Efficacy of Ivermectin – Clorsulon combination against mixed helminthic infection in goat – a case report

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Abstract
A combination of Ivermectin (at 0.2 mg/kg body weight S/C) and Clorsulon (at 2 mg/kg body weight S/C) was tested against mixed infection of gastro-intestinal nematodosis, fasciolosis and amphistomosis in goat. The results of the present study revealed that the anthelmintic was effective in controlling gastro-intestinal nematodosis and fasciolosis only.

Key words: Ivermectin, clorsulon, fasciolosis, gastro-intestinal nematodosis, goat

Introduction
Gastrointestinal (GI) nematodosis, fasciolosis and amphistomosis are the common parasitic diseases of ruminants including goats throughout the country. These diseases are also widely distributed in goats of Uttarakhand which hamper livestock production in terms of poor growth rate, reduction in carcass quality and also make them susceptible to other infectious diseases. Several drugs have been used to control these diseases under field conditions. Therefore, the aim of the present study was to evaluate the efficacy of Ivermectin plus Clorsulon against natural infection with gastrointestinal nematodes, Fasciola gigantica and amphistome in a goat.

Case History
A female pregnant goat of local breed, aged between 2-3 years with weight about 30kg as presented with the history of profuse diarrhoea, weakness, loss of appetite, anaemia, oedema of sub-mandibular region (bottle jaw), pale visible mucous membrane and inability to rise on feet.

Clinical Examination
About 10-20gm faecal sample of the ill goat was collected directly from rectum. The egg per gram (EPG) of faeces was recorded on 0 day before treatment and on 3 and 7 days post treatment using sedimentation method (Soulsby, 1982) and modified Mc Master Technique (MAFF, 1971) for trematode and nematode eggs, respectively. The eggs were identified as per their morphology described by Soulsby (1982). The positive faecal sample was subjected to coproculture and the larvae were harvested and used for larval identification as per the key of Soulsby (1965).

Diagnosis
On microscopic examination of faecal sample, animal was found positive for Fasciola gigantica (EPG-90), amphistome (EPG-20) and mixed infection of strongyles (EPG-4900). The coproculture examination before treatment revealed that the animal harbored mixed infections of Haemonchus, Oesophagostomum and Trichostrongylus spp.

Treatment
The goat was treated with a combined anthelmintic consisting of Ivermectin at 0.2 mg/kg body wt S/C plus Clorsulon at 2 mg/kg body wt S/C (Neomec SX, Intas Pharmaceuticals Ltd) and liver extract with multivitamins (Belamyl at 0.5ml I/M daily for 5 days) to compensate the hepatic damage, loss of feeding and faster recovery of the animal.

Results and Discussion
A combined formulation of Ivermectin and Clorsulon showed hundred percent reduction in the EPG of *Fasciola* spp. and strongyles after 3 days post treatment (DPT) and the same was observed on 7 DPT, but the EPG of amphistome remained the same. Improvement of the animal was observed 3 DPT and all the clinical signs completely disappeared 5 DPT. The present findings indicates that the tested drug was effective against only fasciolosis and gastrointestinal nematodosis of goat. The reduction in EPG of *Fasciola* spp. and strongyles occurred mainly due to the anthelmintic activity of Clorsulon and Ivermectin, respectively. The efficacy of Ivermectin against strongyles in goats has also been observed by Kumar *et al.* (2008). Godara *et al.* (2011) recorded a reduction of 98.11\% in faecal egg counts in Jamunapari goats infected with G.I. nematode following treatment with Ivermectin on day 14 DPT. Flukicide activity of Clorsulon against mature *Fasciola hepatica* in cattle has been also reported by Velarde *et al.* (2001). Islam (2013) has also reported higher efficacy of Ivermectin plus Clorsulon against *Fasciola* spp. and strongyles in cattle.

**Conclusion**

Based on the present results, it may be suggested that the combined formulation of Ivermectin and Clorsulon is highly effective and may be used in controlling concurrent infection of G.I. nematodosis and fasciolosis in small ruminants.

**References**


