

Research
Paper

Theileriosis in cross breed and zebu cattle

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ABSTRACT

A total number of 15 of field cases of cattle of both zebu cattle and cross breeds were clinically and laboratory investigated in this study. Clinical and laboratory examination revealed that animals were found suffering from theileriosis. Blood smears were prepared from jugular vein for all animals suspected cases of theileriosis. The blood smears revealed presence of theileria organisms. Clinical examination revealed enlargement of superficial lymph nodes, fever and emaciation were found in cases of theileriosis. Suffering animals were treated using oxytetracycline and buparvoquone. Treated animals recovered successfully. We can conclude from our study that cattle population under study were suffering from theileriosis and were treated.

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Key words : Cattle, Theileriosis, Clinical findings, Treatment

INTRODUCTION

Theileriosis is considered the important blood parasites of cattle which caused by *Theileria annulata* and it is still representing a serious problem especially in tropical and subtropical areas. The importance of theileriosis is due to severe economic losses and their effect on the immune status of the body (Urquhart *et al.*, 1996). The most marked clinical signs of theileriosis in cattle are enlargement of the lymph nodes in the area draining the site of tick attachment followed by fever, depression, anorexia and drop in milk production. In later stages, there may be nasal and ocular discharges, dyspnoea, and generalized lymph node enlargement. Severe cases may be associated with diarrhea and dysentery (Radostits *et al.*, 2000). Cows with theileriosis showed systemic changes, lateral recumbency (Stockham *et al.*, 2000). Tetracycline and buparvoquone can be used to treat the animals suffering from theileriosis. (Radostits *et al.*, 2000). The goal of this work designed to study the effect of natural infection with theileriosis in cattle on the clinical animal health condition and study of response to the treatment.

RESEARCH METHODOLOGY

Animals:

A total number of 19 cattle (Table 1) aging from 4 to 10 years old were admitted to veterinary dispensary of Halageri of Talluk Ranebennur Dist: Haveri, Karnataka. The chief complaints of 15 animals were persistent fever and anorexia. The other 4 animals were admitted for pregnancy diagnosis and appeared clinically healthy, therefore, used as a control group.

Samples:

Whole blood from jugular vein was collected using EDTA coated test tubes. Smear samples were prepared for microscopical examinations.

Adopted methods:

Clinical examination:

Clinical examination of all cattle was carried according to Rosenberger (1990).

Hematological examination:

Haematological examination was done staining with Methylene blue stain. (Joan, 1991). A thin blood smear was prepared from the collected blood, fixed in absolute methyl

Table 1: Showing details of animals used under the study

Animal under test		Control group	
Cross breed cattle	Zebu cattle	Cross breed cattle	Zebu cattle
6 H.F. Cross (F)	4 (M)	2 J.R. cross (F)	2 (F)
5 J.R. Cross (F)			

H.F. = Holstein Frisian, J.R. = Jersey, M = Male, F= Female

alcohol for 30 seconds. After drying the smear was stained using Giemsa stain (1 in 10 dilution) for 20 minutes. Observations under microscopes were recorded.

Treatment of animals using following drugs:

- Oxytetracycline injection (Oxytetracycline injectable solution, 100ml vial, 50 mgOTC/ml, ZYDUS AHL) @ 10mg/kg BW/day I/V in Normal saline for 5 days
- Buparvoquone injection [Butalex injectable solution, 20mlvial, 50mg buparvoquone/ml, Cadilla-Pitman-Moore) @ 2.5 mg/kgBW I/M (10 ml at a site) single dose]
- Ketoprofen injection (KETOP injection, 15ml vial, 100mg Ketoprofen/ml, ALEMBIC) @ 4mg/kgBW/ day for 3-5 days.
- Chlopheniramine maleate injection (ZEET injection, 30 mlvial, 10 mg chlopheniramine maleate /ml, ALEMBIC) 50 mg total dose.

RESULTS AND DISCUSSION

The results obtained from the present studies have been presented in the following sub heads:

Clinical findings:

The clinical signs noticed were high fever (104 to 107°F), partial or complete anorexia, depression and enlargement of superficial lymph nodes especially, the prefemoral lymph nodes were enlarged. In some animals lacrimation, nasal discharge and diarrhoea was seen. Milk production reduced in milking animals. Anemic signs like pale mucous membrane, weakness, increase in heart and respiratory rates were seen.

Haematological findings:

Small ring and comma shaped organism stained bluish purple were seen in RBCs which is characteristic feature of Theileria organisms.

Treatment results:

All of the treated cases responded well. The temperature of the animals came down to 100 - 102°F,

started taking feed and water, rumination started, the enlarged lymph nodes came back to normal size. Milk production slowly increased in cows.

Clinical findings:

The observed clinical findings in cattle with theileriosis were pyrexia, anorexia, enlarged superficial lymph nodes. These findings are in agreement of Shehata *et al.* (1984), Sandhu *et al.* (1998) and Radostits *et al.* (2000). Anorexia could be attributed to persistent fever; moreover the enlargement of superficial lymph nodes could be explained by lymphoid hyperplasia in early stage of the disease.

Haematological findings:

Theileria organisms(pyroplasmic stage) seen as small ring and comma shaped organism stained bluish purple were seen in RBCs which is characteristic feature of theileriosis. Similar observations were made by Hoghooghi-Rad *et al.* (2011).

Treatment results:

Combination of tetracycline and buparvoquone were used to treat the animals suffering from theileriosis which is effective in treating the disease. Similar responses were observed by Radostits *et al.* (2000).

Conclusion:

It can be concluded that the animals under study were suffering from theileriosis and were diagnosed and treated successfully.

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