OCCURRENCE OF *TRYPANOSOMA THEILERI* LAVERAN, 1902 IN A HOLSTEIN FRIESIAN CROSS-BRED COW

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ABSTRACT

An adult Holstein Friesian cross-bred cow was brought to Madras Veterinary College Teaching Hospital with the history of anorexia and fever. Peripheral blood smear stained by Leishman revealed large sized (About 60 mm) extracellular parasites. Haematological examination revealed anisocytosis and hypochromasia. Based on the morphology of the parasite which had long and pointed posterior end, subterminal kinetoplast, well defined undulating membrane and free flagellum, it was identified as *Trypanosoma theileri* Laveran, 1902. The animal showed anaemia, hypoproteinaemia, hypoalbuminaemia, hypophosphataemia and reductions in BUN, creatinine and AST levels.

Key words : Adult Holstein Friesian cross-bred cow, *T. theileri* infection.

Trypanosoma theileri protozoan infection has been detected in bull in Deccan region (Lingard, 1903), cattle in Punjab and Mukteswar (Lingard, 1906, 1907) in India and cattle in Madras (Valladeres, 1909; Rao and Iyer, 1931). It is considered non-pathogenic and tabanid flies and possibly ticks of the *Ixodidae* family have been reported to act as vector for that parasite (Nougayrede and Perrin, 1986). The present paper reports occurrence of *T. theileri* infection in a Holstein Friesian cross-bred cow after several decades.

An adult Holstein Friesian cross-bred cow was brought to Madras Veterinary College Teaching Hospital with the history of anorexia and fever.

Peripheral blood smear stained by Leishman revealed large sized (About 60 mm) extracellular parasite (Fig.1). The haematological examination was carried out by Auto Haematology Analyzer (BC-2800 Vet from Mindray, Germany) and biochemical profiles were analyzed by Semi Auto Biochemical Analyzer (Mispa-Excel from Agappe Diagnostic Ltd., Ernakulam). The haematological examination revealed haemoglobin (8 g/dL), packed cell volume (26%), total erythrocyte count (6.32 millions/cmm) and total leucocyte count (9250/cmm). Differential leucocyte count revealed neutrophil (32%), lymphocyte (64%), monocytes (2%) and eosinophils (2%). Blood picture revealed anisocytosis and hypochromasia. Biochemical profile revealed reduction in blood urea nitrogen-BUN (13.6 mg/dL; N: 20-30 mg/dL), creatinine (0.82 mg/dL; N: 1-2.07 mg/dL), aspartate animotransferase-AST (30.78 IU/L; N: 78-132 IU/L), total protein (5.4 g/dL; N: 6.7-7.5 g/dL), albumin (2.36 g/dL; N: 3-3.6 g/dL) and phosphorus (4.8 mg/dL; N: 5.6-6.5 mg/dL).

Based on the morphology of the parasite as posterior end that was long and pointed, kinetoplast lying in some distance from the posterior end, well defined undulating membrane and free flagellum, it was confirmed as *Trypanosoma theileri* Laveran, 1902 as described by Levine (1995) and Soulsby (2005). *T. theileri* is normally regarded as non-pathogenic parasite and probably occurs in cattle.
throughout the world (Soulsby, 2005). Clinical signs included depressed milk production and abortion in cattle (Wells, 1972). In the present case, there was fever and anorexia.

Ward et al. (1984) reported severe regenerative anaemia in T. theileri affected cow. In the present case, anaemic changes were observed. However, Braun et al. (2002) reported that there were no haematological, biochemical and blood gas analysis abnormalities in the T. theileri infection in a heifer. Hypoproteinaemia, hypoalbuminaemia, hypophosphataemia and reductions in BUN, creatinine and AST observed in this case might be due to anorexia, fever, and to other conditions. Thus, T. theileri is used as an epidemiological marker for the activity of Tabanid flies (Nougayrede and Perrin, 1986).

**REFERENCES**


