

## CASE REPORT

# Epistaxis Associated with Theileriosis and its Management in a Buffalo - A Case Report

Ankit S. Prajapati<sup>1\*</sup>, Jignesh J. Parmar<sup>1</sup>, Vandip D. Chauhan<sup>2</sup>, Aditya I. Shah<sup>1</sup>, Pinesh V. Parikh<sup>1</sup>

*Ind J Vet Sci and Biotech* (2024): 10.48165/ijvsbt.20.3.38

*Theileria annulata* and *Theileria parva*, protozoan parasites that cause bovine theileriosis, are spread by ticks *Hyalomma* and *Rhipicephalus*, respectively. Bovine theileriosis results in severe livestock losses as well as financial losses on a global scale (Sharma *et al.*, 2017). Apart from bovine, sheep and goats are also affected by this condition (Prajapati *et al.*, 2023). High fever, lymph node enlargement, anaemia, and low platelet count are the reported clinical findings of theileriosis. Exophthalmos and pseudo-pericarditis have recently been documented in cattle and buffalo (Prajapati *et al.*, 2019; Sharma *et al.*, 2020; Degirmencay *et al.*, 2021). The present case report documents epistaxis, an unusual clinical finding in buffalo affected with theileriosis and its management.

## CASE HISTORY AND OBSERVATIONS

A six-year-old buffalo was presented at Veterinary Clinical Complex of the College in Anand (Gujarat, India), with unilateral bleeding from the left nose for the last seven days (Fig. 1). The case was earlier treated with antibiotics and systemic haemostatic for three days. The nasal cavity was thoroughly checked for the presence of any foreign body and abnormal growth and found absence of such conditions. Apart from epistaxis, pale mucus membrane and enlarged prescapular lymphnode were also evident. For the complete blood count, 3 mL of blood was drawn from the jugular vein. Haematological examination revealed  $8 \times 10^3/\mu\text{L}$  white blood cells,  $3.50 \times 10^6/\mu\text{L}$  red blood cells, 5.7 g/dL haemoglobin, 20.40% packed cell volume and  $5 \times 10^3/\mu\text{L}$  platelet counts. The case was suspected of haemoprotozoal infection based on clinical signs and haematological examination. The thin blood smear prepared and stained with field stain on microscopic examination revealed Koch's blue body in the lymphocytes (Fig. 2), confirming theileriosis.



**Fig. 1:** Blood-tinged muzzle due to epistaxis

<sup>1</sup>Veterinary Clinical Complex, College of Veterinary Science and Animal Husbandry, Kamdhenu University, Anand-388001, Gujarat, India

<sup>2</sup>Department of Veterinary Parasitology, College of Veterinary Science and Animal Husbandry, Kamdhenu University, Anand-388001, Gujarat, India

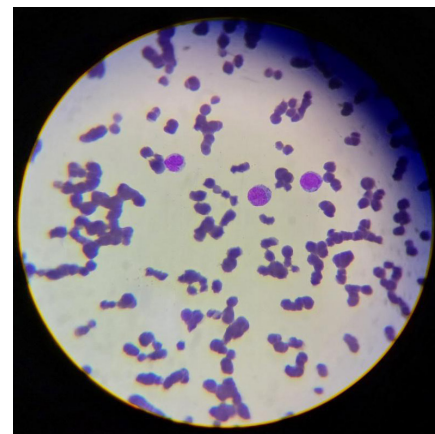
**Corresponding Author:** Ankit S. Prajapati, Veterinary Clinical Complex, College of Veterinary Science and Animal Husbandry, Kamdhenu University, Anand-388001, Gujarat, India. e-mail: ankitprjpt1@gmail.com

**How to cite this article:** Prajapati, A. S., Parmar, J. J., Chauhan, V. D., Shah, A. I., & Parikh, P. V. (2024). Epistaxis Associated with Theileriosis and its Management in a Buffalo - A Case Report. *Ind J Vet Sci Biotech*, 20(3), 187-188.

