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SUCCESSFUL 28-DAY COMBINATION THERAPY OF MALASSEZIA DERMATITIS IN A 1-YEAR-OLD MIXED SMALL-BREED DOG: A CASE REPORT

Laporan Kasus: Keberhasilan Terapi Kombinasi 28 Hari Malasseziosis pada Anjing Ras Kecil Campuran Usia Satu Tahun

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Abstract

Malasseziosis is a common opportunistic dermatosis in dogs, particularly in tropical environments. Although combination therapy is recommended, evidence from small-breed dogs in Southeast Asian tropical climates remains limited. This case report aims to describe the clinical manifestations, diagnostic approaches, response to combination therapy, and clinical and cytological monitoring in a case of chronic malasseziosis in a small-breed dog. A 1-year-old, 1.95-kg female mixed small-breed dog presented with an 8-month history of bilateral alopecia, scaling, pruritus (PVAS 6/10), and rancid skin odour. Acetate tape impression cytology stained with Diff-Quick confirmed heavy Malassezia colonisation (footprint/snowman morphology). Treatment comprised oral itraconazole (5 mg/kg q24h × 28 days), chlorpheniramine maleate (4 mg/animal q12h), essential fatty acid supplementation, silymarin hepatoprotection, and twice-weekly medicated shampoo (ketoconazole + benzethonium chloride). Cytological monitoring showed a progressive reduction in Malassezia density starting in week 2. By week 4, scaling and abnormal odour had resolved, and hair regrowth was evident in previously alopecic areas. Combination systemic and topical antifungal therapy was effective in resolving malasseziosis within 28 days. Baseline hepatic function testing and scheduled cytological reassessment are recommended to detect recurrence early.

Keywords**:** acetate tape cytology, antifungal therapy, case report, canine dermatosis, itraconazole, malassezia dermatitis

Abstrak

Malasseziosis merupakan dermatosis oportunistik yang umum terjadi pada anjing, terutama di lingkungan tropis. Meskipun terapi kombinasi direkomendasikan, bukti pada anjing ras kecil di iklim tropis Asia Tenggara masih terbatas. Laporan kasus ini bertujuan mendeskripsikan

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manifestasi klinis, pendekatan diagnostik, respons terapi kombinasi, serta monitoring klinis dan sitologis pada kasus malasseziosis kronis pada anjing ras kecil. Seekor anjing betina ras kecil campuran berumur satu tahun dengan berat badan 1,95 kg diperiksa dengan riwayat alopesia bilateral selama delapan bulan, disertai sisik, pruritus (PVAS 6/10), dan bau kulit tengik. Pemeriksaan sitologi metode *acetate tape impression* yang diwarnai *Diff-Quick* mengonfirmasi kolonisasi *Malassezia* dalam jumlah banyak dengan morfologi khas menyerupai telapak sepatu atau "*snowman*". Terapi yang diberikan meliputi *itraconazole* per oral (5 mg/kg setiap 24 jam selama 28 hari), *chlorpheniramine maleate* (4 mg/ekor setiap 12 jam), suplementasi asam lemak esensial, hepatoprotektor *silymarin*, serta pemandian dua kali seminggu menggunakan sampo medikasi yang mengandung *ketoconazole* dan *benzethonium chloride*. Monitoring sitologi menunjukkan penurunan kepadatan *Malassezia* secara progresif sejak minggu kedua terapi. Pada minggu keempat, sisik dan bau kulit abnormal menghilang serta terlihat pertumbuhan rambut kembali pada area yang sebelumnya mengalami alopesia. Kombinasi terapi antijamur sistemik dan topikal efektif dalam menangani malasseziosis dalam waktu 28 hari. Pemeriksaan fungsi hati awal dan evaluasi sitologi berkala direkomendasikan untuk mendeteksi kekambuhan secara dini.

