International Journal of Livestock Research, Vol. 10 (5) May' 2020
http://www.ijlr.org
eISSN: 2277-1964
NAAS Rating 2020 – 5.36

Short Communication

Therapeutic Management of Psoroptes Mange in Murrah Buffaloes

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How to cite this paper: Deepak, Yadav, J., Gulia, D., Deswal, S., & Kadian, J. (2020). Therapeutic Management of Psoroptes Mange in Murrah Buffaloes. *International Journal of Livestock Research,* 10(5), 126-129. doi: http://dx.doi.org/10.5455/ijlr.20200128052825

Received : Jan 28, 2020
Accepted : Mar 22, 2020
Published : May 31, 2020

Abstract

Psoroptes spp. mites are obligatory ectoparasites causing psoroptic mange in hoofed mammals including buffaloes. The current study describes the clinical signs, diagnosis and treatment of the psoroptic mange in two adult and a heifer buffaloes. The animals were successfully treated with long-acting ivermectin injection.

Keywords: Buffalo, Ivermectin, Mange, Psoroptes, Treatment

Introduction

Psoroptes spp. mites belong to family Psoroptidae of order Astigmata and phylum Arthropoda (Broek and Huntley, 2003). *Psoroptes* mites cause mange in domesticated and wild hoofed mammals worldwide and result in remarkable economic losses to the farmers (Amer *et al.*, 2015). These are obligatory ectoparasites on different body parts of the above mentioned hosts (Sanders *et al*., 2000). The body of the *Psoroptes* mites is dorso-ventrally flattened and oval in morphology (Amer *et al*., 2015). *Psoroptes* spp. are non-burrowing mites which feed superficially on skin cells and its exudates (Rafferty and Gray, 1987). Poor hygiene and improper animal husbandry practices facilitate the spread of these mange mites especially in the developing countries of the world (Yassin, 2011). The present study was conducted to evaluate clinical signs, diagnosis and therapeutic management of psoroptic mange in Murrah buffaloes.

History and Observations

Two adult and a heifer Murrah buffaloes were reported to Government Veterinary Hospital, Neemli, Charkhi Dadri (Haryana) in the month of January (winter season) with complaints of intense itching, alopecia, rubbing of the body with walls, manger and other inanimate objects in the shed from 20-25 days with slight loss in appetite. All the aforementioned animals were sharing a common premise. Gross wound lesions were seen at rump, shoulder and other parts of the body due to rubbing. Decrease in milk yield was reported by the owner in both the buffaloes. A noticeable loss in body weight of the heifer was also reported.

Clinical Signs and Diagnosis

All the affected animals had normal body temperature ranging from 100.6 °F to 101.4 °F with slightly elevated heart rate and respiratory rate. The haemoglobin values ranged within normal range (Table 1). The reference values of the above-mentioned parameters were taken from the literature (Sharma *et al.,* 2009). Lichenification along with serum like fluid secretion (Fig. 1), thick crusts of the dry exudate (Fig. 2) and markedly visible alopecia with dermatitis (Fig. 3) were seen on the infestation sites of the affected animals. Similar clinical findings had been reported Mahajan *et al*. (2017).

Table 1: Haemoglobin values and physiological parameters of the affected buffaloes

Parameter	1st Buffalo	2nd Buffalo	Heifer	Reference Values
Temperature (ºF)	101.2	100.6	101.4	101-102
Respiration rate / minute	20	19	25	12-16
Heart rate / minute	65	61	68	40-60
Haemoglobin (g/dl)	10.8	11	9.6	8.5-12.5

The confirmatory diagnosis was based on microscopic examination (Fig. 5) of the skin scrapings taken from the periphery of the lesions. Presence of mites morphologically similar to *Psoroptic* spp. indicated mange infection.

Treatment

Single dose of long-acting ivermectin (3.15% *w/v*) injection (Hitek™ platinum: Virbac Animal Health) @1ml/50 kg bodyweight via subcutaneous route was given to all the affected animals. Animals were additionally given chlorpheniramine maleate (Inj. Avilin® vet: Intervet India Pvt. Ltd.) and ketoprofen (Inj. Neoprofen®: Zydus AH) according to standard dose rates for four days. Disinfection of the premise was also advised to the owner using Deltamethrin 1.25% (Butox® Vet: MSD Animal Health) once a week for consecutive three weeks.

Results and Discussion

Post-therapeutic remission of clinical signs and negative results of skin scrapings for *Psoroptes* spp. mites after 14 days confirmed successful recovery of all the affected animals. Similar therapeutic results using a single dose of long-acting ivermectin injection against psoroptic mange were reported by Hamel *et al*. (2015). The long acting ivermectin injection provides efficacious plasma concentrations of ivermectin for an extended period (Lifschitz *et al*., 2007).

Figure 1: Serum like fluid secretion at the infestation site (rump area)

Figure 2: Thick crusts of the dry exudate at the infestation sites

Figure 3: Dermatitis at the base of tail in heifer

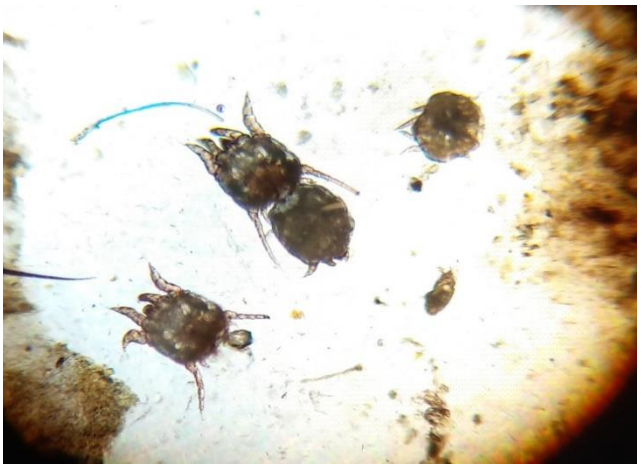

Figure 4: Microscopic field showing oval shaped *Psoroptes* mite (4X)

Conclusion

A single dose of long acting ivermectin injection is effective for the treatment of psoroptic mange in Murrah buffaloes. The efficient control of clinical mange leads to a notable improvement in the health status and productivity of affected animals. Further studies are needed to determine the *Psoroptes* spp. prevalent in the Murrah buffaloes of Haryana.

Conflict of Interests

There is no conflict of interest.

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