



NIGERIAN VETERINARY JOURNAL

ISSN 0331-3026

Nig. Vet. J., March. 2026

Vol 47(1) 83-89

<https://dx.doi.org/10.4314/nvj.v47i1.9>

CASE REPORT

Successful Management of a Recurring Canine Demodicosis in a Spayed Adult Female Eskimo Dog

Philip Olusoji Ojo^{*1}, Isaiah Oluwafemi Ademola¹

Department of Veterinary Parasitology and Entomology, Faculty of Veterinary Medicine, University of Ibadan. *Corresponding author email philip.ojo@ui.edu.ng
Mobile: 234 7062169783

ABSTRACT

This case report describes a recurrent episode of generalized demodicosis in a 9-year-old spayed female Eskimo dog referred to the Veterinary Teaching Hospital, University of Ibadan. The dog presented with chronic dermatological lesions including alopecia, erythema, follicular pustules, and pruritus, accompanied by secondary bacterial infection. Diagnostic evaluation via skin scraping confirmed the presence of *Demodex spp.*, while other laboratory tests showed mild hyperproteinaemia, elevated eosinophil count, and increased serum AST levels. Initial treatment with subcutaneous ivermectin (0.2 mg/kg) provided transient relief, but recurrence necessitated a more comprehensive regimen. A multimodal therapeutic approach combining fluralaner (Bravecto™), higher-dose ivermectin (0.3 mg/kg), weekly amitraz washes, and anti-inflammatory support with dexamethasone proved effective in resolving lesions. This case highlights the importance of accurate diagnosis, sustained acaricidal therapy, and regular monitoring in managing chronic demodicosis, especially in immunocompromised or geriatric dogs.

Keyword: Recurrent, Canine, demodicosis, Immunocompromised, Ectoparasitocides

INTRODUCTION

Canine demodicosis, commonly referred to as demodectic mange, is a dermatological condition caused by the over-proliferation of *Demodex* mites, primarily *Demodex canis*. These microscopic ectoparasites inhabit the hair follicles and sebaceous glands of dogs and typically coexist harmlessly in

immunocompetent individuals. However, when a dog's immune system becomes compromised due to genetic predisposition, stress, underlying systemic illness or immunosuppressive therapy, these mites can multiply unchecked, leading to clinical disease. The condition manifests in either localized or generalized forms depending on the extent of mite proliferation and immune

dysfunction (Fadok, 2000; Olivry *et al.*, 2009; Mueller, 2012).

Clinically, affected dogs present with signs such as alopecia, erythema, follicular pustules, and secondary bacterial infections (Marsella *et al.*, 2015). Juvenile-onset demodicosis is most frequently observed in puppies with inherited immune deficiencies, while adult-onset cases are typically associated with acquired immunosuppression (Patterson *et al.*, 2008). Disease severity ranges from isolated lesions to widespread cutaneous involvement, often necessitating prolonged and aggressive therapeutic intervention (Kwochka *et al.*, 1999; Umesh *et al.*, 2016).

Three species of *Demodex* have been identified in dogs: *D. canis*, *D. injai*, and *D. cornei*. *Demodex canis* remains the most prevalent and well-characterized species. The taxonomic status of *D. injai* and *D. cornei* is still under investigation, with some researchers proposing that they are distinct species, while others consider them as morphological variants of *D. canis* (Sivajothi *et al.*, 2015). Notably, *D. injai* is characterized by elongated body, with the males measuring more than twice the length of *D. canis* males (Hillier and Desch, 1997). This work reports a case of recurrent demodicosis in a spayed dog, detailing the diagnostic approach, therapeutic regimen, and recommended prevention strategies.

Case history

A 9-year-old spayed female Eskimo dog was referred from a private veterinary clinic in Ibadan to the Veterinary Teaching Hospital, University of Ibadan. The dog had undergone

an elective ovariohysterectomy, following her first litter, when she was 3 years of age. The owner reported that the dermatological condition began in 2023, manifesting as focal areas of alopecia distributed across the body. The referral veterinarian had initiated symptomatic treatment, which yielded temporary improvement. However, the condition recurred within few weeks, prompting the referral to VTH, UI, Ibadan for further evaluation and management.

Clinical Examination

Upon presentation at the Veterinary Teaching Hospital, physical examination revealed multiple focal areas of alopecia, erythema, follicular pustules, hair tangles, and pruritus. Evidence of secondary bacterial infection, characterized by exudative lesions and malodor, was also noted. The dog appeared otherwise alert and responsive, with no signs of systemic illness.

