

## AN OUTBREAK OF GASTROINTESTINAL PARASITIC INFECTION IN SHEEP OF R.S. PURA REGION OF JAMMU

Sukhdeep Vohra<sup>1</sup>, Rajesh Katoch<sup>2</sup>, Anish Yadav<sup>2</sup>, J.K. Khajuria<sup>2</sup> and Snehil Gupta<sup>1\*</sup>

<sup>1</sup>Department of Veterinary Parasitology, LUVAS, Hisar-125004; <sup>2</sup>Division of Veterinary Parasitology, SKUAST-Jammu-180009

E-mail: snehilgupta568@gmail.com (\*Corresponding Author)

**Abstract:** An outbreak of helminthic infection in 150 free grazing sheep flock has been reported. The animals showed symptoms of weakness, dullness, emaciation, anorexia and some animals showed pale mucous membrane, diarrhoea, staggering gait, bottle jaw and even recumbency. Examination of water bodies showed *Indoplanorbis exustus* snail. The faecal examination revealed eggs of strongyle by flotation method and amphistome egg by sedimentation technique. The eggs per gram of strongyle eggs were  $6702.35 \pm 527.12$  (range 600-11800) and of amphistome egg was  $827.45 \pm 136.38$  (range 250-1200). The copro-culture showed larvae of *Haemonchus contortus* as dominant species (76%). Treatment of these animals with Fenbendazole @ 10 mg/kg and Oxytoclozanide @ 10 mg/kg orally along with mineral mixture, the symptoms started disappearing from 3<sup>rd</sup> day and epg turned zero by 7<sup>th</sup> day post treatment.

**Keywords:** Sheep, Amphistome egg, Strongyle egg, Snail, Jammu region.

### 1. Introduction

Jammu and Kashmir shares 5.21% of the total sheep populations in India (19<sup>th</sup> Livestock Census, 2012). They are reared mainly by Gaddi and Bakarwal community. Majority of these animals are migratory however, few flocks are stationary. These stationary flock feed on limited free grazing areas. The growth and productivity of these animals is affected by large number of factors like nutrition, management and infection by various pathogens. Among pathogens, parasitic diseases are quite common, which not only cause direct damage but also lower the immunity and predisposes the animal to wide array of diseases of other biological origin. The helminthic infection in sheep has also been reported by workers from different parts of country (Bandyopadhyay, 1999; Agrawal *et al.*, 2004; Muraladharan, 2005 and Yadav *et al.*, 2006). Although gastrointestinal parasitic infection is very common amongst sheep but scant reports of outbreak are available so far (Yadav and Sadana, 1999 and Bal *et al.*, 2007). In the present communication, a report of outbreak of gastrointestinal parasitic diseases in a free grazing sheep herd is described.

---

Received June 14, 2016 \* Published Aug 2, 2016 \* [www.ijset.net](http://www.ijset.net)

## 2. Materials and Methods



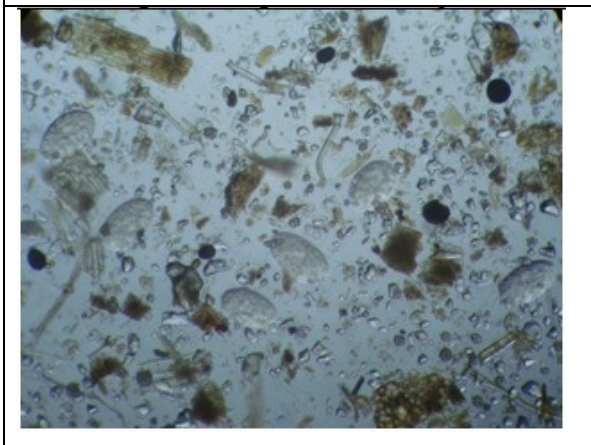
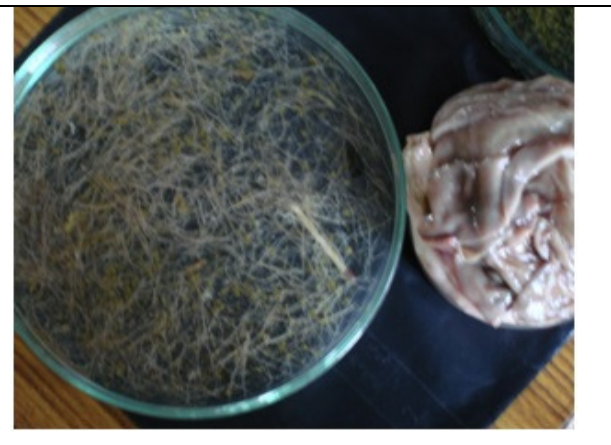
A flock of 150 local sheep of either sex mainly of 0.5 - 3 years of age in village Tokenwala, Tehl. R. S. Pura, District Jammu were reported to division of parasitology, F.V. Sc. & A.H., SKUAST-J with history of progressive weakness and death of seven animals in September, 2008. The flock was visited and symptoms were recorded. The surrounding ponds, ditches and agricultural field were screened for snail habitats. The faecal samples were collected randomly from 20 weak, diarrhoeic and emaciated animals per rectum in a polythene bag and brought to laboratory for qualitative and quantitative examination. The samples were examined qualitatively by floatation and sedimentation technique. The quantitative examination of faeces was done as per modified Mc master technique for nematode eggs and Stoll's techniques for trematode eggs. The faecal samples found positive for strongyle eggs were subjected to coproculture for species identification. The percentage of different larvae was calculated by counting 100 third stage larvae in copro-culture sample. After examination of faeces, the animals were given anthelmintics treatment as per their eggs per gram count and severity of infection. Post therapeutic improvement in the condition of diseased animals was also recorded. During the course of observation one animal died and its post mortem was also conducted.

