Indian Vet. J., July 2024, 101 (7): 49 - 51

Efficacy of Oral Fluralaner in Treating Demodectic Mange in Pugs

Mukesh P[1], S. Sivaraman*, M. Venkatesan, D. Sumathi, K. Mohanambal, R. Ravi and K.K. Ponnu Swamy

Department of Veterinary Clinical Medicine, Veterinary College and Research Institute, TANUVAS, Namakkal – 637 002, Tamil Nadu, India.

(Received: June 2024 124/24 Accepted: July 2024)

Abstract

A 1.6-year-old Pug was presented to the Small Animal Clinic Out Patient Medicine Unit, Veterinary College and Research Institute, Namakkal with a history of crusty skin lesions associated with pruritus for the past 2 weeks. Clinical examination revealed erythematous, excoriated, scaly, crusty and papular lesions on the head, forelimb and ventral abdominal region. Skin scraping was performed and two to three number of *Demodex canis* mite (+++) was observed in each field under microscopic examination. The animal was treated initially with Tab. ivermectin @ 400 µg/kg, Tab. hydroxyzine hydrochloride @ 2mg/kg and Tab.enrofloxacin @ 10 mg/kg body weight. As the skin scraping was positive for live mites even after 3 weeks of ivermectin therapy.Tab.fluralaner (Trade name) 250mg was prescribed. The animal showed an uneventful recovery after three weeks of Fluralaner treatment

Keywords: *Demodex canis*, *Ivermectin*, *Fluralaner*

In dogs, one of the most commonly encountered pathological conditions of skin is Canine Demodicosis. It is caused by the overpopulation of follicular mites of various demodex species (Shrestha *et al.,* 2015). It is associated with genetic or immunological disorders (Soulsby, 1982). Canine demodicosis, also called demodectic mange, follicular mange or red mange, though the mite is a normal inhabitant of the hair follicle of all canines, clinical signs of demodicosis are common because of excessive proliferation of mites within the hair follicles (Scott *et al.*, 2001). There are three types of mites-*Demodex canis* (short-bodied mite), *Demodex injai* (large-bodied mite), and *Demodex cornei* (short-bodied mite) (Soulsby, 1982). It is a burrowing mite, and resides in hair follicles and sebaceous glands. It is transferred from mother to puppies during the first two to three days after birth (Mueller *et al.,* 2020). The clinical signs include alopecia, erythema, scales, crusts, papulopustular lesion, hyperkeratosis, greasiness of skin with pruritus with secondary pyoderma, which ultimately leads to concomitant bacterial and fungal infection (Pradhan *et al.,*2012).The confirmatory and easier method for the identification of demodicosis is skin scraping (Mederle *et al.,*2010). Clinical presentation of demodicosis is either localized form (head and forelimbs are involved) or generalized form (lesion all over the body) (Mueller *et al.,* 2012). Thus, the present case report shows the successful therapeutic management of generalized demodicosis with isoxazoline derivatives along with supportive treatment.

Case History and Observations

A 1.6-year-old female Pug weighing 7.8 kg was presented to the Small Animal Outpatient Unit with a history of crusty skin lesions associated with pruritus for the past two weeks. On clinical examination the animal had erythema, excoriation, scales, and crusty and popular lesions noticed over the head (fig 1), forelimb and ventral abdomen. The animal was vaccinated and dewormed regularly and general clinical parameters were normal. There was mild neutrophilic leucocytosis, and decreased total protein and albumin.

Results and Discussion

Skin scraping was performed for confirmatory diagnosis. The sample was collected from

**Corresponding author's* Email: smavanthi@gmail.com
[1]UG Final year student, VCRI, Namakkal – 637 002

Fig 1. Before treatment, erythematous scaly crusty lesions

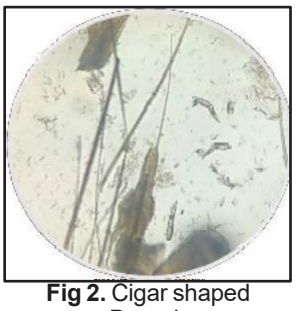

Fig 2. Cigar shaped D.*canis*

Fig 3. 21 days after treatment

the multiple sites of 1 square centimetre the affected skin area (Mueller *et al.,* 2020). The skin scraping examined under a microscope (10x magnification) revealed the presence of a cigar-shaped, *Demodex canis* mite (Fig.2) with a body divided into a head, thorax bearing four pairs of short stumpy legs and abdomen bearing transverse striations (Soulsby.,1982).The present case was considered a generalized demodicosis due to the presence of a greater number of lesions throughout the body (Satheesha *et al.,*2016; Mueller,2020). In the present case, each microscopic field had two to three numbers of *Demodex canis* (Mueller, 2020). On the basis of history, clinical signs and skin scraping examination, the case was diagnosed as a generalized canine demodicosis. The dog was initially treated with Tab. Ivermectin (400µg/kg) for mite infestation, Tab. Hydroxyzine hydrochloride (2mg/kg) for itching and Tab.enrofloxacin (10mg/kg) to control deep pyoderma lesions associated with secondary bacterial infection for 20 days duration to eliminate secondary bacterial infection and deep pyoderma state. Benzyl peroxide shampoo was used as a topical therapy. Benzyl peroxide shampoo is often recommended because of its keratolytic and supposed follicular flushing activity (Scott *et al.*,2001). Even after the course of ivermectin therapy the skin scraping was positive for *Demodex canis* mites (Soulsby.,1982) necessitates further improved treatment protocol. Hence, Tab. Fluralaner (@250mg) was prescribed at the third scraping. Then the animal showed uneventful recovery after three weeks of treatment (Fig.3).Two consecutive negative skin scraping after treatment were considered as recovery from *Demodex canis*.