Keywords**:** *Malassezia dermatitis*, *itraconazole*, dermatosis anjing, sitologi *acetate tape*, terapi antijamur, laporan kasus

INTRODUCTION

Malasseziosis is one of the most common skin diseases in dogs and is caused by the excessive proliferation of lipophilic yeasts of the genus *Malassezia*, which normally constitute part of the skin microflora (Pratama *et al.*, 2025). Under physiological conditions, the presence of these yeasts does not cause any disturbance (Mudiana *et al.*, 2024). However, alterations in the skin barrier, increased humidity, immune dysfunction, or microbial imbalance may trigger excessive yeast growth, leading to skin inflammation (Sihelská *et al.*, 2017). Clinically, malasseziosis is characterized by pruritus, erythema, alopecia, increased sebum production, scaling, and a distinctive musty or rancid skin odor (Daniel, 2022).

Young and small-breed dogs may have a higher susceptibility to skin disorders, particularly when husbandry management is suboptimal (Rodriguez-Campos *et al.*, 2020; Yi *et al.*, 2023). Environmental factors such as high humidity, poor hygiene, and high animal population density within the same area can aggravate skin conditions and facilitate excessive *Malassezia* colonization (Sudipa *et al.*, 2021). Cases that are not properly managed may progress to chronic conditions, resulting in prolonged discomfort and reduced quality of life in affected animals (Hobi *et al.*, 2024).

The management of malasseziosis generally requires a combination of systemic and topical therapies to achieve optimal outcomes. Itraconazole, a triazole antifungal agent, is frequently selected because of its effectiveness in inhibiting ergosterol synthesis in the fungal cell membrane and its good distribution within skin tissues (Daniel, 2022; Negre *et al.*, 2009). Topical therapy using antifungal shampoo also plays an important role in reducing the fungal population on the skin surface and accelerating lesion improvement (Maynard *et al.*, 2011).

Canine malasseziosis has been widely reported as a common opportunistic dermatitis, particularly in tropical environments with high humidity. However, case reports documenting serial therapeutic responses through clinical evaluation, cytology, and macroscopic skin changes in small-breed dogs in tropical Southeast Asian regions remain limited. In addition, most previous reports have primarily focused on diagnosis and antifungal therapy without semi-quantitative monitoring of pruritus, skin lesions, and *Malassezia* density during the treatment period. Therefore, this case report was prepared to describe a combination therapy

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approach along with periodic clinical and cytological evaluations in a case of chronic malasseziosis in a small-breed dog. This case report aimed to describe the clinical manifestations, diagnostic approach, response to combination therapy, and clinical and cytological monitoring in a case of chronic malasseziosis in a small-breed dog.

CASE PRESENTATION

Case Animal

A 1-year-old female small mixed-breed dog weighing 1.95 kg was examined with a body condition score (BCS) of 6/9, characterized by palpable ribs and vertebrae with a slight excess fat covering, a visible but not prominent waist when viewed from above, and a noticeable abdominal tuck (Gomes *et al.*, 2025). The dog was presented with a chief complaint of alopecia distributed over the ventral body region, including the neck and chest, axillary areas (axillae), inguinal region, lateral dorsum, and both forelimbs and hindlimbs, accompanied by scaling (seborrhea). The condition had persisted for eight months since the dog was four months old. In addition, a rancid body odor and frequent scratching behavior, particularly during rest, were observed, with the pruritus level categorized as moderate (PVAS 6/10) (Rybníček *et al.*, 2009). Previous treatment history revealed the topical use of a traditional herbal ingredient, turmeric, which resulted in temporary clinical improvement; however, recurrence occurred approximately one week after treatment discontinuation. Husbandry management was considered suboptimal, with no routine bathing schedule. The dog was housed in the yard together with seven other dogs, and all dogs within the population were reported to have a similar rancid skin odor; however, in this case, the severity of alopecia and scaling was the most prominent compared to the other dogs.

Clinical Examination

The dog examination was conducted at the Veterinary Internal Medicine Laboratory, Faculty of Veterinary Medicine, Udayana University. Clinical examination was performed systematically, beginning with the assessment of the general clinical status, including heart rate, pulse rate, respiratory rate, capillary refill time (CRT), and body temperature, followed by a complete physical examination from head to tail using inspection, palpation, auscultation, and percussion methods. The examination results showed a heart rate of 160 beats/minute, pulse rate of 160 beats/minute, respiratory rate of 48 breaths/minute, body temperature of 39ºC, and capillary refill time (CRT) of less than 2 seconds, all of which were still within tolerable limits. Dermatological examination revealed bilateral alopecia on the left and right lateral body regions extending to the ventral areas, including the neck and chest, axillary areas, inguinal region, lateral dorsum, and both forelimbs and hindlimbs. In addition, scales were observed across almost the entire skin surface, several alopecic areas were accompanied by erythema, and a musty body odor was detected.

