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MANAGEMENT OF CONCURRENT INFECTION OF TAPEWORM AND AMPHISTOMOSIS OUTBREAK IN A GOAT FARM

Suchita P. Uke[1], Shafiya Imtiaz Rafiqi[2], Saroj kumar*[3] and Sharad Durge[4]

[1]Veterinary Officer, Government of Maharashtra, [2]PhD scholar, ICAR-IVRI, Izatnagar, Bareilly, UP, [3]Research Associate, NRC Equnie, Hissar, Haryana, [4]Subject matter specialist, MFASU, Maharashtra

E-mail: drsarojvet@gmail.com (**Corresponding Author*)

Abstract: An outbreak of concurrent amphistome and cestode infection in a small land holding farm has been reported. The animals showed symptoms of weakness, dullness, emaciation, anorexia and some animals showed pale mucous membrane, diarrhoea, staggering gait, submandibular swelling and even recumbency. The diarrheoic faeces showed presence of adult tapeworms while post mortem examination revealed rumen full of amphistomes. Treatment of these animals with praziquantel @ 5mg/kg and Oxyclozanide @ 10 mg/kg orally along with mineral mixture was done and the symptoms started disappearing from 3rd day and all animals recovered well.

Keywords: parasitic infection, amphistome, tapeworm, diarrhoea, treatment.

Introduction

India has an estimated sheep and goat population of 65 million and 135.17 million, respectively, as per 19th livestock census. Since goat has often been called as poor man's cow, gastrointestinal tract (GIT) parasitism in sheep and goats thus poses a threat to economy of marginal farmers of the country. This problem is severe in tropical countries due to highly favorable environmental conditions for helminth transmission (Singh *et al.,* 2013). Gastrointestinal parasitism directly or indirectly affects the economic losses in number of ways such as lowered fertility, reduced work capacity, reduction in food intake, lower weight gain and milk and wool production, treatment cost and mortality in heavily parasitized animals. Many researchers have reported the parasitic infections in goats in India (Alok *et al.,* 2015). Most of the research has been conducted on trematode and nematode infections but the pathogenicity of tapeworms is continuously debated. Due to the lack of research evidence to the contrary, most scientists and small ruminant veterinarians believe tapeworms to be non-pathogenic. However this doesn't hold true always. The low pathogenicity often associated with tapeworm infections is true only of low grade infections. Due to parasitism, the animals become susceptible to other pathogens which can lead to death. The present study

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was undertaken to ascertain the cause of heavy morbidity and mortality in a goat farm owing to parasitic infections.

Material and method

The farm located at Isapur (Bk) Tah Katol district Nagpur, Maharashtra houses 25 goats including kids. All the animals were showings signs of debility, diarrhea and rough coat colour. The faecal samples were collected randomly from 10 weak, diarrheic and emaciated animals per rectally in a polythene bag, brought to laboratory and examined for parasitic eggs. The owner reported mortality of three kids and 2 does. The morbid animals were emaciated and showing bottle jaw condition along with anaemia. All animals were treated with antihelmintic drugs. Post mortem examination was conducted to ascertain the cause of the death.

Results and discussion

Parasitic infections are a major constraint on livestock production in our country and still parasitism is one of the major health problems confronting the goat industry. In the present study the post mortem examination of the goats revealed rumen and upper part of intestine heavily infected with amphistomes (Fig 1). Physical examination of animals showed weakness, dullness, emaciation, anorexia and some animals showed pale mucous membrane of conjuctiva, diarrhoea, staggering gait, bottle jaw and even recumbency. The diarrheic feaces collected from the animals per rectal and from sheds revealed presence of tapeworms (Fig 2). Amphistome infection is frequently encountered in ruminants. The prevalence of paramphistomosis is high throughout tropical and subtropical regions, particularly in Africa, Asia, Australia, Eastern Europe, and Russia (Arias *et al.,* 2011). The adult flukes are generally considered nonpathogenic for their hosts, but migration of immature worms in duodenal mucosa causes severe enteritis, possibly necrosis and hemorrhage and is responsible for anorexia, polydipsia, unthriftiness, severe diarrhea and mortality (Rolfe *et al.,* 1991). *Moniezia expansa* is a very common parasite in small ruminants. Even though the losses caused by *M. expansa* are not so severe compared to the nematode parasites, the Moniesiasis is still a concern in farm breeding of sheep and goats (Mahin *et al.,* 1991; Southworth *et al.,* 1996). *Moniezia spp.* infection is common in kids during their first year of life and less common in older animals. A seasonal fluctuation in the incidence of *Moniezia spp.* infection can apparently be related to active periods of the forage mite vectors during the summer in temperate areas. In this investigation, heavy infections were related to adverse clinical pictures such as poor growth rate, pot-belly, rough coat of hair, and anaemia. Several workers

have shown that *Moniezia* infection in sheep could result in severe pathology and adverse effects on production (Lyashenko *et al.,* 1974) which would justify a campaign against *Moniezia* infection. The increasingly popular opinion that *Moniezia* infection is of limited consequence should be reconsidered. It should be pointed out that faecal egg estimation is not an accurate index of intensity of *Moniezia* infection in ruminants, since eggs are present in feaces only after the proglottides have ruptured. Similarly in immature amphistomosis eggs will not be present in feces. In the present case also the quantum of infection was not correalated to presence of eggs in feaces. All the affected animals were treated with Praziplus (Petcare®) @ 5 mg/kg and oxyclozanide (Flucinex®, IIL, Hyderabad) @ 10 mg/kg orally along with mineral supplement powder (Goumix®, IIL, Hyderabad). The animals showed improvement in symptoms from 3rd day post treatment. The intramandibular oedema (bottle jaw) started disappearing form 3rd day and completely disappeared by 7th day of therapy. Animals were in normal condition with considerable improvement in their health within 2 wks following treatment

Conclusion

Gastrointestinal (GI) parasitism is one of the major health problems affecting productivity of small ruminants worldwide. The present case is a tip of iceberg and many low holding marginal farmers are silently suffering losses worth thousands in terms of unprofitable rearing of livestock. Periodic feacal sample examination and strategic anti parasitic medication will help a great deal to make livestock rearing a profitable enterprise.

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Figures

Fig 1: Amphistomes in rumen

Fig 2: Tapeworm from feaces