Treatment is based on history, clinical signs and deep skin scraping. The use of broad-spectrum antibiotics in the present study is to combat secondary bacterial infection, which needs the administration of systemic antibiotics for several weeks along with acaricidal treatment (Mueller *et al.,*2012). Newer treatment with Isoxazoline derivatives like Fluralaner, Sarolaner, and Afoxolaner showed a good response in the generalized canine demodicosis.

Table I. Haematological Parameters in Demodectic mange affected dog

Parameters	Observed Value
Haemoglobin (g/dl)	15.6
PCV (%)	50
RBC (× 10^6 /µl)	7.18
WBC (× 10^3 /µl)	16.16
Neutrophils (%)	78
Lymphocytes (%)	17.1
Monocytes (%)	4.9
Platelet count(×10^5 /µl)	4.8

Table II. Serum biochemical parameters in the demodectic affected dog

Parameters	Observed Value
Total protein (g/dl)	5 .0
Albumin (g/dl)	1.2
ALT (U/L)	52.8
BUN (mg/dl)	10
Creatinine (mg/dl)	1.1
Calcium (mg/dl)	10.2
Phosphorous (mg/dl)	5.83
Glucose (mg/dl)	70

Conclusion

Thus, the case report represents the efficient treatment of generalized demodicosis with Fluralaner to ensure earlier recovery. Supportive therapy helps in the improvement of secondary bacterial complications. In this case, the Isoxazoline derivative has proven to be a safe and efficient treatment for demodicosis.

Acknowledgment

The authors are thankful to the Dean, Veteri- nary College and Research Institute, Namak- kal, Tamil Nadu, Director of Clinics, Chennai, TANUVAS for the facilities provided.

References

Mederle, N., Darabus, G., Opresus, I., Morariu, S., Illie, and Indre D (2010). Diagnosis of Canine Demodicosis. *Science Parasitology*, **11(1):**20-23.

Mueller, R.S. (2012). An update on the Theory of Canine demodicosis, applied dermatology. *CompendContin Educ Vet*.**34(4)**:1-4.

Mueller, R.F., Rosenkrantz, W., Bensignor, E., Karas-Tezcza§, J., Paterson, T and Shipstone, M.A.(2020). Diagnosis and treatment of demodicosis in dogs and cats. Clinical Consensusguidelines of the World Association for Veterinary Dermatology.*Vet Dermatol*. **31**1: 4–e2.

Pradhan, N.R., Chatterjee, and Lodh, C. (2012). Demodicosis in dogs and its therapeutic management, *Indian J. Canine Pract.***4(1**):17-20.

Satheesha, S.P., Chandra Shekhar, G., Nagancy, L., Malatesh, D.S., Patel Suresh, R., and Kottadaman, M.R. (2016). Therapeutic management of Generalized Demodicosis in a Beagle puppy. *Int. J. Sci. Environ.***5(5):**3177-3181

Scott, D.W., Miller, W.H. Jr., and Griffin, C.E. (2001). Canine Demodicosis, Muller & Kirk's Small Animal Dermatology. Philadelphia, WB. Saunder,457-474.

Shrestha,D., Shopa,B., Rawal, G., Dhaka, S., and Sharma, B. (2015). Prevalence of Demodectic mange in canines of KathmanduValley having skin disorder and its associated risk factors, *Int. J. Res. Appl. Sci. Biotechnol*. **3(3):**459-463.

Soulsby, E.J.L.(1982). Helminths, Arthropods and Protozoa of Domesticated Animals. 7th edition., Bailliere Tindall, a division of Cassel Ltd., London, 476-479.

Indian Vet. J., July 2024, 101 (7): 51 - 53

Homeopathic Treatment for the Management of Dermatophilosis in a Murrah Buffalo – A Case Report

Jibachha, S.[1*], S.P. Kumar[2], and S.J. Kumari[2]

Jibachha Veterinary Hospital Research & Training Center (p) Ltd.Bharatpur-4, Chitwan, Nepal

(Received: June 2024 133/24 Accepted: July 2024)

Abstract

A three-and-a-half-year-old pregnant (5 months) graded Murrah buffalo was brought to Jibachha veterinary hospital research & training center (P)Ltd. Chitwan, Nepal with the history of dirty yellow-colored scabs and crusts all over the body. The present case was tentatively diagnosed as Dermatophilosis by clinical examination when skin scraping was negative for mites and fungus. The animal was treated with homeopathic remedies, which was selected by using homeopathic software. Sulphur 200 C, Thuja Occidentalis -30, Graphite-200 C, Psorinum 200 C, and Ferrum Phos-30 combined and given @10 drops three times a day and an external application of a solution of Calendula Q and Thuja Q combined with water once a day. Complete recovery was noticed after eighteen days of therapy.

Keywords: buffaloes, dermatophilosis, skin,

**Corresponding author* : Email : jibachhashah@gmail.com
[1]Jibachha Veterinary Hospital Research & Training Center (p) Ltd. Bharatpur-4, Chitwan, Nepal
[2]Jibachha Veterinary Hospital (p) Ltd. Jhamshikhel, Lalitpur, Nepal