Case Timeline

The clinical progression of the case is presented in Table 1, showing that at the age of 4 months, the dog initially developed alopecia on the body. Between 6 and 12 months of age, the alopecic lesions became more extensive and were accompanied by scaling, pruritus, and rancid skin odor. On day 0, the first veterinary visit was conducted, and clinical examination revealed alopecia, erythema, scaling, and pruritus (PVAS 6/10). Ancillary examination using acetate tape cytology confirmed a high level of *Malassezia* colonization; therefore, combination therapy consisting of systemic antifungal medication, antihistamines, essential fatty acid supplementation, silymarin, and medicated shampoo was immediately initiated. On day 7, a reduction in pruritus and skin odor was observed, accompanied by a decrease in *Malassezia*

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count on repeat cytological examination. By day 14, significant reductions in scaling and erythema were observed, followed by hair regrowth in alopecic areas on day 21. Clinical resolution with overall skin improvement was achieved on day 28.

Diagnostic Assessment

Ancillary examination was performed through skin cytology using the acetate tape impression method on alopecic areas accompanied by scaling (Hensel *et al.*, 2015). The preparations were stained using Diff-Quick stain (MDT IndoReagen®), consisting of eosin and methylene blue solutions, and subsequently examined under a microscope at gradual magnifications up to 1000× using immersion oil to improve visualization quality. This method was selected because it is rapid, economical, and effective for identifying the causative agents of superficial dermatitis. Cytological examination demonstrated abundant *Malassezia* organisms with characteristic thick-walled budding yeast morphology resembling a "footprint" or "snowman" appearance (Borkar *et al.*, 2014). The high organism density observed on cytology reflected significant infectious activity requiring immediate intervention. Based on a comprehensive approach integrating chronic history, compatibility with classic clinical signs, physical examination findings, and cytological evidence, the dog was diagnosed with malasseziosis with a favorable prognosis (fausta) because the general condition of the animal was stable and the therapeutic response was expected to be good. Differential diagnoses in this case included dermatophytosis, demodicosis, primary seborrhea, and atopic dermatitis based on similarities in clinical manifestations such as alopecia, scaling, and pruritus. However, each of these conditions was excluded based on lesion distribution, pruritus severity, and cytological findings demonstrating *Malassezia* predominance. A systematic evaluation of the differential diagnoses is presented in Table 2.

Therapeutic Intervention

Therapy administered to the dog with malasseziosis included causative, symptomatic, and supportive treatment. Causative therapy consisted of itraconazole at a dose of 5 mg/kg BW orally every 24 hours for 28 days to treat the fungal infection. Symptomatic therapy used chlorpheniramine maleate at a dose of 4 mg/animal orally every 12 hours as needed to reduce pruritus. Supportive therapy included fish oil soft gel (Coatex®) as a skin supplement and milk thistle tablets (Nutrilite®) containing silymarin as a hepatoprotective agent. In addition, the dog was bathed twice weekly using an antifungal shampoo containing ketoconazole and benzethonium chloride (Dr. Kev®).

RESULTS AND DISCUSSION

Results

Follow-up evaluations were conducted periodically throughout the 28-day treatment period to monitor the clinical and cytological responses to the administered therapy. On day 7, the owner reported a decreased frequency of scratching, and the skin odor had started to diminish. By day 14, clinical improvement was observed, characterized by a significant reduction in scaling and erythema. On day 21, hair regrowth began to appear in previously alopecic areas. By day 28, the skin condition showed clinical resolution, characterized by the disappearance of the rancid odor, reduction of skin lesions, and more evenly distributed hair regrowth in the affected areas, indicating a favorable therapeutic response to the combination of systemic and topical treatment. Serial cytological examinations demonstrated a gradual reduction in *Malassezia* density from day 0 to week 4 (Table 2; Figure 2), which was consistent with the clinical improvement observed throughout the treatment period. *Malassezia* organisms were counted per high-power field (HPF) at 1000× magnification using immersion oil. Cytological