Sample collection and laboratory investigations

To facilitate diagnostic evaluation, the following samples were collected:

Skin Scraping: Samples were obtained from the periphery of active lesions using a sterile scalpel blade and transferred into a petri dish for parasitological examination. The goal was to identify potential ectoparasites such as mites.

Blood Samples: Venipuncture was performed to collect blood for a complete blood count (CBC) and liver function tests. These investigations aimed to assess systemic health, detect any underlying hematological

abnormalities, and evaluate hepatic function, which could influence therapeutic decisions.

RESULTS AND DISCUSSION

The skin scrapping examined was positive for *Demodex species* (+1). The adult mites were cigar-shaped, around 0.2 mm in length with four pairs of short stumpy legs that are placed at the upper part of the body (Figure 1). There was a mild hyperproteinaemia and hyperalbuminaemia which was suspected to be due to dehydration. The serum AST level was slightly elevated (Table 1). The eosinophils level was 8.0% which appeared

moderately elevated and could be due to the dermatological condition caused by the diagnosed Demodecosis (Table 2).

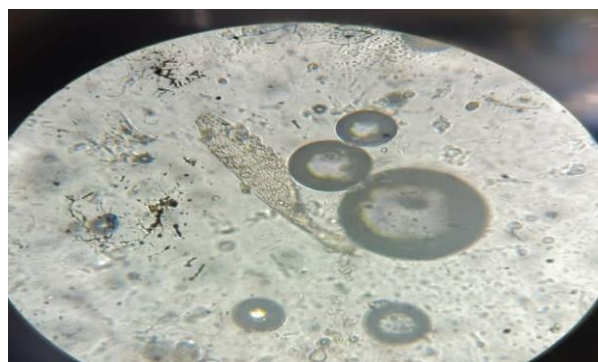


Figure 1: *Demodex* species mite in skin scrapping x40

TABLE I: Haematology of the Demodex infected adult female Eskimo dog

PLASMA	
Colour	Normal
Other Observations	
Total Protein (g/dl)	7.7
Fibrinogen (mg/dl)	300
ERYTHROCYTES	
Hb (g/dl)	12.4
PCV (%)	39
RBC ($10^6/\mu\text{l}$)	6.31
MCV (fl)	62
MCHC (g/dl)	32
Reticulocyte (%)	0

Platelets (/μl)	172,000	
LEUKOCYTES		
Total WBC (/uL)		6,300
Differential	%	Normal range
Seg. Neutrophils	80	30-70%
Band Neutrophil	0	0-3%
Lymphocytes	10	15-45%
Monocytes	2	1-8%
Eosinophil	8	1-5%
Nucleated RBC	0	0%

TABLE II: Serum Chemistry of female Eskimo dog infected with *Demodex species*

Analyte	Patient	Normal range
Total protein	8.0	5.4 – 7.7 g/dL
Albumin	3.8	2.7–4.4 g/dL
Globulin	4.2	2.3–4.0 g/dL
AST	18	13–15 U/L
ALT	98	10–109 U/L
ALP	100	1–114 U/L
BUN	20	9–26 mg/dL
Creatinine	0.8	0.5–1.6 mg/dL

Treatment

The first treatment adopted at the onset of the case by the referral veterinarian was Ivermectin at a dosage of 0.2mg/kg, SC, administered in 6 treatments at 2 weeks apart. The lesions disappeared after the treatment but reappeared after 5-6 weeks. Fluralaner (Bravecto™) was administered once every six months, with Ivermectin 0.3mg/kg SC, 2 weeks apart, until lesions disappeared. Amitraz wash was applied weekly for 4 weeks and dexamethasone injection was given to reduce skin inflammation caused by the *Demodex* mite.

Demodicosis, a non-contagious parasitic skin disease caused by *Demodex sp.* is a common dermatological condition in dogs, particularly in immunocompromised individuals. In this case, a 9-year-old spayed Eskimo bitch presented with chronic, recurrent dermatological lesions consistent with generalized demodicosis. The clinical signs of alopecia, erythema, follicular pustules, and pruritus, alongside secondary bacterial infection, are features of the disease. *Demodex* mites are part of the normal skin flora in dogs, residing in hair follicles and sebaceous glands. Clinical disease typically arises when the host's immune system fails to regulate mite populations, leading to overgrowth and follicular inflammation. The positive skin scraping for *Demodex spp.* confirmed the diagnosis, with the presence of adult mites exhibiting characteristic morphology (cigar-shaped body, short stumpy legs).

The mild hyperproteinaemia and hyperalbuminaemia observed may be attributed to dehydration, a common

consequence of chronic skin inflammation and exudative lesions. Elevated eosinophil levels (8.0%) further support a parasitic etiology, as eosinophilia is often associated with ectoparasitic infestations. The slight increase in serum AST could reflect hepatic stress, possibly due to chronic inflammation or drug metabolism.