**Source of support:** Nil

**Conflict of interest:** None

**Submitted** 03/01/2024 **Accepted** 11/03/2024 **Published** 10/05/2024



**Fig. 2:** Koch's blue bodies (KBB) in lymphocytes

## MANAGEMENT AND DISCUSSION

The case was diagnosed as theileriosis based on a blood smear examination. The buffalo was treated with Inj. Oxytetracycline @ 22 mg/kg, Meloxicam @ 0.2 mg/kg body weight diluted in 100 mL of normal saline via intravenous route and Inj. Adchrome 15 mL intramuscularly. The owner was advised to continue the treatment for four more days. The animal responded to the treatment, and an uneventful recovery was observed. *Theileria* in the mammalian hosts undergo sequential development in leukocytes and erythrocytes (schizont and piroplasm stages, respectively).

Some species multiply predominantly in erythrocytes, whereas others multiply mainly in leukocytes (Morrison *et al.*, 2020). There is wide variation in pathogenicity among the theileria species that infect domestic ruminants. The most critical features of tropical theileriosis are haemolytic anaemia, secondary hypoxia, and vasculitis (Fartashvand *et al.*, 2013). Low platelet count is one of the important factors for the bleeding from the mucus membrane. Due to inadequate or slow clotting, blood comes from the respective region, resulting in different clinical signs. Degirmencay *et al.* (2021) also reported petechial haemorrhages on mucus membranes in cattle affected with theileriosis.

The nose is a vulnerable site for bleeding because the nasal mucosa is densely packed with vessels that form plexiform networks. Epistaxis in large ruminants is rare, making diagnosis of the underlying cause challenging. Most episodes of epistaxis in animals are caused by mucosal dryness and exposure of an anterior septal blood vessel, trauma (including nose picking), or retained foreign bodies. A clinical diagnosis can be obtained through a logical approach and haematological evaluation (Areshkumar, 2019). Similar epistaxis findings were also observed in buffalo infected with babesiosis due to thrombocytopenia, which may result from decreased marrow production, hypersplenism, utilization due to disseminated intravascular coagulation, and immune-mediated platelet destruction (Joshi *et al.*, 2020).

In conclusion, epistaxis can be considered a clinical sign in the diagnosis of theileriosis in buffaloes.

## ACKNOWLEDGEMENTS

The authors acknowledge the Principal and Dean, Veterinary College, Kamdhenu University, Anand, for providing the necessary facilities.

## REFERENCES

- Areshkumar, M. (2019). Epistaxis in cattle: An overview. *The Pharma Innovation Journal*, 8(5), 789-790.
- Degirmencay, S., Kirbas, A., Yanar, K., & Eroglu, M. (2021). Pseudo-pericarditis in two cows with tropical theileriosis: Clinical, haematological and biochemical findings. *Journal of the Hellenic Veterinary Medical Society*, 72(2), 2993-3000.
- Fartashvand, M., Nadalian, M. G., Sakha, M., & Safi, S. (2013). Elevated serum cardiac troponin I in cattle with theileriosis. *Journal of Veterinary Internal Medicine*, 27(1), 194-199.
- Joshi, V., Dimri, U., Gopalakrishnan, A., Asandi, B., & Alam, S. (2020). Recurrent epistaxis with thrombocytopenia secondary to babesiosis in a Murrah buffalo - A case report. *Buffalo Bulletin*, 39(4), 493-500.
- Morrison, W.I., Hemmink, J.D., & Toye, P.G. (2020). *Theileria parva*: A parasite of African buffalo, which has adapted to infect and undergo transmission in cattle. *International Journal for Parasitology*, 50(5), 403-412.
- Prajapati, A., Prajapati, B., Patel, A., Chauhan, P., Das, B., Raval, S., Suthar, A., Sutaria, T., Chaudhari, R.K., Patel, P., Chauhan, V., & Patel, R. (2023). Molecular identification and genetic characterization of *Theileria* and *Anaplasma* infection in sheep and goat of North Gujarat, India. *Parasitology Research*, 122(6), 1427-1433.
- Prajapati, A.S., Suthar, A.N., & Das, B. (2019). Diagnosis and management of pseudo-pericarditis associated with theileriosis in a buffalo. *Intas Polivet*, 20(1), 86-87.
- Sharma, R., Choudhary, N., Agrawal, V., Mehta, H., Singh, A., & Choudhary, K. (2017). Theileriosis in buffalo: A case study. *Journal of Drug Delivery and Therapeutics*, 7(7), 216-217.
- Sharma, S., Kolte, S.W., and Magar, S. (2020). Exophthalmia in Crossbred cattle naturally infected with *Theileria annulata*. *International Journal of Current Microbiology and Applied Sciences*, 9(9), 493-497.