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examination revealed a decrease in *Malassezia* numbers from more than 10 cells/HPF at the initial examination to approximately 1 cell/HPF at the end of treatment, indicating a good antifungal therapeutic response against fungal colonization of the skin. Clinical improvement was also macroscopically evident through the gradual reduction of scaling and erythema, as well as progressive hair regrowth from the first to the fourth week (Figure 3).

Discussion

The lesion distribution in the ventral, axillary, and inguinal regions in this case was consistent with the predilection of *Malassezia* for moist and lipid-rich areas. *Malassezia* is a lipophilic yeast that depends on skin surface lipids for growth; therefore, its proliferation increases in areas with high sebum production (Guillot & Bond, 2020). This condition was exacerbated by suboptimal husbandry management without routine bathing, which may increase skin humidity and the risk of fungal colonization (Ugochukwu *et al.*, 2023). Excessive proliferation of *Malassezia* may be triggered by disruption of the skin barrier function, increased moisture on the skin surface, and immune imbalance, leading to loss of control over the normal microflora population (Meason-Smith *et al.*, 2020). These conditions are generally associated with skin microbiota dysbiosis and impairment of epidermal barrier integrity, allowing *Malassezia* to proliferate excessively and transition from a commensal organism into an opportunistic pathogen (Ianiri *et al.*, 2022).

The history of traditional topical therapy using turmeric in this case showed temporary clinical improvement; however, lesions recurred after treatment discontinuation. This recurrence was likely caused by premature cessation of therapy before optimal eradication of the causative agent, as well as a lack of consistency in continued treatment. In malasseziosis, *Malassezia* acts as an opportunistic commensal organism; therefore, inadequate or prematurely discontinued therapy may result in recolonization. In addition, suboptimal husbandry management, including the absence of routine bathing, also contributed to recurrence. These findings emphasize the importance of owner compliance with an adequate treatment duration and proper skin management to prevent recurrence or relapse.

Clinically, the dog in this case exhibited characteristic manifestations of chronic malasseziosis, including alopecia, scaling, moderate pruritus (PVAS 6/10), and a characteristic musty to rancid skin odor. Nevertheless, the vital parameters remained within normal limits, indicating that the infection process was localized and superficial without systemic involvement; therefore, the clinical changes were primarily confined to the skin. The pruritus level, which did not interfere with daily activity, was likely associated with the high *Malassezia* colonization level that remained limited to the superficial layers of the skin. *Malassezia* is a commensal yeast that can become an opportunistic pathogen when organism numbers increase; consequently, the resulting inflammatory response is generally superficial and does not always induce severe pruritus (Hobi *et al.*, 2024). In addition, pruritus in malasseziosis is also influenced by the degree of individual hypersensitivity to *Malassezia* antigens (Ianiri *et al.*, 2022). Dogs with strong hypersensitivity reactions may exhibit severe pruritus, whereas in this case, the immune response was likely moderate, resulting in less intense itching. The inflammation primarily remained confined to the epidermis due to irritating *Malassezia* metabolites on the skin surface, thereby triggering erythema, scaling, and mild-to-moderate pruritus without severe excoriative lesions. Therefore, the combination of superficial colonization, moderate hypersensitivity response, and mild-to-moderate epidermal inflammation may explain the pruritus level observed in this case. The characteristic odor in malasseziosis is thought to be associated with the ability of *Malassezia* to metabolize skin surface lipids through the secretion of enzymes such as lipase, phospholipase, esterase, and

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lipoxygenase, which hydrolyze sebum into free fatty acids that subsequently alter the skin's chemical composition and contribute to the characteristic odor (Park *et al.*, 2021).

