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Clinical Article

MANAGEMENT OF COCCIDIOSIS IN AN ORGANIZED GOAT FARM

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Abstract: Coccidiosis is contagious disease caused by a unicellular protozoan *Eimeria spp*., transmitted from animal to animal by faecal-oral rout. Mortality of five kids in a week was reported from goat farm. On postmortem examination, the impression smear from the intestinal walls was taken. A loss of 1.5±0.3 k.g body weight and symptoms like bloody diarrhea, loss of appetite was observed in other twenty kids. Fecal sample from the three dead kids and live twenty kids revealed that the kids were severely affected with coccidiosis. The animals in the farm were dewormed and the kids were segregated. The animals were treated with Sulfadimidine intravenously along with vitamin supplements for seven days. Strict hygienic measures like scrubbing and washing the floors, equipment and disinfection of the premises by lime were followed. Uneventful recovery of kids and considerable gain in weight after the treatment was noted. Regular cleaning and disinfection of the sheds, hygienic practices in feed and water supply, reduction in the density of stock and isolation of the carrier animals reduced the exposure of kids to coccidian oocysts.

Keywords: Coccidiosis, *Eimeria spp*., Hygienic practices, Disinfection.

Introduction

Gastrointestinal parasitism in goats is of considerable economic importance due to high morbidity and mortality rates (Bandyopadhyay, 1999). It is one of the major factors responsible for lowered disease resistance, loss of production and hence is a major limiting factor for goat productivity in India (Chhabra, 1983; Yadav *et al.,* 2007).

Coccidiosis (Eimeriosissensustricto) of small ruminants is a protozoan infection caused by several species of the genus *Eimeria* which develop in the small and the large intestine of the, affected young animals andare specific for each host. *Eimeriaovinoidalis* in sheep and *Eimerianinakohlyakimovae* in goats are the most pathogenic species (Chartier and Paraud, 2011). The clinical signs like dehydration caused by diarrhoea will be more severe in kids

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when compared to adult goats.The present report describes successful management of mixed parasitic infection in kids.

Materials and Methods

Mortality of five kids in a week was reported fromGoat farm, ILFC, Collge of Veterinary and Animal Sciences, Pookode, Wayanad, Kerala. Twenty Malabari kids aged between 1-3 months had symptoms of anorexia, watery diarrhea with mucus and blood. On observation, the kids were dull, depressed, dehydrated and emaciated with poor mentation. Clinical observation revealed high temperature in six kids and pale mucous membrane. Fecal and blood samples were collected and peripheral blood smears were prepared from all the twenty kids. Faecal sample was processed by McMaster technique and blood smears were stained using giemsa stain. Faecal sample of eighteen kids was found to be positive for coccidian and blood smear was negative for the haemoprotozoa. Hematology revealed regenerative anaemia in sixteen kids. On the basis of history, clinical signs, laboratory findings, all the twenty kids were diagnosed as affected by coccidial infection. The kids were treated with intravenous injections sulphadimidine @ 20mg/kg Bw and intramuscular injections of Ferritas® (Iron sorbitol 50mg + Folic acid 500mcg + Hydroxycobalamin 50mcg/ml) 1ml/5kg Bw for 7 days. The affected kids were segregated with that of the healthy kids and goats. Strict hygienic measures like scrubbing and washing the floors, equipment and disinfection of the premises by lime were followed.

Results and Discussion

All the twenty kids were improved by taking feed from the fifth day of the treatment and recovered from tenth day of the treatment. Uneventful recovery of kids and considerable gain in weight after one month of the treatment was noted.

Coccidiosis is caused by *Eimeria spp*., also called Coccidia spp. and *E. arloingi*, *E.christenseni*, and *E. ovinoidalis* are highly pathogenic in kids. *Eimeria* are protozoa, a unicellular microorganisms naturally found in the soil. Coccidiaare host-specific, which means that Coccidia of cattle and chicken are specific to these species and do not cause disease in goats or vice versa. However, Coccidia of goats can affect sheep (Ruiz *et al*., 2012).

There are numerous species of Coccidia that are naturally found in the goats intestine. The infection occurs naturally by ingesting oocysts, a resistant form of the parasite, when grazing. The infection occurs by ingesting the pathogenic sporulated oocyst (sporulated is a form of resistance of the Coccidia). Oocysts could be found in the water or in feed supplies

contaminated with feces. Although the infection could occur in any goatherd raised under semi and intensive management practices. It is most frequently observed in kids, 2 to 4 weeks post weaning. Sporulated forms are highly resistant to ordinary disinfectants. Direct sunlight is the best disinfectant, therefore goat housing should be dry and exposed to sunlight. Stress is the predisposing factor in kids during the post weaning period. Animals may die suddenly during this phase and without any warning. *Eimeria* infected goat kids show clinical signs particularly during the weaning period, ranging from non-hemorrhagic to severe hemorrhagic diarrhea, accompanying weight loss, dehydration and growth delay (Ruiz *et al*., 2006 and Ruiz *et al*., 2012). Outbreaks can occur during stressful conditions such as after shipping or when animals are relocated. Outbreaks can also occur during sudden weather changes, after a change in concentrated feed practices, when animals are recovering from a disease, or in worm burden cases. Although coccidiosis can occur yeararound, a higher incidence occurs during post-weaning. It is common to find animals naturally resistant to coccidiosis.

Coccidiosis could be effectively treated with sulfonamides. Sulfonamides have an activity on the last stages of the cycle whereas amprolium and the ionophores (monensin, lasalocide) have an effect on the earlier stages. Decoquinate and more recently toltrazuril and diclazuril are molecules which act on the whole cycle of the coccidia (Taylor *et al.,* 2003)

Figure 1. Kids showing Diarrhoea

Figure 2. Dis-infection of shed with lime

Conclusion

Coccidiosis is of great economic importance because of the losses due to clinical disease (diarrhoea) and also because of subclinical infections. Oocyst excretion is maximum around the weaning period and shows a steady decline afterwards due to a strong immunity. Risk factors for high excretion include breeding intensification, high stocking rates in premises, poor hygiene and all causes of stress. Reliable diagnosis includes combined clinical, epidemiological, necropsic and coproscopical approaches. Regular cleaning and disinfection

of the sheds, hygienic practices in feed and water supply, reduction in the density of stock and isolation of the carrier animals reduces the exposure of kids to coccidian oocysts.

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