A CASE REPORT ON PATHOGENIC MICROFILARIASIS IN CATTLE

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Microfilariasis is considered to be non-pathogenic in cattle, unlike in the case of dogs. A case of pathogenic manifestation of microfilariasis in cattle is being reported.

Case report

Three cows in a farmstead in Mannathimoola in Thiruvananthapuram district were reported to be weak and depressed, with reduced milk yield since two weeks. These animals were treated with oral rumenotorics, but there was no improvement. The owner also reported the death of one animal in his farmstead few months back which also exhibited similar signs.

A detailed clinical and laboratory investigation was conducted. The animals appeared dull and depressed with signs of weakness of limbs. Two of them had edema at the hock and fetlock region, which as reported by the owner, disappeared occasionally and reappeared again. Urination and defaecation were reported to be normal. There was mild rise in temperature in two of the animals. Pulse rate and respiratory rate were within normal range in all the animals. In all the animals, both suprascapular and both pre-femoral lymph nodes show mild enlargement. Rumen motility was 2-3/ 5 minutes in all the animals. Whole blood and dung samples were collected for laboratory investigation.

Microscopical examination of dung samples revealed no ova of parasites. Wet film examination revealed microfilaria (++) in all the three samples. Microscopical examination of stained blood smears also revealed microfilariae and was negative for any other blood parasites. There was mild neutrophilia in two of the samples. Haemoglobin level was 6.8gm%, 7.2gm% and 7gm% in the three samples respectively.

The animals were treated with Ivermectin injection[1] subcutaneously at the rate of 200µg/kg body weight. Two of the animals responded the very next day itself with increased feed intake and improvement in general health condition. The other animal also improved in condition by the second day. After about five days, all the animals were back to their normal health status.

Similar confirmed cases were again reported in the same locality and all of them responded to treatment with Ivermectin.

Discussion

Microfilaria seen in blood of cattle, is usually of Setaria (Dunn, 1978 and Aeillo, 1998) However, the microfilariae are considered to be non-pathogenic in cattle (Aeillo, 1998). The presence of large of number of microfilarial organisms in blood and response of all the animals to ivermectin therapy clearly suggests that the animals were affected due to the presence of microfilarial organisms. Clinical signs observed by Bino Sunder et. al. (2003) in clinical microfilariasis by Setaria in cows were weakness, debility, fluctuating temperature, drop in milk yield, respiratory distress, hindlimb weakness and dysentery and was similar to the clinical findings of this case study. Circumstantial evidence show that death of one cow of the same owner few months back exhibiting similar symptoms could also have been due to microfilariasis. All the animals responded to treatment with Ivermectin, which is considered as the drug of choice for microfilariasis (Sharma, 1991 and Satish, 1996).

Therefore, it could be concluded that microfilariasis in cattle cannot be considered absolutely non-pathogenic. Perhaps the pathogenicity of microfilaria vary with the degree of infection/ level

[1] Inj. Neomec 1%w/v, Intas Pharmaceuticals Ltd., Ahmedabad

of microfilarial organisms in blood of affected animals. Further studies need to be conducted to assess the prevalence of this disease in ruminants.

References

1. Aeillo, S.E. (1998). CNS diseases caused by Helminths and arthropods, the Merck Veterinary Manual. Merck and Co., Inc., USA. pp. 883-975
2. Bino Sundar, S.T., D'Souza. P.E. and Jagannath, M.S. (2003). Clinical microfilariosis by Setaria in cows and its successful treatment with doramectin. Indian J. Vet. Med: 23(2): 121-122
3. Dunn, A.M. (1978). Veterinary Helminthology, II ed. William Heinemann Medical Books Ltd. pp. 76-82
4. Sharma, S.P. (1991). Treatment of clinical microfilariasis in buffaloes with ivermectin. Indian Vet J. 68: 972-974
5. Satish, U.D.(1996). Clinico-therapeutic studies on microfilariasis in buffaloes. PhD thesis. Andhra Pradesh Agricultural University, Hyderabad

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