

THERAPEUTIC MANAGEMENT OF SARCOPTIC MANGE IN A NON-DESCRIPT DOG

Prashant Verma^{1*}, Niddhi Arora², Rashmi Goswami³ and Jyoti Chanda Kalita¹

¹M.V.Sc. Student, ²Associate Professor, ³Ph.D. Scholar, Department of Veterinary Medicine, College of Veterinary and Animal Sciences. G.B. Pant University of Agriculture and Technology, Pantnagar-263145, Uttarakhand.

[Received: 18.10.2022; Accepted: 24.11.2022]

{DOI 10.29005/IJCP.2022.14.2.87-89}

A 5-month-old non-descript dog weighing 6.4 kg was presented to Dr. I.P. Singh Veterinary Clinical Complex and Trauma Centre, Pantnagar, with a history of intense pruritus, alopecia and crusty appearance of skin spreading all over the body since last three months. Clinical examination revealed pale mucous membranes, yellow crusts and generalized alopecia all over body with marked pruritis. Diagnosis was done by deep skin scrapping which revealed presence of *Sarcoptes scabiei* mite. Haematological examination revealed anaemia, leucocytosis, neutrophilia and eosinophilia. The case was managed with medications ivermectin, anti-histaminic cetirizine, antibiotic cephalexin and liquid amitraz 12.5% solution after which complete recovery was seen on 4th week of therapy.

Keywords: Sarcoptic mange, Generalized alopecia, Monoamine oxidase inhibitor.

Sarcoptic mange is a parasitic disease affecting the skin occurring due to a mite called *Sarcoptes scabiei* and causes severe redness, swelling, loss of hair, crusts, and scales (Mindru *et al.*, 2019). The mite transmits rapidly through direct contact and is highly contagious (Lower *et al.*, 2001). Infestation of this mite induces severe distress which is marked by hyperkeratosis, excessive itching and scratching which leads partial or full loss of hairs on the medial portions of the hind legs, axillae, brisket, and stomach (Uzuegbu, 2015). Lesions develop initially in the head and can spread to the legs or even the entire body, presenting as alopecia and excoriations (Beck, 2020). Diagnosis of sarcoptes mange can be done by skin scrapping and serological techniques such as ELISA (Lower *et al.*, 2001). Control of this infestation requires the use of drugs that kills all stages of mite as well as are sufficient to

prevent production of viable larvae from hatched eggs.

Case history and Observations

A 5-month-old non-descript dog weighing 6.4 kg was presented to Dr. I.P. Singh Veterinary Clinical Complex and Trauma Centre, Pantnagar, with a history of intense pruritus, alopecia and crusty appearance of skin spreading all over the body since last three months. Clinical examination revealed pale mucous membranes, yellow crusts and generalized alopecia all over body with marked pruritis, Fig. (A). Diagnosis was done by deep skin scrapping which was done from periphery of lesion in the body of dog and scrapping collected was observed under microscope. Results of examination confirmed infestation of *Sarcoptes scabiei* mite. On haematological examination anaemia, leucocytosis, neutrophilia and eosinophilia were observed (Table-1).

Table-1: HAEMATOLOGICAL ALTERATION IN A DOG WITH SARCOPTIC MANGE

Blood Parameters	Before treatment	After treatment	Reference intervals
Haemoglobin (g/dl)	9.4	11.78	12-18
PCV (%)	36.8	39.47	37-55
TEC ($10^6/\mu\text{l}$)	5.02	6.21	5.5-8.8
TLC ($10^3/\mu\text{l}$)	19.74	10.56	6-17
Neutrophils (%)	79	68	60-76
Lymphocytes (%)	9	24	12-30

