



RESEARCH ARTICLE

SUCCESSFUL THERAPEUTIC MANAGEMENT OF DEMODICOSIS IN DOG

Suryawanshi A.A.¹, Gaikawad R.V.², Galdhar C.N.² and Pawalkar D.A.³

1. Department of Teaching Veterinary Clinical Complex.
2. Department of Clinical Medicine, Ethics and Jurisprudence.
3. Department of Veterinary Epidemiology and Preventive Medicine, Mumbai Veterinary College, Parel, Mumbai-400012.

Manuscript Info

Manuscript History

Received: 28 August 2023

Final Accepted: 30 September 2023

Published: October 2023

Key words:-

Demodicosis, Dog, Moxidectin, Simparica, Cephalexin

Abstract

A 5-month male Labrador dog weighing 10 kg was presented at Department of Teaching Veterinary Clinical Complex, Mumbai Veterinary College, Parel, Mumbai, Maharashtra. History of skin infection, continuous itching, alopecia, bleeding from wounds and hair fall. In addition, there was also a history of incomplete deworming and vaccination. Clinical examination revealed the presence of papules, crusts, exudates from lesions, hyper pigmentation, folliculitis and cellulitis. Upon skin scrapings and hair pluck examination, the mites of *Demodex* spp. were identified. The dog was treated with oral Sarolaner, Moxidectin, and Pyrantel pamoate (Simparica), cephalexin @ 30 mg per kg b.wt. and supportive therapy using immunostimulant, essential fatty acids, and topical chlorhexidine gluconate and miconazole shampoo. Dog showed complete recovery after 90 days of therapy.

Copy Right, IJAR, 2023,. All rights reserved.

Introduction:-

Canine demodicosis is an inflammatory, non-contagious parasitic dermatosis caused by the overpopulation of the host-specific follicular mites of various *Demodex* species (Shrestha et al., 2015). Canine demodicosis may be classified as localized and generalized form. Localized demodicosis involves only small areas of skin having one or more discrete foci that regress spontaneously or may progress to wide spread generalized cutaneous lesion. Generalized demodicosis may be severe; potentially life-threatening disease and mostly associated with secondary bacterial pyoderma requiring prolonged treatment (Mueller, 2012). It affects predominantly pure-bred dogs (Pereira et al., 2012). Secondary bacterial infection of the hair follicles often occurs and rupture of the hair follicle wall may lead to the presence of free mites in the dermis leading to severe pyogenic infection (Kumar and Rao, 2008).

Materials and Methods:-

The present study was conducted in the department of teaching veterinary clinical complex (TVCC), Mumbai Veterinary College, Parel, Mumbai.

Clinical history

A 5-month male Labrador dog weighing 10 kg was presented at Department of Teaching Veterinary Clinical Complex, Mumbai Veterinary College, Parel, Mumbai, Maharashtra. History of skin infection, continuous itching,

alopecia, bleeding from wounds and hair fall. In addition, there was also a history of incomplete deworming and vaccination.

Clinical and laboratory examination

Clinical examination revealed the presence of papules, crusts, exudates from lesions, hyper pigmentation, folliculitis and cellulitis. Most lesions were present at the face, forelimbs, and ear pinna. Upon skin scrapings and hair pluck examination, the mites of *Demodex* spp. were identified (Fig.1).



Fig. 1:- Skin scraping positive for *Demodex* spp.

Results and Discussion:-

Microscopic examination of deep skin scraping revealed the presence of a cigar shaped *Demodex canis*. The dog suffering from canine demodicosis revealed a wide variety of clinical manifestations.



Fig. 2:- Day 1 (Severe skin infection).



Fig.3:- Day90(Complete recovery from infection).

Therapeutic Management

The dog was treated with oral Sarolaner, Moxidectin, and Pyrantel pamoate tablet (Simparica) every month, Immunostimulant (Immunol) along with Vit. E capsule (Evion 200) and omega-6, omega 3 fatty acids (San Coat) @ 5 ml each twice daily orally. Secondary bacterial infection was treated with oral cephalexin @ 30 mg per kg b.wt. Daily for 14 days and weekly bath with chlorhexidine gluconate and Ketoconazole shampoo (Conaseb). Therapy was continued for 3 months until full recovery.

Similar findings by Sixet al., (2016) reported that monthly oral administration of sarolaner at 2 mg/kg to dogs with generalized demodicosis was highly effective in eliminating mites and resolving clinical signs of the disease. Pre-treatment mite counts were reduced by 97.1% at 14 days and 99.8% at 29 days after the first dose, with no live mites detected thereafter. Dog showed complete recovery after 45 days of therapy. McTier et al., (2016) reported that Sarolaner, administered in a solution formulation at 2.5 mg/kg, provided 100% reduction in live flea counts 48 h after treatment of the existing infestation, and $\geq 99.9\%$ reduction in live flea counts when evaluated 24 h after each weekly re-infestation for 35 days. Becskei et al., (2016) reported that Sarolaner administered orally twice at monthly intervals at the minimum label dosage of 2 mg/kg was safe and achieved complete parasitological cure in dogs with natural infestations of *Sarcoptes scabiei*. In addition, the clinical signs of sarcoptic mange improved without topical or systemic concomitant treatment, and SimparicaTM chewable tablets were highly palatable.

References:-

1. Shrestha, D., Thapa, B., Rawal, G., Santosh, D. and Sharma, B. (2015). Prevalence of demodectic mange in canines of Kathmandu valley having its kind in order and its associated risk factors. *International Journal of Applied Science and Biotechnology*. **3(3)**: 459-463.
2. Mueller R. S. (2012). Applied dermatology: an update on the therapy of canine demodicosis. *Compendium Continuing Education for Veterinarians* E1-E4.
3. Pereira, A.V, Pereira, S.A., Gremiao, I.D.F., Campos, M.P. and Ferreira, A.M.R. (2012). Comparison of acetate tape impression with squeezing versus skin scraping for the diagnosis of canine demodicosis. *Aust. Vet. J.* **90(11)**: 448-450.

4. Kumar, S.K. and Rao, D.S. (2008). Therapeutic aspects of pyoderma associated with demodicosis in dogs. *Intas Polivet*. **9(1)**: 105-108.
5. Six, R.H.(2016). Efficacy of sarolaner, a novel oral isoxazoline, against two common mite infestations in dogs: *Demodex* spp. and *Otodectes cynotis*. *Vet. Parasitol.* <http://dx.doi.org/10.1016/j.vetpar.2016.02.027>
6. McTier, T. L., Chubb, N., Curtis, M. P., Hedges, L., Inskip, G. A., Knauer, C. S., Menon, S., Mills, B., Pullins, A., Zinser, E., Woods, D. J., & Meeus, P. (2016). Discovery of sarolaner: A novel, orally administered, broad-spectrum, Isoxazoline ectoparasiticide for dogs. *Veterinary Parasitology*, **222**, 3-11. <https://doi.org/10.1016/j.vetpar.2016.02.019>
7. Becskei, C., De Bock, F., Illambas, J., Cherni, J.A., Fourie, J.J., Myers, M.R., Mahabir, S.P., Six, R.H., (2016). Efficacy and safety of a novel oral isoxazoline, sarolaner (SimparicaTM), for the treatment of sarcoptic mange in dogs. *Vet. Parasitol.* **222**, 56-61. <https://doi.org/10.1016/j.vetpar.2016.02.017>.