

CANINE FUNGAL DERMATITIS

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TYPES OF FUNGAL DISEASES

- Malasseziasis
- Candidiasis
- Dermatophytosis
- Blastomycosis Etc.

Fourth Edition

Small Animal Dermatology

A Color Atlas and Therapeutic Guide



Keith A. Hnilica • Adam P. Patterson

ELSEVIER

MALASEZIASIS

INTRODUCTION

- Yeast infection
- Almost always associated with an underlying cause like Atopy, Food Allergy, Endocrinopathy, prolonged Corticosteroid use, Metabolic disorder etc.
- Predisposing breeds – GSD, Dachshunds, American Cocker Spaniel, Springer Spaniel, Shih-tzu, Beagle, White Terrier, West Highland, English Setter.

CLINICAL SIGNS

- Moderate to severe pruritus
- Regional/generalized alopecia
- Initial Stage – Excoriations, Erythema, Seborrhoea
- Choric – Lichenification, Hyperpigmentation, Hyperkeratotic (**Leathery or Elephant like Skin**)
- Unpleasant body odour
- Paronychia with dark brown nail bed discharge
- Lesions are found mostly on ventral part of body – Interdigital space, ventral neck, axillae, perineal region, leg folds
- Concurrent yeast otitis externa



FIGURE 4-1 Malasseziasis. Severe alopecia, lichenification, and hyperpigmentation on the entire ventrum of a West Highland White Terrier. The yeast infection was secondary to allergic dermatitis.



FIGURE 4-13 Malasseziasis. Typical "elephant skin" lesion demonstrating the alopecia, erythema, hyperpigmentation, and lichenification caused by *Malassezia dermatitis*.



FIGURE 4-5 Malasseziasis. The interdigital dermatitis in this patient was caused by the secondary *Malassezia* infection. The greasy, alopecic, inflamed skin in between the footpads is typical of yeast pododermatitis.



FIGURE 4-6 Malasseziasis. The brown discoloration around the base of the nails is a unique change typical of secondary *Malassezia* infections.

DIFFERENTIAL DIAGNOSIS

- Demodicosis
- Superficial Pyoderma
- Dermatophytosis
- Ectoparasites
- Allergy

DERMATOPHYTOSIS

INTRODUCTION

- Ring worm infection (Microsporum spp & Trichophyton spp)
- Zoonotic importance
- Infection of hair shaft and stratum corneum
- Mostly affects
Kitten/Puppy/Immunocompromised
animals

CLINICAL SIGNS

- Lesion – Circular/Irregular/Diffuse alopecia with variable scaling
- Other Symptoms – Erythema, Papules, Crusts, Seborrhoea, Paronychia
- In Dogs – Dermatophytic nodules (Rarely in cats)



FIGURE 4-37 Dermatophytosis. Crusting alopecic dermatitis typical of dermatophytosis on the face of a cat.



FIGURE 4-38 Dermatophytosis. Severe crusting on the entire head of this Jack Russell terrier was caused by a *Trichophyton* infection. Furunculosis resulted in severe cellulitis with subsequent scarring. (Courtesy J. MacDonald.)



FIGURE 4-41 Dermatophytosis. Focal alopecia on the muzzle of a Dachshund. This is a typical location for dogs that frequently dig in soil.



FIGURE 4-42 Dermatophytosis. This intense inflammatory reaction is typical of a kerion.



FIGURE 4-46 Dermatophytosis. Generalized alopecia and erythema in a Boston. The well-demarcated areas of dermatitis are typical of dermatophytosis.