Eosinophils (%)	11	3	2-10
Monocytes (%)	1	2	3-10

Treatment and Results

The animal was treated with injection ivermectin @ 0.2 mg / kg B.W. subcutaneously which was repeated after 14 days, tablet cetirizine @ 1 mg / kg B.W. orally once daily for a period of 5 days. Tablet cephalixin @ 25 mg / kg B.W orally twice daily for 5 days and liquid amitraz 12.5% solution @ 3 ml solution in 1 litre of water which was applied topically twice weekly for 2 weeks and shampoo containing cypermethrin and miconazole for bathing

weekly for an interval of 4 weeks. Supportive therapy included haematinics such as hepatoglobine syrup @ 3 ml orally twice daily for 1 month and syrup containing omega 3 and omega 6 fatty acid such as Nutriccoat Advance @ 2 ml orally twice daily for 1 month. There was recovery in 4 weeks of treatment with reduction in pruritus from 3rd day of treatment and absence of excoriations and other skin lesions by 16th day of treatment, Fig.(B).



Fig. (A) Animal on presentation



Fig. (B) Animal after 2 weeks of therapy

Discussion

Yellow crusts, excoriation pruritis and generalized alopecia were main clinical manifestation in this study. Similar clinical findings were also reported by Chiummo *et al.*, 2020, in dogs affected with sarcoptic mange. Diagnosis was done with the help of skin scrapping observed in 100x of microscope which demonstrated *Sarcoptes scabiei* mite. There was reduction in haemoglobin and TEC. This decrease was due to anaemia and loss of skin protein because of mite infestation. Haematological findings also included neutrophilia, and eosinophilia. The increase in leucocytes might be due to allergy in response to mites or due of products released during

Indian Journal of Canine Practice
ISSN: 2277-6729 e-ISSN: 2349-4174

inflammatory reaction Findings of present investigation are in agreement with that of Behera *et al.*, 2011. In recent studies isooxazoline like fulraner, soraloner were found effective in treatment of sarcoptic mange in dogs. Amitraz is a monoamine oxidase (MAO) inhibitor. Even though the correct mechanism of action is uncertain, it is frequently used to treat demodicosis and sarcoptic mange in dogs. In the present study combination of ivermectin and amitraz was found satisfactory which was in accordance with Arora *et al.*, 2013. This study concludes ivermectin and amitraz in combination is effective in treatment of canine scabies. Multiple doses of ivermectin and multiple

dipping of amitraz are recommended for complete recovery.

References

- Arora, N., Vohra, S., Singh, S., Potliya, S., Lather, A., Gupta, A., Arora, D., and Davinder Singh, D. (2013). Therapeutic management of chronic generalized demodicosis in a pug. *Adv. Anim. Vet. Sci.*, **1**(2S): 26–28.
- Beck, W. (2020). Treatment of sarcoptic mange in llamas (*Lama glama*) and alpacas (*Vicugna pacos*) with repeated subcutaneous moxidectin injections. *Vet. Paras.*, **283**: 109-190.
- Behera, S.K., Dimri, U., Singh, S.K., and Mohanta, R.K. (2011). The curative and antioxidative efficiency of ivermectin and ivermectin+ vitamin E-selenium treatment on canine *Sarcoptes scabiei* infestation. *Vet. Res. Commun.*, **35**(4): 237-244.
- Chiummo, R., Petersen, I., Plehn, C., Zschiesche, E., Roepke, R. and Thomas, E. (2020). Efficacy of orally and topically administered fluralaner (Bravecto®) for treatment of client-owned dogs with sarcoptic mange under field conditions. *Parasit. Vectors*, **13**(1): 1-7.
- Lower, K.S., Medleau, L.M., Hnilica, K. and Bigler, B. (2001). Evaluation of an enzyme linked immuno sorbant assay (ELISA) for the serological diagnosis of sarcoptic mange in dogs. *Vet. Dermatol.*, **12**(6): 315-320.
- Mindru, R., Roman, C., Miron, L.D., Irimiciuc, . and Ghizdovat, V. (2019). Case study of a severely infected dog with *Sarcoptes scabiei* mites and the mathematical study of the interactions between mites and host. *Buletinul Institutului Politehnic Din Ia* , **65**(69): 58-62.
- Uzuegbu. (2015). Sarcoptes mange in a dog – A case study. *Merit Res. J. Biochem. Bioinform*, **3**(1): 5-8.