

A SLAUGHTER HOUSE REPORT OF OESOPHAGOSTOMOSIS IN GOAT

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Abstract: Goat farming plays an important role in economic status of the poor farmers due to very low investment and multifunctional utility. However, goats are very sensitive to the pathogens including gastro-intestinal helminths and causing production losses. Infection with nodular worm; *Oesophagostomum*, is very common in goat population. In the present study, we report a case of gastro intestinal nematodosis in the necropsy examination of a goat. About 8.0 mm lengthy and white coloured worms were found in the large intestine with typical characteristics of the *Oesophagostomum* spp. Intestine was negative for nodules. Goat harbouring such nematodes can cause heavy economic losses to the farmers belonging to the goat farming.

Keywords: Goat, *Oesophagostomum*, Slaughter house.

INTRODUCTION

Goat farming is a profitable business to the poor farmers because of very low investment and multifunctional utility. Goats have enormous potential to boost the economy of developing countries like India and can be major source of income especially to marginal farmers and landless labourers. Hence, goat is also considered as poor man's cow. However, goats are vulnerable to various parasitic diseases that not only compromise their health but also play a role in lowering the overall production (Sanyal, 1996) and are responsible for causing heavy losses due to reduced production, morbidity and mortality in animals (Lutu, 1983; Mahusoon *et al.*, 2004; Nwosu *et al.*, 2007; Torres-Acosta and Hoste, 2008).

Gastrointestinal (GI) parasitism in animals is one of the major problems in India causing emaciation, anaemia, oedema, weakness, diarrhoea and sometimes death. There are many helminths affecting the small ruminants including sheep and goat. Among them, the nematodes of *Oesophagostomum* spp. are most commonly distributed worldwide in the small ruminant population. *Oesophagostomum* is a genus of parasitic nematodes (round worms) belonging to the super family Strongyloidea. *O. asperum*, *O. columbianum* and *O. venulosum* are the major and common species affecting the goat (Anderson, 1992).

The nematodes of *Oesophagostomum* spp. are normally considered as nodular worms. Some of the species have been recorded to cause disease in the human population too (Polderman *et al.*, 1999; De Gruijter *et al.*, 2005; Ziem *et al.*, 2006). Normally diagnosis is done on the basis of the demonstration of eggs as well as larvae by culture method in faecal sample. But, it is not reliable because of similar morphology of eggs with other Strongyles. Now a day, the traditional diagnostic methods are complemented by the molecular techniques like polymerase chain reaction to amplify the specific gene or some conserved regions like ITS1 and ITS2 (Lin *et al.*, 2007). The infection with these nematodes is endemic in the tropical and sub tropical areas. Such type of infections can affect the health status of the animal as well as human and also leads production losses in the animals. It may affect the economic status of the farmers belonging to the small ruminant farming. In the present study, we report a case of *Oesophagostomum* spp. in the large intestine of goat from slaughter house.

MATERIALS AND METHODS

The sample of intestine was collected from the slaughter house. After evisceration, entire large intestine was collected and immediately, different parts were tied to avoid contamination from other unusual nematodes from different sites of the intestine. After collection intestine was immediately transported to the laboratory. Large intestine was opened and washed using normal saline solution to remove the debris and faecal materials. After washing, the intestine was properly examined for the presence of the worms. Nematodes were isolated from the large intestine. After isolation, worms were preserved in the 10% formalin solution for further use. The worms were kept on the glass slide and examined under microscope using the identification keys according to the Soulsby (1982). The faecal samples from large intestine were also examined to study the eggs.

RESULTS & DISCUSSION

The white coloured and about 8.00 mm lengthy worms were observed in the portion of large intestine of goat. In microscopic examination, cephalic vesicles were clearly seen. Cervical alae were also visible with notch at on side. Head collars were present at the anterior end of the worm (Fig. 1). A segmented and strongyle type eggs were present in faecal sample collected from intestine.



Figure 1. Anterior end of *Oesophagostomum* spp. isolated from large intestine of the Goat

Goat is very sensitive for the infections caused by the pathogens including parasites, bacteria, viruses etc. There are many helminths affecting health of small ruminants by causing gastro intestinal disturbances and leading to lower production. Many helminths like *Haemonchus contortus*, *Teladorsagia circumcincta*, *Trichostrongylus axei*, *Trichostrongylus* spp., *Nematodirus* spp., *Bunostomum trigonocephalum*, and *Oesophagostomum* spp. infects the small ruminants. Among them, *Oesophagostomum* spp. causes one of the most common nematodosis in the small ruminant livestock population. These nematodes are normally transmitted by consumption of fodder contaminated with the faecal materials of infected hosts. *Oesophagostomum* spp. infects the large intestine of the small ruminants and causes clinical conditions. In subsequent infections, nematodes can develop nodules in the large intestine. So, it reduces the digestion efficiency of the host and ultimately affects health status and production.

Diagnosis is mainly done on the basis of the clinical symptoms and demonstration of eggs or larvae in faecal sample of the infected host. But it is not reliable because of non specific clinical symptoms and is only possible in the heavy infection. In light infections, it goes unnoticed and when diagnosed, it's already the advanced stage. Few human cases of oesophagostomosis have been also reported from some countries. Considering these

economic losses and zoonotic importance, more sensitive diagnostic techniques should be developed using molecular markers for early diagnosis.

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