in dogs

- Erythema and keratosebaceous scale (greasy material)
- Pruritus (minimal, mild, moderate, or severe)
- Intertriginous zones favored
- Hyperpigmentation and lichenification
- Malodorous skin and ears
- Traumatic alopecia
- Otitis externa
- Claw fold erythema and swelling with waxy or crusty brown exudate

Clinical signs in cats

- Red-brown claw staining
- Erythema and keratosebaceous scale (greasy material)
- Pruritus (minimal, mild, moderate, or severe)
- Concurrent otitis externa, especially in Devon rex and sphynx cats

- Concurrent conditions include allergic skin disease, idiopathic facial dermatitis (Persian and Himalayan), feline acne, and serious internal disorders such as paraneoplastic alopecia and thymoma-associated exfoliative dermatitis

Diagnostic tests

- Tape strip sampling or dry scrapes stained with modified Wright Giemsa stain (Diff-Quik) or generic equivalent and examined using a light microscope using x50 or x100 oil immersion lens.
- Population at sites vary; therefore, trial therapy is required to establish the role of *Malassezia* in the disease process.
- Routine culture provides qualitative information.
- Modified Dixon's agar is the preferred medium and incubated in aerobic conditions at 32^o-37^o C for three days. For cats, samples should be incubated aerobically between 32^o-34^o C and extended to 7 days for slow growing *Malassezia*. Temperature above 34^o C should be avoided as it would inhibit *Malassezia globosa* found in cats.
- Contact plates (18-27mm in diameter) containing modified Dixon's agar can be used for diagnostic and research purposes.
- Intradermal reactivity to *Malassezia* antigen supports an IgE mediated response.
- Serological testing for *Malassezia*-specific IgE antibodies may suggest an immediate type hypersensitivity response.
- Both intradermal and serological tests have to be assessed in context with clinical and cytological data and should NOT be used as standalone tests.
- Histopathology alone is not a reliable test for the diagnosis of *Malassezia* dermatitis.

Therapeutic considerations

- 2% miconazole and 2% chlorhexidine shampoo twice weekly – strong evidence
- 3% chlorhexidine shampoo – moderate evidence
- Ketoconazole 5-10mg/kg q 12h or q24h – moderate evidence
- Itraconazole 5mg/kg q 24h daily or two consecutive days a week – moderate evidence
- Fluconazole 5-10mg/kg q 24 h – single study so requires further support
- Terbinafine 30mg/kg q 24h – partial beneficial effects at this dose and therefore requires further studies

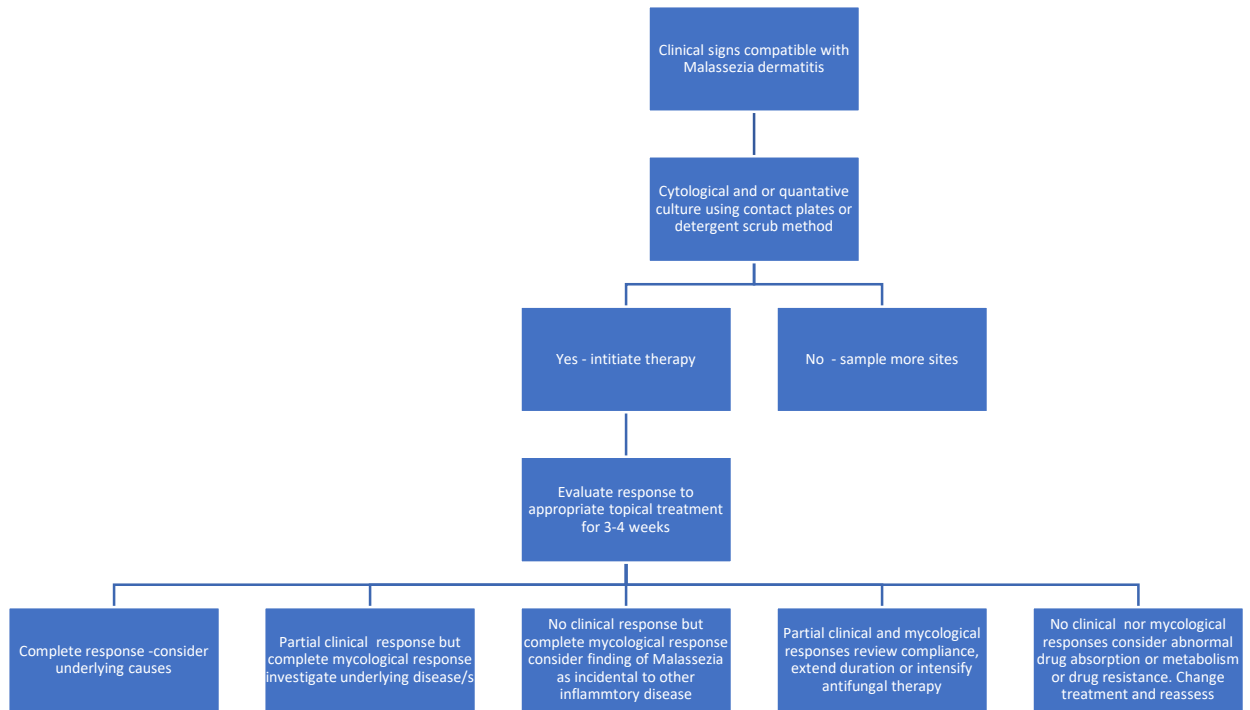
Preventative measures

- Control predisposing factors.
- Where the above not possible, topical prevention recommended.
- 2% miconazole and 2% chlorhexidine shampoo twice weekly.
- 3% chlorhexidine shampoo – moderate evidence.
- Recurrent *Malassezia* otitis externa associated with allergic skin diseases may be prevented by applying 3 drops of hydrocortisone aceponate to the ears (off-label application).
- Pulsed therapy with itraconazole 5mg/kg (2 days on and 5 days off) for 3 weeks useful for *Malassezia* dermatitis but not *Malassezia* otitis.

Zoonotic implications, if any

- Low risk of zoonotic transmission to immunosuppressed individuals, BUT good hand hygiene measures should be emphasized.

Diagnostic approach



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