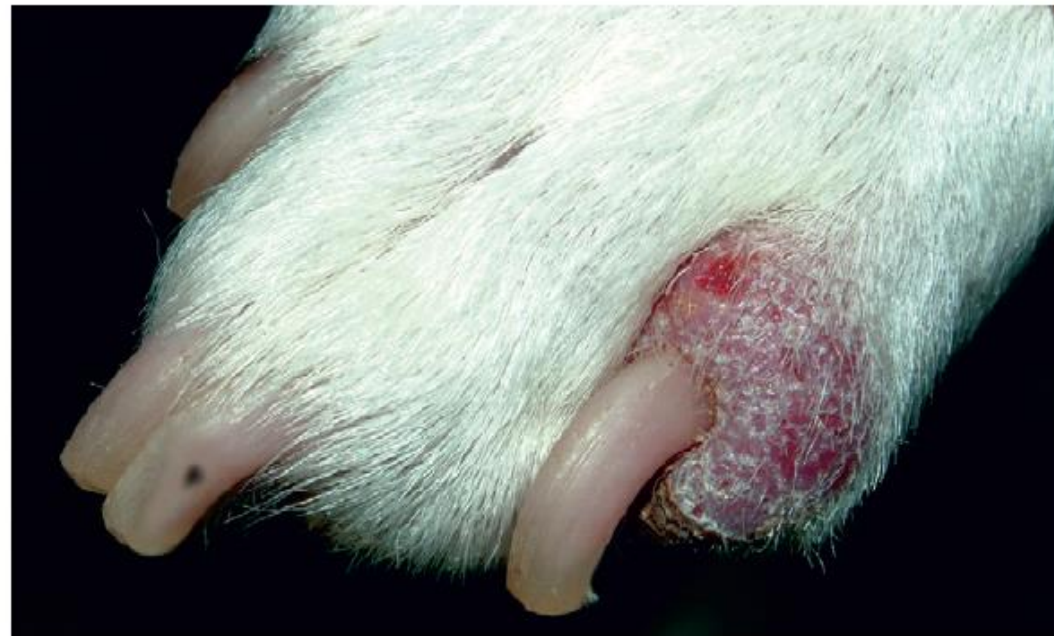


FIGURE 4-47 Dermatophytosis. Alopecia and erythema of the lateral digit are typical of nail bed infections caused by dermatophytes.



FIGURE 4-68 **Dermatophytosis.** Close-up of the dog in Figure 4-67. Hyperpigmented alopecia dermatitis was expanding down the dog's neck and extremities.



FIGURE 4-69 **Dermatophytosis.** Symmetrical areas of alopecia and erythema on the abdomen of a dog. The symmetrical lesion, a "kissing" lesion, is caused by contact of the skin on both sides of the ventral midline when the patient stands.

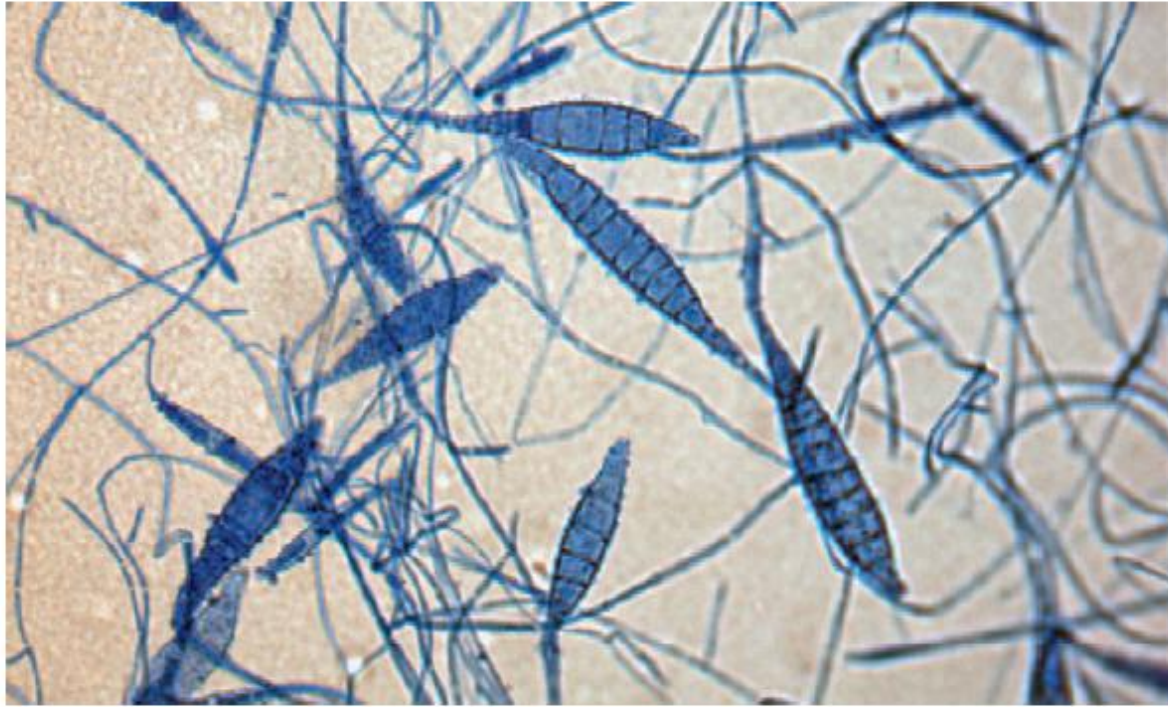


FIGURE 4-64 Dermatophytosis. *Microsporum canis* macroconidia as observed with a 10× objective. Note the pointed ends and six or more divisions.

