

Concurrent malasseziosis and otitis externa in a senior pug

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ABSTRACT: Dermatitis is a common skin disorder in dogs, caused by a variety of factors including fungi, ectoparasites, bacteria, and metabolic diseases. This case report describes a 7-year-old male pug with dermatitis associated with *Malassezia* infection and concurrent otitis externa caused by bacterial and *Malassezia* infections. The dog exhibited clinical signs, including pruritus, erythema, scaling, hyperpigmentation, lichenification, malodor, oily coat, and wet, malodorous ear discharge. Cytological analysis of skin and ear samples, performed using acetate tape preparation and otic swabs, revealed the presence of *Malassezia* yeast and cocci-shaped bacteria. Hematological evaluation revealed normocytic normochromic anemia. Based on these findings, the dog was diagnosed with Malasseziosis and bacterial-*Malassezia* otitis externa. A comprehensive therapeutic regimen was implemented, including oral antifungal ketoconazole, sebazole shampoo, oticon ear drops, anti-inflammatory methylprednisolone, antihistamine chlorpheniramine maleate, and supportive supplementation with multivitamins (Livron B-plex) and fish oil. After 21 days of treatment, significant clinical improvement was observed, demonstrating the efficacy of this multimodal therapeutic approach.

Keywords:

dermatitis, otitis, pug, *Malassezia*

■ INTRODUCTION

Dermatitis is a multifactorial skin disorder in dogs caused by fungi, ectoparasites, bacteria, and metabolic diseases (Purnama *et al.* 2019). *Malassezia* spp. are commensal organisms that inhabit the skin of humans and animals and colonize the lipid-rich stratum corneum (Seetha *et al.* 2018). Under predisposing conditions, such as altered skin barrier function or immune imbalance, *Malassezia* may overgrow and trigger inflammatory responses, causing malasseziosis. This inflammatory dermatosis in dogs is characterized by excessive *Malassezia* yeast on the skin surface (Sharma *et al.* 2023). Clinical lesions develop in the ventral body regions, including the neck, abdomen, inguinal area, axillae, ears, lips, oral cavity, and limbs (Çınar & Yağcı 2021).

Beyond dermatitis, *Malassezia* yeasts commonly cause canine otitis externa, as the moist and lipid-rich ear canal provides an ideal environment for fungal growth. Otitis externa, inflammation of the external ear canal and pinna, is a common canine ear disorder (Cabañes 2021). The treatment of malasseziosis and otitis externa requires antifungal therapy, which can be administered topically or systemically. Systemic treatment uses azole antifungals, such as ketoconazole, itraconazole, and fluconazole, owing to their efficacy against *Malassezia* species (Guillot & Bond 2020).

Malasseziosis and otitis externa commonly occur together, complicating treatment, especially in breeds such as pugs with skin folds and narrow ear canals. This report describes dermatitis and otitis externa with *Malassezia* and bacterial co-infection in a senior pug, providing insights into its clinical management and response.

■ CASE

Anamnesis and Signalment: A 7-year-old neutered male pug weighing 7.2 kg presented with moderate pruritus, erythema, and scaling of the ventral body. The dog had not been bathed for one year, was housed in a damp kennel, and was regularly vaccinated and dewormed. **Physical Examination:** The revealed a body condition score of 5/9, respiratory rate of 38 breaths/min, heart rate of 140 beats/min, temperature of 38.9 °C, and capillary refill time of > 2 s. The pruritus score was 6/10. Dermatological signs included scaling, erythema, and hyperpigmentation on the dorsal and cervical folds (Figure 1A), a greasy coat and lichenification in the axillary and genital areas (Figure 1B), and erythematous ears with malodorous discharge (Figure 1C). **Diagnostics:** Hematology revealed normocytic normochromic anemia. Skin tape preparations revealed footprint-like *Malassezia*, while otic swabs showed *Malassezia* yeast and cocci bacteria. **Diagnosis:** Malasseziosis with bacterial-associated external otitis. **Prognosis:** Favorable. **Treatment:** The dog received ketoconazole (10 mg/kg for 21 days), Sebazole shampoo, and Oticon ear drops. The therapy included methylprednisolone (0.3 mg/kg for 3 days), chlorpheniramine (4 mg/dog for 7 days), multivitamins, and fish oil (7 days).