The initial treatment with subcutaneous ivermectin (0.2 mg/kg) administered biweekly for six sessions yielded a temporary remedy. However, recurrence within weeks suggests incomplete mite eradication or reinfestation, highlighting the need for a more robust and sustained therapeutic protocol. Subsequent administration of fluralaner (Bravecto™), a systemic isoxazoline acaricide, provided longer-lasting mite control due to its extended half-life and high efficacy against *Demodex spp.* The concurrent use of a higher dose of ivermectin (0.3 mg/kg) and weekly amitraz washes enhanced topical mite clearance and reduced skin inflammation. Dexamethasone was judiciously used to mitigate inflammatory responses, although its immunosuppressive potential warrants cautious application, especially in chronic cases.

This case underscores the importance of accurate diagnosis and a multimodal treatment strategy in managing canine demodicosis (Mueller et al., 2012). While ivermectin remains a cornerstone therapy, its limitations in chronic or generalized cases necessitate adjunctive treatments such as fluralaner® and amitraz®. Regular follow-up and monitoring of hematological parameters are essential to assess systemic health and

treatment efficacy. Furthermore, the recurrence of lesions post-treatment emphasizes the need for long-term management and possibly immunological evaluation, as underlying immunosuppression may predispose to persistent demodicosis. The absence of systemic illness in this dog suggests a localized immune dysfunction rather than systemic compromise.

CONCLUSION

Recurrent demodicosis in dogs, particularly in older or immunologically vulnerable individuals, demands a strategic and sustained therapeutic approach. This case illustrates the limitations of monotherapy with ivermectin and underscores the efficacy of combining systemic and topical acaricides such as fluralaner® and amitraz®. The recurrence of lesions post-treatment emphasizes the need for long-term management, regular follow-up, and consideration of underlying immune dysfunction. Accurate diagnosis through skin scraping and hematological profiling is essential for guided treatment decisions. Ultimately, a multimodal regimen tailored to the individual patient's condition offers the best chance for resolution and prevention of relapse in canine demodicosis.

Conflict of interest

The authors declare no conflict of interest exists.

REFERENCES

- FADOK, V.A. (2000): Demodicosis in dogs. *Veterinary Clinics of North America Small Animal Practice*. 30(3): 437-446.
- HILLIER, A. and DESCH, C.E. (1997): A new species of demodex mite in the dog: a case report. In: Annual Members' Meeting of the American Academy of Veterinary Dermatology and the American College of Veterinary Dermatology; 1997; Nashville, Tennessee. 118-119.
- KWOCHKA, K.W., IHRKE, P.J., and MASON, I.S. (1999): *Canine demodicosis: Part I. Pathogenesis and diagnosis. Veterinary Clinics of North America: Small Animal Practice*. 29(2): 389-405.
[https://doi.org/10.1016/S0195-5616\(99\)50023-2](https://doi.org/10.1016/S0195-5616(99)50023-2)
- MARSELLA, R., DEBOER, D. J., and MAULDIN, E. A. (2015): Efficacy of fluralaner in the treatment of generalized demodicosis in dogs. *Veterinary Dermatology*. 26(4):265-272. <https://doi.org/10.1111/vde.12133>
- MUELLER, R. S. (2012): An update on the therapy of canine demodicosis. *Compendium: Continuing Education for Veterinarians*. 34(4):1-4.
- OLIVRY, T., MUELLER, R. S., and PRÉLAUD, P. (2009): Canine demodicosis: Part I. Clinical manifestations and diagnosis. *Veterinary Dermatology*. 20(4):194-204. <https://doi.org/10.1111/j.1365-3164.2009.00748.x>

- PATTERSON, A. P., HOROWITZ, B., and HALL, J. O. (2008): Ivermectin toxicosis in collies: case study and review. *Journal of Veterinary Internal Medicine*. 22(3):631–635. <https://doi.org/10.1111/j.1939-1676.2008.0080.x>
- SIVAJOTHI, S., SUDHAKARA REDDY, B. and RAYULU, V. C. (2015). Demodicosis caused by *Demodex canis* and *Demodex cornei* in dogs. *Journal of Parasitic Diseases*. 39(4): 673–676. <https://doi.org/10.1007/s12639-013-0405-3>
- UMESH, C. G., MANJU, K. M., SINDHU, O. K., GEORGE, A., & USHA, N. (2016). Successful medical management of concurrent canine demodicosis, malasseziosis and associated pyoderma in a pug. *Journal of Indian Veterinary Association*. 14:37–40.