The management of malasseziosis aims to eliminate the causative agent while simultaneously improving skin condition through combined systemic and topical therapy, which generally requires a considerable treatment duration. Therapy includes systemic antifungal administration, pruritus control, nutritional skin support, hepatic protection, and routine topical treatment (Pratama *et al.*, 2025). Itraconazole was administered as the primary antifungal agent because of its efficacy and favorable distribution in lipid-rich tissues, including the skin (Daniel, 2022). In this case, itraconazole was administered orally at a dose of 5 mg/kg once daily for 28 days. This dosage was at the lower limit of literature recommendations, ranging from 5–10 mg/kg for canine malasseziosis therapy. The conservative dose selection was based on the patient's very small body weight (1.95 kg), as higher doses could potentially increase the risk of hepatotoxic adverse effects. Furthermore, the lipophilic nature of itraconazole enables drug accumulation within skin tissues, allowing a dose of 5 mg/kg to remain effective, particularly when combined with topical therapy. The favorable clinical response observed in this case indicated that the selected dosage was sufficient to control *Malassezia* colonization without causing observable adverse effects. This triazole-class antifungal agent acts by inhibiting fungal cytochrome P450 enzymes, thereby disrupting ergosterol synthesis, an essential component of the fungal cell membrane (Thakare *et al.*, 2019). This inhibition increases membrane permeability, suppresses fungal growth, and eventually leads to fungal cell death. Itraconazole is metabolized in the liver and excreted primarily through the feces; therefore, long-term administration requires hepatic function monitoring. Compared with ketoconazole, itraconazole has higher efficacy and a relatively better safety profile, although it is associated with higher costs and potential drug interactions (Plumb, 2023).

To control pruritus, chlorpheniramine maleate was administered as an H1 histamine receptor antagonist that competitively inhibits the effects of histamine on tissues, thereby helping to reduce itching and patient discomfort (Thurmond *et al.*, 2015). Additional support in the form of essential fatty acid supplementation from fish oil contributed to strengthening the skin barrier and reducing inflammatory mediator production through omega-3 fatty acids (EPA and DHA) and omega-6 fatty acids (such as linoleic acid). This combination may provide a synergistic effect with antihistamines in the management of chronic pruritus (Barcelos *et al.*, 2015).

Considering the extensive hepatic metabolism of itraconazole, silymarin was administered as a hepatoprotective agent. This active compound, derived from Milk Thistle (*Silybum marianum*), functions as an antioxidant, hepatocyte membrane stabilizer, and stimulator of protein synthesis through activation of RNA polymerase I, thereby helping to protect liver cells from oxidative stress and potential hepatotoxicity during long-term antifungal therapy (Plumb, 2023).

Topical therapy using a medicated shampoo containing ketoconazole and benzethonium chloride played an important role in reducing the fungal population on the skin surface. Ketoconazole inhibits ergosterol biosynthesis within the fungal cell membrane (Pratama *et al.*, 2025), whereas benzethonium chloride, as a cationic antiseptic agent, helps disrupt microbial membrane integrity and control secondary bacterial contamination (Guillot & Bond, 2020). The combination of these agents provides a synergistic effect in controlling superficial infection without abrasive action or disruption of the keratin layer.

Clinical improvement in this case began to appear during the first week of therapy, characterized by reduced pruritus and skin odor, followed by reduced scaling during the second

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week and hair regrowth during the third week. This response pattern is consistent with previous reports indicating that combined systemic and topical antifungal therapy results in clinical improvement within 2–4 weeks. However, the resolution time in this case was relatively faster compared with the report by Pratama *et al.* (2025), which documented significant clinical improvement during the fifth week. This difference was likely influenced by the use of combination therapy consisting of systemic antifungal agents, topical therapy, antihistamines, and essential fatty acid supplementation that contributed to the restoration of skin barrier function. In addition, consistent treatment compliance throughout the 28-day period likely contributed to preventing recolonization and accelerating lesion resolution.

Although a favorable therapeutic response was observed, this case report has several limitations. Additional ancillary examinations, such as fungal culture and molecular identification of *Malassezia* species, were not performed; therefore, the diagnosis was primarily based on cytological findings and clinical manifestations. Furthermore, hepatic function evaluation before and during itraconazole therapy was not conducted, preventing objective monitoring of potential hepatotoxic effects. This report was also limited to a single case without a comparison group; therefore, the therapeutic outcome cannot be broadly generalized. Nevertheless, the serial documentation consisting of clinical evaluation, cytology, and macroscopic skin changes still provides valuable clinical insight into the response to combination therapy in chronic malasseziosis in a small-breed dog.

