

Successful Management of Trypanosomiasis in a Cow

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Abstract

A 6-year-old Jersey cow was presented with signs of respiratory distress and sternal recumbency at the Madras Veterinary College Outpatient Unit. Physical examination revealed congested mucous membrane, enlarged prescapular lymph node and severe dehydration. Musculo skeletal examination was done and the orthopaedic involvement was ruled out. Thrombocytopenia, decreased packed cell volume, and haemoglobin levels were noticed. Peripheral blood smear confirmed the presence of *Trypanosoma evansi*. The animal was treated with isometamidium chloride. The animal had uneventful recovery and was able to walk.

Keywords: Jersey cow, Trypanosomiasis, Isometamidium chloride

Trypanosoma evansi species primarily affects domestic and wild animals, causing a disease known as surra or dourine. *T. evansi* is transmitted mechanically by biting flies and tabanid flies, rather than through a biological vector. Surra affects a wide range of mammalian hosts, including horses, camels, cattle, and dogs, leading to clinical signs such as fever, anaemia, and neurological abnormalities. Diagnosis typically involves microscopic examination of blood, tissue or cerebrospinal fluid for the presence of trypanosomes or their characteristic morphological features. Treatment options vary depending on the species of trypanosome and clinical presentation with available medications targeting the parasite viability and replication.

A 6 year old Jersey cow was presented to Madras Veterinary college Teaching Hospital with history of inappetence, respiratory distress, sunken eye ball and sternal recumbency (Fig.1). On physical examination, rectal temperature was 38.3°C, heart rate was 70 bpm, respiratory rate was 54/minute. Enlargement of prescapular lymph node and bruxism were noticed. Rumen motility was 2/3 min and live rumen protozoas of different sizes were present on rumen liquor examination. Deep and superficial pain reflexes were normal and no bony involvements were noticed in the limbs. Thrombocytopenia, hypoglycemia (33mg/dl) and increased total protein (7.60g/dl) were noticed. Wet film and peripheral blood smear stained with Giemsa were found positive for *Trypanosoma evansi* organisms

(Fig.2). Based on clinical signs and blood results this case was diagnosed as Trypanosomiasis.

Isometamidium chloride at the dose rate of 1mg/kg given deep intramuscularly and intravenous fluid therapy with 20% dextrose and multiple electrolytes @ 10ml/kg were administered. Flunixin meglumine at the dose rate of 1.1mg/kg administered intravenously. Injection chlorpheniramine maleate at total dose of 10ml intramuscularly and vitamin B1 B6 B12 at 10ml were given intramuscularly. Supportive treatment including haematinics and phosphorus supplementation for 5 days were also given. Following treatment with isometamidium chloride animal was able to stand (Fig. 3) and regained mobility within a day and complete recovery was noticed after 3 days of treatment.

Trypanosomosis has substantial economic implications, causing considerable losses in livestock production (Singh and Chabra, 1993). It is endemic in many regions of the Indian sub-continent, with outbreaks occurring particularly in cattle and buffaloes, resulting in mortality rates ranging from 20 to 90% (Gill, 1991). The clinical signs vary depending on the stage of the disease. Fever is intermittent and ranges from 102°F to 106°F, with rigors and sweating. Superficial lymph node enlargement, knuckling of fetlock joints, reduced milk production (especially in buffaloes), and abortion in pregnant animals may also be observed. Jaundice is rare, and ascites is infrequent. Mainstay of treatment is chemotherapy with drugs such as diminazene and quinapyramine. Singh and Joshi (1991) dealt with a comparative evaluation of diminazene, suramin,

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quinapyramine and isometamidium in buffaloes naturally infected with *T.evansi*. Isometamidium is used @ 0.5– 2.0 mg/kg body weight intramuscular injection

(Ramakrishna and Rama Devi, 2019). Controlling the fly, the vector responsible for transmitting trypanosoma is crucial for preventing the spread of trypanosomiasis.



Fig.1 Cow in sternal recumbency

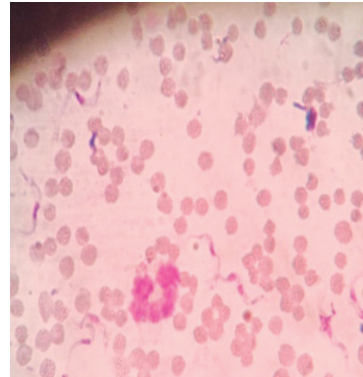


Fig.2 Blood smear positive for *Trypanosoma evansi* (10X)

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