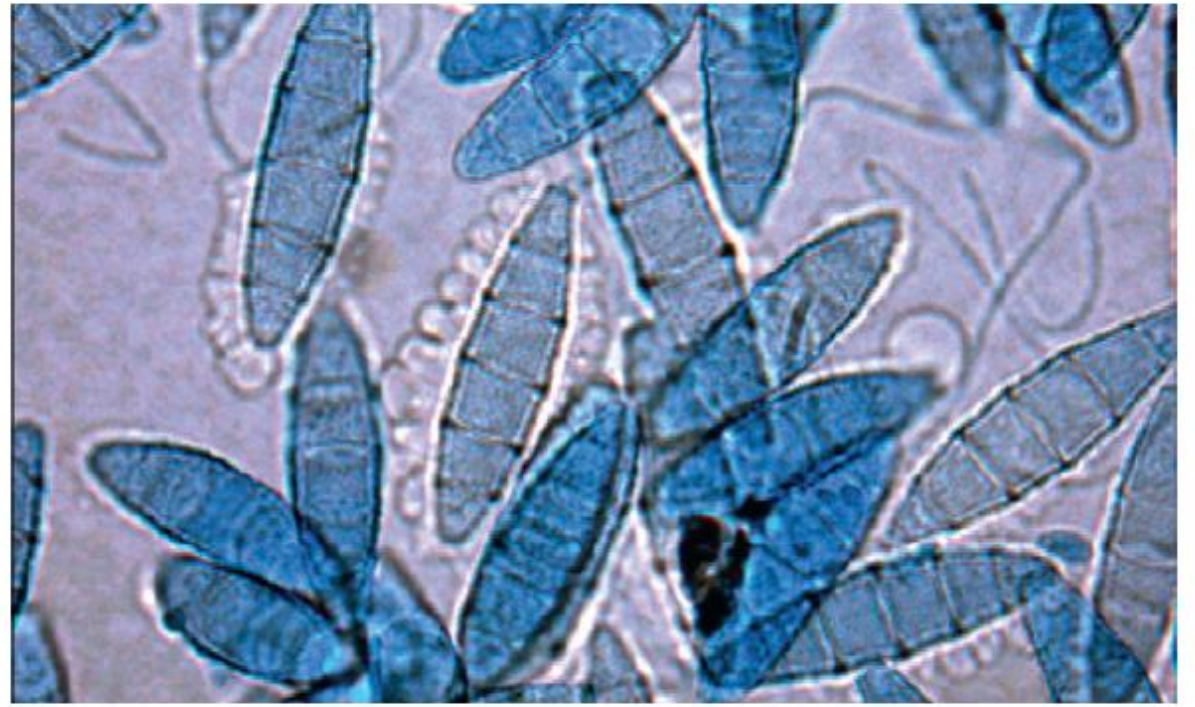


FIGURE 4-65 Dermatophytosis. *Microsporum gypseum* macroconidia as observed with a 40× objective. Note the more ovoid shape with six or fewer divisions.

DIFFERENTIAL DOAGNOSIS

- Demodicosis
- Superficial Pyoderma
- Neoplasia
- Acral Lick Dermatitis

DIAGNOSIS

- Ultraviolet (Wood's Lamp)
Exam – Yellow Green
Fluorescence
- Trichogram
- Dermatohistopathology
- Fungal Culture

