



ISSN (E): 2277-7695
ISSN (P): 2349-8242
NAAS Rating: 5.23
TPI 2022; SP-11(7): 1683-1684
© 2022 TPI
www.thepharmajournal.com
Received: 14-04-2022
Accepted: 20-06-2022

Kavita Jaidiya
Ph.D Scholar, Department of
Veterinary Medicine, Bikaner,
Rajasthan, India

Dinesh Kumar Saharan
Teaching Associate, Livestock
Research Station, Kodamdesar,
Rajjuvas, Bikaner, Rajasthan,
India

Manisha Mehra
Assistant Professor, Department
of Veterinary Pathology,
Bikaner, Rajasthan, India

Chand
Ph.D Scholar, Department of
Veterinary Medicine, Bikaner,
Rajasthan, India

Corresponding Author
Kavita Jaidiya
Ph.D Scholar, Department of
Veterinary Medicine, Bikaner,
Rajasthan, India

Tropical theileriosis in calf

Kavita Jaidiya, Dinesh Kumar Saharan, Manisha Mehra and Chand

Abstract

A 2 months old, cross bred male calf presented to TVCC, CVAS, Bikaner with history of dullness, tick infestation and anorexia. Clinical examination revealed Fever, Increased heart rate, enlargement of pre-scapular lymph node, pale mucus membrane with poor body coat. Blood smear showed presence of Piroplasm in erythrocytes. After clinical observation and laboratory diagnosis calf was found positive for *Theileria annulata*. Calf was treated with Injection Buparvaquone @ 2.5 mg/kg BW, Deep IM, oxytetracycline @ 5-10mg/kg BW, Vetalgin 2 ml, IM, and supportive therapy of multivitamins and haematinic preparation. After one week calf showed improvement in condition.

Keywords: Theileria, Calf, Hylomma

Introduction

Protozoa in the genus *Theileria* are tick-borne parasites that have been found in many species. The two organisms with the greatest economic impact in cattle are *Theileria parva* and *T. annulata*, which cause East Coast fever/ corridor disease and tropical theileriosis, respectively. *T. lestoquardi*, *T. uilenbergi* and *T. luwenshuni* are the most virulent species in sheep and goats. Tropical Theileriosis is caused by *Theileria annulata*, is widely distributed in north Africa, the Mediterranean coastal area, the Middle East, India, countries of the southern former USSR, and Asia. It is transmitted by tick *Hylomma anatolicum*. It is a blood protozoan parasite (Gang 2010) [1]. *Theileria* are small round, irregular or bacilliform shaped parasites which are placed in the phylum - Apicomplexa, sub class-piroplasmorina, order – piroplasmorina and family theileridae. (V.R. Kundave *et al.*, 2013) [5]. All age groups of cattle are susceptible to this disease. Tropical theileriosis results in lethal infection and is responsible for mortality in cross breed calf by suppressing the immune system, blood loss and making the animal susceptible for multiple infections. It can affect goat, sheep and horse. Indigenous cattle less affected by these disease than cross breed cattle. This disease is of great economical importance in tropical and sub tropical. *Theileria* cause economic loss in terms of high mortality, morbidity, decrease milk production, if the disease progresses, cattle rapidly lose condition. Animals that recover from infection are immune to subsequent challenge.

In field theileriosis is diagnosed mainly based on clinical signs of anorexia, pale mucus membrane, tick infestation and specially by enlargement of pre-scapular lymph node. In laboratory condition it can be diagnosed by making the blood smear from ear tip and staining it with Giemsa. Examination under microscope will show piroplasm in erythrocytes and Koch blue bodies in cytoplasm of monocytes. (Muller *et al.* 2015) [4]. Buparvaquone is the drug of choice for theileriosis treatment.

History

A 2 months old cross bred male calf presented to TVCC, CVAS, Bikaner with history of tick infestation, dullness, and anorexia.

Clinical Examination

Clinical examination revealed high fever (105 F), enlargement of pre-scapular lymph nodes, pale mucous membrane, increased heart rate, lacrimation and rough hair coat.

Sampling

Blood sampling was done by taking the 3 ml of blood from jugular vein in EDTA tube for complete blood examination. A thin blood smear was made from ear tip and stained it with Giemsa for microscopic examination of parasite in blood cells.

Results

The hematological parameters revealed anemic condition with high infection and the values of different hematological parameters are listed in table 1.

Microscopic Examination

Blood smear was examined under 100 X power, oil immersion and revealed presence of piroplasm in the Erythrocytes.

Table 1: Hematological parameters

S. NO	Parameters	Value
1	Hemoglobin	4.6 gm/dl
2	RBC	4.58 x10 ⁶ /ul
3	WBC	25.50x 10 ³ ul
4	Platelet	-
5	PCV	17%
Differential Leucocyte Count		
1	Neutrophils	68%
2	Lymphocytes	12%
3	Monocytes	20%
4	Eosinophils	0
5	Basophils	0

Diagnosis

The case was diagnosed as tropical theileriosis based on the history, clinical observation, laboratory and microscopic examination.

Treatment and Discussion

Treatment is effective when applied in the early stages of clinical disease Calf was treated with Injection buparvoquone (Butalex) @ 2.5 mg/kg BW, deep intramuscular, inj. Vetalgin 2 ml intramuscularly, Injection oxytetracyclin @ 5-10 mg/kg body weight intra muscularly, injection butalox 2.5 mg/kg body weight repeat this after two days and syrup 3D Red 10 ml orally daily.

After one week of treatment calf showed better result. There was improvement in hematological parameters and protozoan parasites are not observed in blood smear.

Tropical theileriosis or parasitic diseases are more in exotic breeds and cross breed as compared to indigenous breeds. In present study having fever and specially the enlargement of prescapular lymph nodes shows the developmental stage of parasite (solsby, 1982) Increase in heart rate is due to anemic condition of calf.

Low immunity of young calves makes them susceptible to the theileriosis and other related diseases (Mudgal, 1993) [3]. Buparvoquone is drug that can be used for successfully management of early detected case of tropical theileriosis along with supportive therapy (Gupta *et al.*, 2004) [2].

Reference

1. Gnaga Naik, Ananda KJ, Kavitha Rathi. Theileriosis in calves and its successful treatment, Veterinary world. 2010;3(4):191.
2. Gupta SK, Anish Yadav, Raina AK, Rajiv Singh. Theileriosis in a seven-day old bovine calf – a case report. Indian J Vet. Med. 2004;24:55.
3. Mudgal VK. Studies on crossimmunity and field trials with cell culture vaccine against bovine tropical theileriosis. Post Graduate Thesis. Haryana. Agricultural University, Hisar, India, 1993.
4. Muller J, Aguado-Martinez A, Manster V, Balmer V,

Winzer P, Ritter Det. B uparvaquonone is active against neosporacanium in vitro and in experimentally infected mice. International journal of parasitol drug resistant. 2015;13:5(1):16-25.

5. Kundave VR, Patel AK, Patel PV, Hasnani JJ, Joshi CG. Detection of Theileriosis in cattle and buffalo by PCR, Journal of parasitic disease. 2013;39(3):508-513.