

SUCCESSFUL TREATMENT OF JUVENILE GENERALIZED DEMODICOSIS WITH A SINGLE DOSE OF ORAL FLURALANER

R.M. Gowtham*¹ and R.Kavin²

*Department of Veterinary Clinical Medicine
Madras Veterinary College
Tamil Nadu Veterinary and Animal Sciences University
Chennai, Tamil Nadu, India*

ABSTRACT

Two non-descript puppies aged around three months old were presented with a history of erythematous skin and the presence of crusty lesions with intense pruritus around one week. Physical examination revealed generalized erythema and alopecia, crusty and scaly lesions on the forehead, periorbital area, nasal planum, and thorax regions in both puppies. Based on history, clinical signs and skin scraping examination findings, the cases were confirmed as juvenile generalized demodicosis and the puppies were treated with a single dose of oral fluralaner at the dose of 25 mg/kg body weight. The treatment resulted in excellent resolution of clinical signs and the puppies had an uneventful recovery.

Keywords: Dogs, Fluralaner, Juvenile Demodicosis

Received : 07.03.2022

Revised : 10.05.2022

Accepted : 11.05.2022

Introduction

Canine demodicosis caused by the proliferation of *Demodex spp* mites is one of the most common skin conditions encountered in small animal practice. It may be localized, generalized (juvenile onset or adult onset) and demodectic pododermatitis. These demodex mites are commensal organisms in many mammals, present in the hair follicles. In dogs, the mites are transmitted from the dam to the puppies during their first few days of

life while sucking milk. Incidence of juvenile demodicosis has been presumed to be due to deficiency of cell-mediated immunity. Skin lesions associated with demodicosis are patchy, regional, multifocal or diffuse alopecia with varying degrees of erythema, scaling, papules and pruritus. The most common treatment for generalized demodicosis includes oral ivermectin and/or amitraz bath with various concentrations. Recently Fluralaner has been demonstrated to possess higher efficacy and safety in treating dogs with generalized demodicosis at the oral dose of 25 – 50 mg/kg every 12 weeks without any adverse effects (Morita *et al.*, 2018). This case report describes successful use of fluralaner in

Corresponding author; email: rmgowthamvet@gmail.com

¹ Postgraduate scholar

² Postgraduate scholar, Department of Veterinary surgery and Radiology

the treatment of canine demodicosis is caused by *Demodex canis* after a single treatment.

Case History

Two non-descript puppies aged around three months old were presented with a history of erythematous skin and the presence of crusty lesions with intense pruritus around one week. The owner reported that the puppies belonged to the same litter and were treated by a local veterinarian.

Observation

Clinical examination of the integumentary system revealed generalised erythema and alopecia, the presence of crusty and scaly lesions on the forehead, periorbital area, nasal planum and thorax regions in both puppies (Fig. 1a and b). Microscopic examination of deep skin scrapings revealed the presence of multiple *Demodex* spp. mites in a single field (Fig. 2). Based on the clinical signs and microscopic findings, the cases were diagnosed as juvenile generalized demodicosis.

Treatment and discussion

Both the puppies were treated with a single dose of oral fluralaner at the dose rate of 25 mg/kg body weight along with amoxicillin – clavulanate at the dose of 25 mg/kg body weight, PO, twice daily for two weeks as a supportive therapy to address secondary bacterial complications. The dog's clinical signs improved with the treatment (Fig. 3a and b) without any adverse effects and *Demodex* mites were not found on microscopic fields four weeks post treatment.

Demodicosis is one of the common parasitic skin diseases in dogs. The prevalence of canine demodicosis in Chennai has been reported to be 10.5% (Gunaseelan *et al.*, 2011). The common causative organism for canine demodicosis is *Demodex canis*, but it is also caused by *Demodex injai* and *Demodex carnei*. A temporary alteration in immune status plays a major role in the pathogenesis of juvenile demodicosis, whereas, adult-onset demodicosis is associated with immunosuppression or steroidal therapy.

Clinical signs depend on the severity of mite proliferation. Initially, there may be focal or multifocal hypotrichosis or alopecia, followed by scaling, crusty lesions with erythema. In a later stage, hyperpigmentation with a blue or grey blue colour could be seen (Mueller *et al.*, 2020).

Deep skin scrapings have been considered as the gold standard diagnostic test for demodicosis, but trichogram, tape squeeze and skin biopsy may also be useful under certain circumstances (Beco *et al.*, 2007). *Staphylococcus pseudointermedius* is the most common bacteria isolated in severe cases. Other opportunistic bacteria such as *Pseudomonas* or *Proteus* spp. may also be noticed.

Mild localized demodicosis resolves spontaneously in most cases. Weekly amitraz rinses at 0.025–0.05% are effective for generalised demodicosis. Ivermectin is the most commonly used macrocyclic lactone in the treatment of canine demodicosis. The currently recommended protocol includes 0.3–0.6 mg/kg 24h administered orally for four to eight weeks or two consecutive negative skin

scrapings. Dogs treated with ivermectin and amitraz rinse need to be closely monitored for signs of potential neurotoxicity. Topical imidacloprid-moxidectin preparation has been considered for mild cases of demodicosis (Paterson *et al.*, 2014).

Fluralaner, a new class of isoxazoline is a long-acting systemic insecticide that has higher efficacy and safety in treating dogs with generalised demodicosis. The recommended dose of oral fluralaner is 25 to 50 mg/kg every 12 weeks without any adverse effects. Dogs treated with a single dose of oral fluralaner have been reported to be 99.8% parasitologically negative on day 28 and 100% on days 56 and 84 post treatment, has also been demonstrated for its safety in breeding, pregnant and lactating dogs (Fourie *et al.*, 2015).

REFERENCES

- Beco, L., Fontaine, J. Bergvall, K. and Favrot, C. (2007). Comparison of skin scrapes and hair plucks for detecting Demodex mites in canine demodicosis, a multicentre, prospective study. *Veterinary Dermatology*, **18**: 381.
- Fourie, J. J., Liebenberg, J. Horak, I.G. Taenzler, J. Heckerroth, A.R. and Frénais, R. (2015). Efficacy of orally administered fluralaner (Bravecto™) or topically applied imidacloprid/moxidectin (Advocate®) against generalized demodicosis in dogs. *Parasites & Vectors*, **8(1)**: 1-7.
- Gunaseelan, L., Bhavya, S. SenthilKumar, K. and Balachandran, C. (2011). Influencing factors for mange mite infestation of dogs in Chennai city. *Tamil Nadu Journal of Veterinary and Animal Sciences*, **7(5)**: 247-249.
- Morita, T., Momota, Y. Mori, A. Oda, H. Ike, K. and Sako, T. (2018). Successful treatment of refractory demodicosis and transient papules with a single dose of fluralaner in a dog with uncontrolled severe endocrine disease. *Journal of Veterinary Medical Science*, **80(4)**: 672-675.
- Mueller, R. S., Rosenkrantz, W., Bensignor, E., Karaś-Tećza, J., Paterson, T., and Shipstone, M. A. (2020). Diagnosis and treatment of demodicosis in dogs and cats: clinical consensus guidelines of the World Association for Veterinary Dermatology. *Veterinary Dermatology*, **31(1)**: 4-e2.
- Paterson, T. E., Halliwell, R. E., Fields, P. J., Louw, M. L., Ball, G., Louw, J., and Pinckney, R. (2014). Canine generalized demodicosis treated with varying doses of a 2.5% moxidectin+ 10% imidacloprid spot-on and oral ivermectin: Parasitocidal effects and long-term treatment outcomes. *Veterinary Parasitology*, **205(3-4)**: 687-696.