MICROFILARIOsis ASSOCIATED WITH EPISTAXSIS IN A SHE BUFFALO

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ABSTRACT

The present communication reports a case of microfilariosis in a she buffalo with an unusual sign of epistaxis and its successful clinical management. A she buffalo in its 3rd lactation was brought to the clinic with a history of profuse bilateral nasal bleeding and swollen udder in the right quarters, reduced appetite and dullness for 4 days. No response to therapy was observed even after 3 days of treatment. The signs aggravated further with haemogalactia, pale conjunctival mucous membranes and edema of the brisket region. Examination of wet blood film revealed no haemoprotozoans. Whole blood examination by modified Knott’s method revealed the presence of filarial worms. Hematological examination by standard techniques (Benjamin, 2001) revealed hemoglobin 6 g/dl, PCV 20%, polymorphs 38%, lymphocytes 57%, eosinophils 5%, basophils 0% and monocytes 0%. To alleviate the signs of anemia, blood transfusion was undertaken as a supportive therapy. Blood was collected in 3.8% sodium citrate bottles from healthy donor buffaloes after cross matching and was transfused on the same day 10 ml/kg with continuous monitoring of the patient. On the day following, blood transfusion Inj. Ivermectin was administered 200 µg/kg body weight subcutaneously. Supportive therapy includes intramuscular administration of Inj. Iron dextran 10 ml/day for 3 days and oral haematinic mixture for 10 days.

INTRODUCTION

Bubaline microfilariosis is an important vector borne disease caused by larval stages of Setaria species mainly S. cervi, S. digitata and S. labiatopapillosa and Onchocerca armillata. The larvae of these species are known as microfilariae, and circulate in the peripheral blood and cause the disease (Bino Sundar and D’ Souza, 2004). Setarial microfilariosis in bovines has been reported from various parts of India, viz. Andhra Pradesh, Uttar Pradesh, Orissa, Madhya Pradesh and Tamilnadu. The prevalence has been found to be extremely high in the coastal areas of Andhra Pradesh and in the hilly and forest areas of Tarai region of Kumaon hills of Uttar Pradesh and Pantnagar.

The disease has been found to be more common in buffaloes than in cattle. Satish (1996) and Venu et al. (2000) reported the prevalence of Setarial microfilariosis among buffaloes due to S. cervi to be 3.42 and 7.46 percent, respectively, in Andhra Pradesh. Older female lactating animals are found to be more affected than those in lower age groups (Bino Sundar and D’ Souza, 2004). The disease is transmitted by various species of mosquitoes, viz. Aedes aegypti, A. albopictus, A. pembaenensis, Culex pipiens, Anopheles gambia, A. peditaenius etc. Although Setaria is a

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harmless peritoneal inhabitant, the sheathed microfilaria in systemic circulation migrates through different body tissues of the host and causes varied clinical manifestations.

Clinical signs of microfilariosis include gradual loss of condition, hypogalactia, mucopurulant conjunctivitis, epiphora, watery, mucoid or mucopurulant discharge from nostrils, dyspnea, cough, lusterless and rough hair coat, swelling of joints, oedema of dependent parts of the body, nervous symptoms like head pressing, gastrointestinal disorders, pityriasis and udder swelling in some of the cases (Kumar et al., 1984; Vinod Kumar et al., 1987; Sharma et al., 1991 and Satish, 1996). Setaria possesses great tissue wandering properties (Innes et al., 1952). Persistent microfilaraemia therefore might play a crucial role in the process of devitalization as reflected by general signs of weakness, physical deterioration, mucopurulant conjunctivitis, epiphora etc. The migratory nature of microfilariae inflicting tissue injuries and disease of chronic wasting nature might be contributing factors for the clinical manifestations indicated above. (Kumar et al., 1984 and Vinod Kumar et al., 1987). The present communication reports a case of microfilariosis in a she buffalo with an unusual sign of epistaxis.

CASE HISTORY AND OBSERVATIONS

A she buffalo in its 3rd lactation was brought to the clinic with a history of profuse bilateral nasal bleeding and swollen udder in the right quarters, reduced appetite and dullness for 4 days. Clinical examination revealed rectal temperature of 104°F, pulse rate of 72 /minute and respiratory rate of 33 / minute. On close examination of the nasal cavity, no visible lesions could be observed. Symptomatic therapy was given by administering Inj. Enrofloxacin, 15 ml IM, Inj. Meloxicam, 10 ml IM and Inj. Adrenochrome, 10 ml IM for 3 days and Inj. Epinephrine was instilled locally into the nostrils to arrest the bleeding. No response to therapy was observed even after 3 days of treatment. The signs aggravated further with haemogalactia, pale conjunctival mucous membranes and edema of the brisket region.

Examination of wet blood film revealed no haemoprotozoans. Whole blood examination by modified Knott’s method revealed the presence of filarial worms. Hematological examination by standard techniques (Benjamin, 2001) revealed hemoglobin 6 g/dl, PCV 20%, polymorphs 38%, lymphocytes 57%, eosinophils 5%, basophils 0% and monocytes 0%.

To alleviate the signs of anemia blood transfusion was undertaken as a supportive therapy. Blood was collected in 3.8% sodium citrate bottles from healthy donor buffaloes after cross matching and was transfused on the same day 10 ml/kg with continuous monitoring of the patient. On the day following blood transfusion Inj. Ivermectin was administered 200 μg/kg body weight subcutaneously. Supportive therapy included intramuscular administration of Inj. Iron dextran 10 ml/day for 3 days and oral haematinic mixture for 10 days.

RESULTS AND DISCUSSION

There was cessation of nasal bleeding in 3 days after administration of Inj. Ivermectin and the symptoms of haemogalactia disappeared during the same period. Complete clinical recovery was observed in 10 days after initiation of therapy. The clinical findings recorded in the present case are in agreement with those of Kumar et al. (1984); Vinod Kumar et al. (1987); Sharma et al. (1991) and Satish (1996). But the occurrence of epistaxis as a clinical manifestation in microfilariosis was not reported earlier.

Though several methods have been adopted to detect microfilariae including wet film examination and Giemsa’s stained blood smear examination, concentrated techniques like modified Knott’s method have given promising results (Bino Sundar and D’ Souza, 2004; Kumar C. Pavan et al., 2005). Reduced hemoglobin recorded in the present case was in agreement with the findings of Singh et al. (1972), Satish (1996) and Bino Sundar et al. (2003). Rapid destruction of circulating erythrocytes and some degree of intravascular
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haemolysis might have resulted in reduced content of hemoglobin. There might be some degree of suppression of haemopoietic activity of bone marrow due to persistent microfilaraemia.

Setarial microfilariosis in cattle and buffaloes has been successfully treated by several drugs, namely, Anthiomaline, Levamisole and Diethyl Carbamazine citrate. But appreciable results have been obtained with subcutaneous administration of single dose of Inj. Ivermectin or Inj. Doramectin at a dose rate of 200 μg/kg body weight (Bhaskara Rao et al., 2003; Bino Sundar and D’ Souza, 2004).

The present clinical report denotes an unusual symptom of epistaxis associated with microfilariosis and its successful therapy utilizing Ivermectin. Supportive therapy with blood transfusion along with haematinics bestowed a speedy recovery in all cases.

REFERENCES