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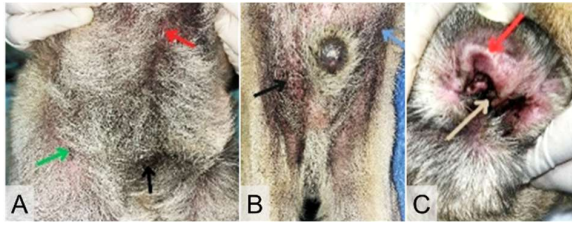


Figure 1. Clinical manifestations in a pug with malasseziosis: (A) scaling (green arrow), erythema (red arrow), hyperpigmentation (black arrow); (B) hyperpigmentation (black arrow), lichenification (blue arrow); (C) erythema (red arrow), moist otic discharge (brown arrow).

■ RESULTS AND DISCUSSION

Physical examination revealed pruritic lesions, scaling, and erythema in the dorsal, cervical, and genital regions of the body. A foul odor, oily coat, hyperpigmentation, and lichenification were observed in the cervical folds, axillae, and genital region. These findings match the typical features of canine malasseziosis, including pruritus, scaling, oily skin, hyperpigmentation, and lichenification (Sudipa *et al.* 2021).

Cytological examination revealed characteristic footprint-shaped *Malassezia* yeasts, with more than eight organisms per microscopic field (Figure 2A). A diagnosis is confirmed when more than five organisms are detected per field (Sudipa *et al.* 2021). After treatment, only one *Malassezia* organism was observed per field (Figure 2B), showing a favorable response. Otic examination revealed erythematous ear canals with excessive, foul-smelling discharge. Cytological evaluation of pre-treatment swabs revealed over ten *Malassezia* organisms per field and cocci (Figure 2C). Post-treatment, four *Malassezia* organisms were observed per field, with no cocci bacteria (Figure 2D). The coexistence of *Malassezia* spp. and cocci bacteria, particularly *Staphylococcus* spp., has been reported to be key in the development of canine otitis externa under damp conditions (Ulfa *et al.* 2016).

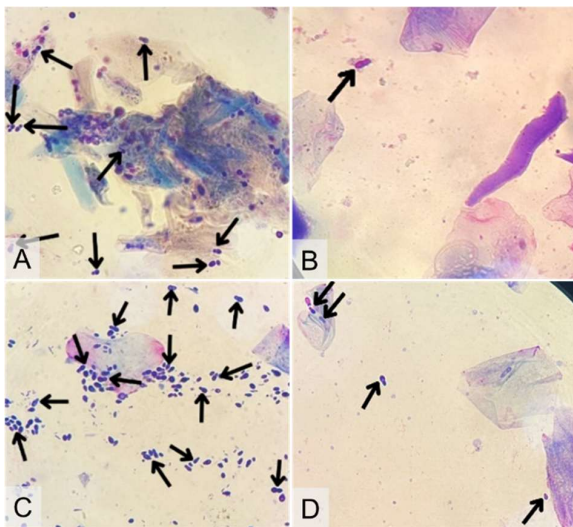


Figure 2. Cytological findings in a pug with malasseziosis and otitis externa: (A) skin sample before treatment showing >8 *Malassezia* yeasts per field; (B) skin sample after treatment showing 1 *Malassezia* yeast per field; (C) ear swab before treatment showing >10 *Malassezia* yeasts and cocci bacteria per field; (D) ear swab after treatment showing 4 *Malassezia* yeasts with no cocci bacteria (1000 \times).

Hematological analysis revealed normocytic and normochromic anemia. This condition reflects a reduction in erythrocyte count, hemoglobin concentration, or hematocrit values, while the red cell indices remain within normal limits. Age-related decline in physiological function, including reduced erythropoiesis, may contribute to anemia in older dogs (Ernawati *et al.* 2023).

A therapeutic regimen of systemic and topical antifungals (ketoconazole, Sebazole shampoo, and Oticon drops), methylprednisolone, chlorpheniramine maleate, and supplements (Livron B-plex and fish oil) was administered for 21 days. Clinical resolution occurred by the end of treatment, with complete regression of lesions and reduced *Malassezia* counts in skin and ear samples.

■ CONCLUSION

A senior pug was diagnosed with malasseziosis and bacterial-associated otitis externa. Combined systemic and topical therapy proved effective in achieving full clinical recovery.

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