International Journal of Recent Development in Engineering and Technology
Website: www.ijrdet.com (ISSN 2347-6435(Online) Volume 15, Issue 01, January 2026)

# A Field Case of Bovine Microfilariasis in a Pregnant Buffalo

Jibachha Sah, M.V.Sc

*Jibachha Veterinary Hospital Research & Training Center (P) Ltd., Bharatpur-5, Chitwan, Nepal*

***Abstract*-- A field case of bovine microfilariasis was recorded in a 5-year-old pregnant buffalo presented with chronic inappetence, debilitation, unilateral hind limb swelling, and neurological signs. The animal had not responded to prolonged antibiotic and supportive therapy. Hematological examination revealed anemia, and microscopic examination of a Giemsa-stained blood smear confirmed the presence of microfilarial larvae. Treatment with a single subcutaneous dose of ivermectin resulted in marked clinical improvement within three days and complete recovery within five days. The case highlights the importance of considering microfilariasis in chronic non-responsive bovine cases under field conditions.**

***Keywords*-- Buffalo, Microfilariasis, Ivermectin, Field diagnosis, Nepal**

## I. Introduction

Microfilariasis in bovines is a neglected parasitic condition in tropical and subtropical regions. The disease is transmitted by arthropod vectors and often remains undiagnosed due to its chronic course and nonspecific clinical manifestations. Affected animals may show anemia, limb edema, neurological signs, and reduced productivity. Simple blood smear examination remains a useful diagnostic tool under field conditions. The present paper reports a confirmed field case of bovine microfilariasis in Nepal with successful therapeutic management.

## II. Case History And Clinical Observations

A 5-year-old mixed-breed female buffalo in the 7th month of pregnancy was presented with a history of inappetence, progressive debilitation, head pressing, bilateral lacrimation, and unilateral swelling of the hind limb for about one and a half months. The animal was unable to bear weight on the affected limb and showed reduced activity with occasional circling (Figure-1)

The buffalo had previously been treated by a local veterinary technician with oxytetracycline long-acting injection, anti-inflammatory drugs, intravenous fluids, neurovitamins, and rumenotorics for several days, but no improvement was observed.

## III. Clinical Examination

On clinical examination, rectal temperature was 103.2°F. Bilateral lacrimation and unilateral swelling of the hind limb joint with pain on movement were observed. Respiratory sounds and rumen motility were normal. No enlargement of prescapular lymph nodes was detected. Urination and defecation were reported normal by the owner. The animal was non-lactating due to advanced pregnancy.

## IV. Laboratory Findings

Hematological examination revealed anemia with hemoglobin concentration of 8.0 g%, packed cell volume of 24%, and reduced RBC count. Microscopic examination of a Giemsa-stained blood smear revealed the presence of microfilarial larvae (Figure 2)

Urine examination was largely normal except for mild glucosuria. Fecal examination revealed the presence of paramphistome eggs, indicating concurrent parasitic infestation.

## V. Diagnosis

Based on clinical signs and confirmatory blood smear findings, the case was diagnosed as bovine microfilariasis with concurrent paramphistomiasis.

## VI. Treatment And Response

The buffalo was treated with ivermectin injection at the dose of 1 mL per 50 kg body weight, administered subcutaneously as a single dose. Supportive care was continued.

Marked clinical improvement was observed within three days of treatment. Complete recovery with restoration of appetite, normal posture, and mobility was recorded within five days. No further treatment was required.

## VII. Discussion

Microfilariasis should be considered in bovines showing chronic debilitation, limb swelling, and anemia, particularly when animals fail to respond to antibiotic therapy.

International Journal of Recent Development in Engineering and Technology
Website: www.ijrdet.com (ISSN 2347-6435(Online) Volume 15, Issue 01, January 2026)

Detection of microfilariae by blood smear examination remains a practical diagnostic approach in field conditions. Ivermectin is effective against circulating microfilariae and produces rapid clinical recovery, as observed in the present case.