CONCLUSION AND SUGGESTIONS

Conclusion

This case demonstrated that malasseziosis in a small-breed dog may present as chronic dermatitis with lesion distribution in moist and lipid-rich areas, accompanied by alopecia, scaling, moderate pruritus, and a characteristic skin odor. The diagnosis was established through a comprehensive approach based on anamnesis, clinical findings, and cytological confirmation using the acetate tape impression method with Diff-Quick staining, which revealed high levels of *Malassezia* colonization. Management using a combination therapy consisting of systemic itraconazole at a dose of 5 mg/kg, antihistamines, essential fatty acid supplementation, hepatoprotective agents, and ketoconazole–benzethonium chloride medicated shampoo resulted in progressive clinical improvement and lesion resolution within 28 days. The favorable therapeutic response emphasizes that a multimodal approach is effective for controlling chronic malasseziosis, particularly when accompanied by treatment compliance and improved husbandry management.

Suggestions

Monitoring of liver function should be performed during itraconazole administration to prevent potential hepatotoxic adverse effects. Periodic clinical and cytological monitoring is also recommended to allow early detection of recurrence and to ensure optimal eradication of the causative agent.

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Tables

Table 1. Clinical Timeline of Malasseziosis in the Case Dog

Time	Clinical Events
4 months of age	Mild alopecia first appeared on the body.
6–12 months of age	Alopecic lesions became more extensive and were accompanied by scaling, pruritus, and rancid skin odor.
Day 0	First visit to the veterinary clinic. Clinical examination revealed alopecia, erythema, scaling, and pruritus (PVAS 6/10). Ancillary examination using acetate tape cytology showed high *Malassezia* colonization. Therapy initiated: antifungal agent, antihistamine, EFA supplementation, silymarin, and medicated shampoo.
Day 7	Pruritus decreased, skin odor was reduced, and a reduction in *Malassezia* numbers was observed on repeat cytological examination.
Day 14	Scaling and erythema were significantly reduced.
Day 21	Fine hair regrowth began to appear in alopecic areas.
Day 28	Clinical resolution and overall improvement of skin condition.

Table 2. Differential Diagnoses and Basis for Exclusion in the Malasseziosis Case

Differential Diagnosis	Reason for Consideration	Findings Not Supporting the Diagnosis
Dermatophytosis	Causes alopecia, scaling, and multifocal lesions	No characteristic circular lesions or broken hairs were observed; pruritus is usually mild, and cytology demonstrated *Malassezia* predominance without hyphae/arthrospores
Demodicosis	Multifocal alopecia with erythema and scaling	No characteristic follicular lesions were observed; pruritus is generally minimal in localized demodicosis, and cytology revealed yeast rather than mites
Primary seborrhea	Diffuse scaling and skin odor	Primary seborrhea is usually not accompanied by moderate pruritus, generally has an earlier onset, and the high *Malassezia* colonization was more suggestive of secondary seborrhea
Atopic dermatitis	Pruritus with lesion distribution in ventral, axillary, and inguinal areas	No history of environmental allergies or seasonal pattern was identified, and the presence of rancid odor with high *Malassezia* counts on cytology was more consistent with secondary malasseziosis

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Note: Differential diagnoses of malasseziosis included dermatophytosis, demodicosis, primary seborrhea, and atopic dermatitis based on lesion distribution, degree of pruritus, and cytological findings (Guillot & Bond, 2020; Hensel *et al.*, 2015).