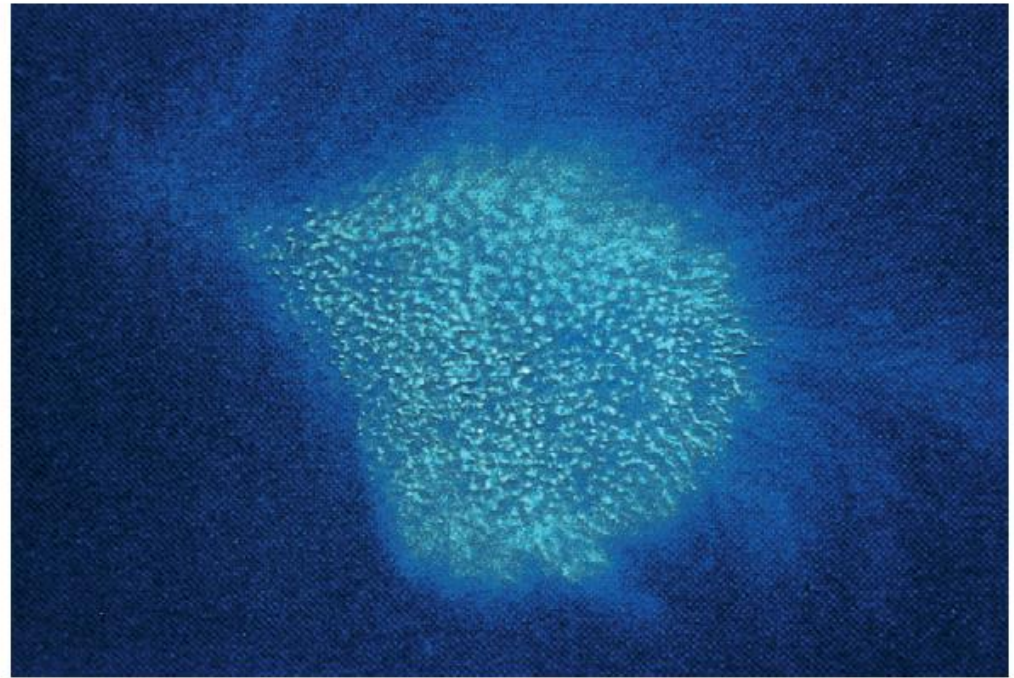


FIGURE 4-57 Dermatophytosis. Positive Wood's lamp examination of a cat with *Microsporum canis*. Note the apple green glow associated with the root of each hair.

TREATMENT – TOPICAL THERAPY

- FOCAL LESION
 1. Topical Creams (Terbinafine, Clotrimazole, Ketoconazole, Miconazole)
 2. Topical Solutions (Enliconazole 0.2% & Lime sulfur 2-4%)
- GENERALIZED LESION – Shampoo every 2-3 days till total lesion resolve & follow up skin cytology is negative
 1. 2% Ketoconazole
 2. 2% Ketoconazole + 2% Chlorhexidine
 3. 2% Miconazole
 4. 1% Selenium Sulfide (only for dogs)

TREATMENT – SYSTEMIC THERAPY

- Ketoconazole @10mg/Kg PO q24h (Avoid using in cats)
- Fluconazole @10mg/Kg PO q24h
- Terbinafine @30-40mg/Kg PO q24h
- Itraconazole @5-10mg/Kg PO q24h

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Comparison of pulse administration versus once daily administration of itraconazole for the treatment of *Malassezia pachydermatis* dermatitis and otitis in dogs

SMALL ANIMALS

Lauren R. Pinchbeck, BA; Andrew Hillier, BVSc, DACVD; Joseph J. Kowalski, DVM, DACVM; Kenneth W. Kwochka, DVM, DACVD

Objective—To compare clinical efficacy of pulse administration with itraconazole versus once daily administration for the treatment of cutaneous and otic *M pachydermatis* infection in dogs.

Design—Randomized controlled trial.

Animals—20 dogs.

Malassezia pachydermatis is a lipophilic, non-lipid-dependent, nonmycelial, saprophytic yeast that inhabits normal and abnormal skin, the ear canals, the oral and anal mucosal surfaces, the anal sacs, and the vagina of dogs.¹⁻³ Infection with *M pachydermatis* is recognized as a secondary complication of hypersensitivity disorders, keratinization defects, endocrinopathies, and staphylococcal pyoderma.⁴ Affected dogs are prur-

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 **Medical Mycology Case Reports**
Volume 23, March 2019, Pages 58-61



Azole resistance of *Malassezia pachydermatis* causing treatment failure in a dog

Martina Angileri^a, Mario Pasquetti^b, Michela De Lucia^a, Andrea Peano^b 👤 ✉

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Indian J Anim Health (2022)
DOI: <https://doi.org/10.36062/ijah.2022.01722>

Review Article

Canine malasseziosis: An overview

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Abstract

The present review describes the prevalence, etiology, pathogenesis, clinical manifestations, clinical pathology, diagnosis, treatment and zoonotic importance of *Malassezia* infections in dogs. *Malassezia* spp. are non-mycelial saprophytic lipophilic yeasts that belong to normal cutaneous or mucosal microbiota of many warm-blooded vertebrates. They may act as an opportunistic agent and plays a role in the development of *Malassezia* dermatitis and otitis externa in animals. Pathogenicity of *Malassezia* yeasts depends on the production of various virulence factors like proteases, lipases, phospholipases, lipoygenases and other enzymes. Treatment of malasseziosis in dogs includes the use of topical therapy and systemic

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