## VIII. Conclusion

The present case emphasizes the importance of parasitological examination in chronic bovine cases. Early diagnosis and appropriate antiparasitic treatment can lead to complete recovery even in advanced pregnancy, thereby preventing economic losses.

*Acknowledgement*

The author acknowledges the cooperation of the animal owner and the staff of Jibachha Veterinary Hospital Research & Training Center.

## IX. Conflict Of Interest

The author declares no conflict of interest.

## X. Ethical Statement

The study was conducted as part of routine clinical practice with informed consent from the animal owner.

*Figure:*

**Figure 1Clinically affected buffalo – Shows debilitation / limb swelling**

## REFERENCES

[1] Soulsby, E.J.L. (1982). Helminths, Arthropods and Protozoa of Domesticated Animals. 7th edn., Baillière Tindall, London, pp. 214–216.

[2] Urquhart, G.M., Armour, J., Duncan, J.L., Dunn, A.M. and Jennings, F.W. (1996). Veterinary Parasitology. 2nd edn., Blackwell Science Ltd., Oxford, pp. 112–115.

[3] Radostits, O.M., Gay, C.C., Blood, D.C. and Hinchcliff, K.W. (2000). Veterinary Medicine: A Textbook of the Diseases of Cattle, Sheep, Pigs, Goats and Horses. 9th edn., W.B. Saunders Company Ltd., London, pp. 1543–1545.

[4] Taylor, M.A., Coop, R.L. and Wall, R.L. (2016). Veterinary Parasitology. 4th edn., Wiley Blackwell, Oxford, pp. 410–412.

[5] Singh, R., Gupta, S.C. and Singh, B. (2010). Occurrence of microfilariasis in bovines and its therapeutic management. Indian Veterinary Journal, 87: 1182–1183.

[6] Patra, R.C., Behera, P.C. and Sahoo, N. (2004). Hematological changes in bovine filariasis. Indian Veterinary Journal, 81: 1291–1293.

[7] Levine, N.D. (1980). Nematode Parasites of Domestic Animals and of Man. 2nd edn., Burgess Publishing Company, Minneapolis, pp. 364–366.

International Journal of Recent Development in Engineering and Technology
Website: www.ijrdet.com (ISSN 2347-6435(Online) Volume 15, Issue 01, January 2026)

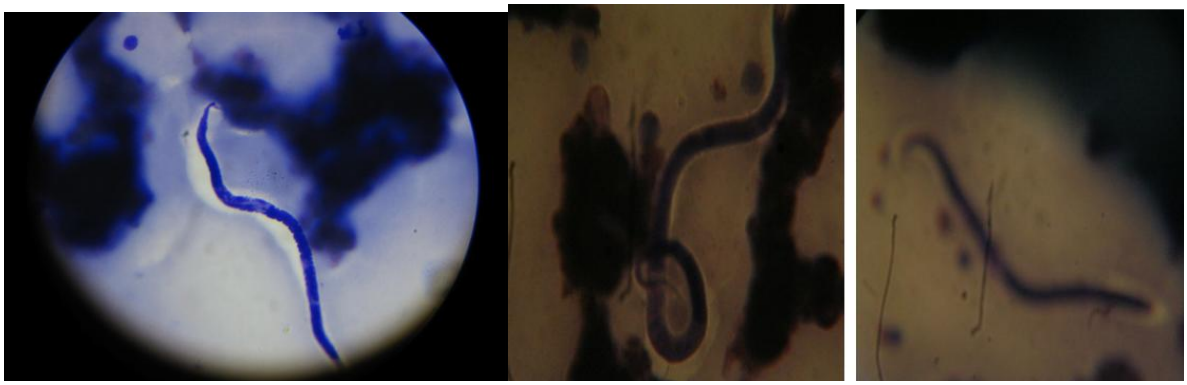

**Figure 2 Microfilaria in blood smear (Giemsa stain, 100×) — Confirms *definitive diagnosis***