Table 3. Clinical and Cytological Monitoring During Therapy for Malasseziosis in the Case Dog

Evaluation Time	PVAS Pruritus (0–10)	Alopecia (0–3)	Scaling (0–3)	Erythema (0–3)	Skin Odor	*Malassezia*/HPF	Remarks
Week 0	6/10	3	3	3	Strong rancid odor	>10 cells/HPF	Extensive lesions with diffuse scaling
Week 1	3/10	3	2	2	Rancid odor	5–10 cells/HPF	Pruritus and skin odor began to decrease; skin lesions were still clearly visible
Week 2	0/10	2	1	1	None	<5 cells/HPF	Pruritus resolved and scaling decreased
Week 3	0/10	1	0	0	None	<3 cells/HPF	Hair regrowth became more apparent
Week 4	0/10	1	0	0	None	1 cell/HPF	Hair became longer with clinical resolution

Note: Skin lesion scoring: 0 = absent, 1 = mild, 2 = moderate, 3 = severe. HPF = high power field at 1000× magnification using immersion oil.

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Figures

Figure 1. Case dog showing skin lesions characterized by alopecia and scaling.

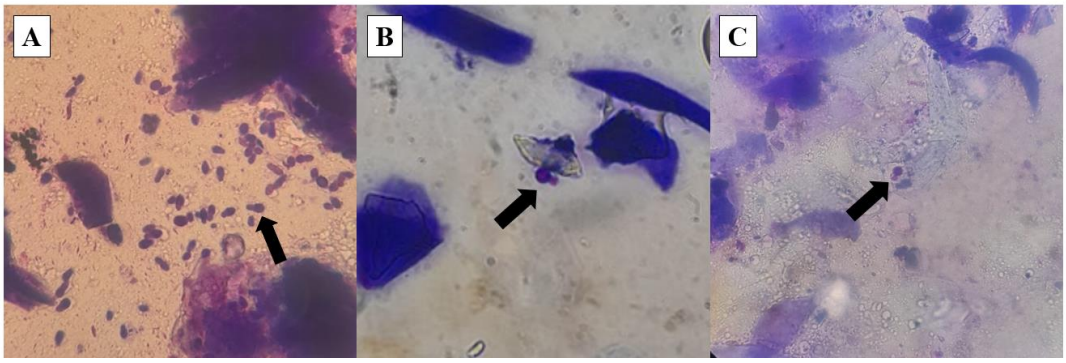

Figure 2. Cytological evaluation of *Malassezia* (1000× magnification): (A) Day 0 before therapy showing high *Malassezia* density with characteristic "footprint/snowman" morphology, (B) second week post-therapy showing a reduction in organism numbers, and (C) fourth week showing *Malassezia* counts approaching normal skin flora levels.

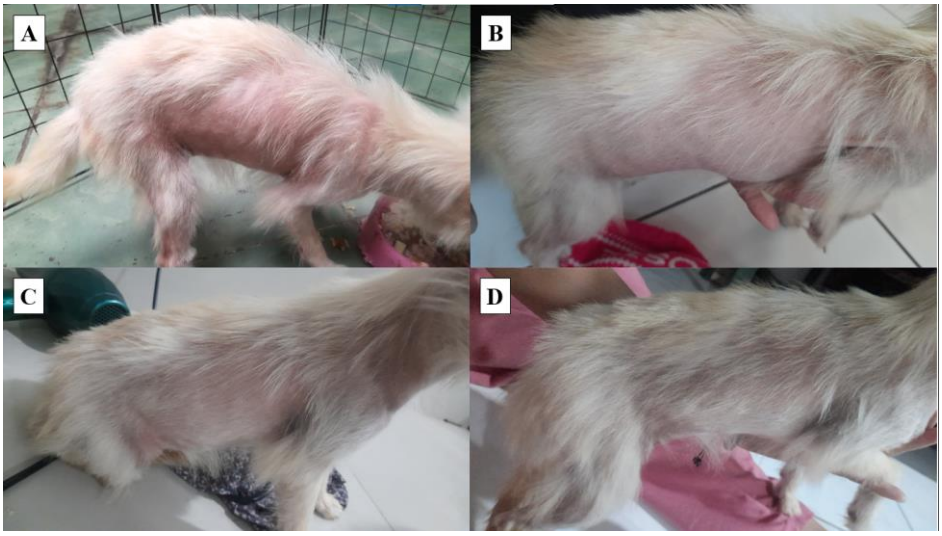

Figure 3. Macroscopic evaluation of skin lesions in the malasseziosis case during therapy: (A) first week, (B) second week, (C) third week, and (D) fourth week.

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