## 3. Results

Physical examination of animals showed weakness, dullness, emaciation, anorexia and some animals showed pale mucous membrane of conjunctiva, diarrhoea, staggering gait, bottle jaw (Fig.1) and even recumbency. Examination of water bodies in surrounding of flock revealed presence of *Indoplanorbis exustus* snail.

History revealed no deworming of these animals with anthelmintics in last 3 months. The qualitative examination of faecal sample revealed presence of high number of strongyle eggs (Fig. 2) by flotation method and amphistome eggs (Fig. 3) by sedimentation technique. Two of the diseased lambs also showed the presence of *Trichostrongylus* eggs and the coccidian oocyst. The quantitative examination of faeces showed an average egg per gram (epg) of faeces to be  $6702.35 \pm 527.12$  (range 600-11800) for strongyle eggs and  $827.45 \pm 136.38$  for amphistome eggs (range 250-1200). The copro-culture examination of faeces revealed predominantly infection of *Haemonchus contortus* (76%) along with *Oesophagostomum* (12%), *Trichostrongylus* (9%) and others (3%) larvae. The post mortem of one animal revealed predominantly *Haemonchus contortus* (Fig. 4) and immature amphistomosis. The examination of abomasum revealed presence of multi-focal hemorrhages in the mucosa. The

contents of abomasum were reddish brown with numerous worms both free as well as those which were adherent to the mucosa of abomasum.

	
<p><b>Fig.1.</b> Sheep with bottle jaw</p>	<p><b>Fig.2.</b> Strongyle egg in faeces (400X)</p>
	
<p><b>Fig.3.</b> Amphistome egg in faeces (400X)</p>	<p><b>Fig.4.</b> <i>Haemonchus contortus</i> from abomasums</p>

All the affected animals were treated with Fenbendazole (Vetfen-B®, IIL, Hyderabad) @ 10 mg/kg and oxclozanide (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 egg of strongyle and amphistome reduced to zero on 7th day post treatment. The intramandibular oedema (bottle jaw) started disappearing from 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 except one animal that died on 4th day after treatment.

#### 4. Discussion

High incidence of strongyle in sheep has also been reported in R.S. Pura (44.62%) and Kathua district (64.09%) of Jammu region (Khajuria and Kapoor, 2003; Yadav *et al.*, 2006). Similarly 98.33% infection of strongyle has been reported in Gaddi sheep in plains of Himachal Pradesh (Sharma *et al.*, 2007). Like present observation based on copro-culture studies revealed high infection of *H. contortus* during rainy season has also been reported was also observed by Katoch *et al.* (1999) and Sharma *et al.* (2007) during rainy season in Himachal Pradesh.

The heavy presence of *Indoplanorbis exustus* in water bodies is responsible for the exposure of these grazing animals to metacercarial infected pasture near the water bodies. In addition the area being known for paddy farming and water accumulation in agricultural field during sowing of paddy crop is favourable for the growth, multiplication and propagation of *Indoplanorbis exustus* snail. High amphistome infection during monsoon season has also been reported from plains of Jammu and Punjab (Yadav *et al.*, 2006; Hassan *et al.*, 2005). High number of *I. exustus* snail and intra-molluscan stages of *Cercaria pigmentata* have also been observed by Vohra *et al.* (2006) at Jammu region during month of September-October. High number of *H. contortus* & immature amphistome causes heavy loss of blood accompanied by loss of protein from body of affected animal results in death of animals.

#### 5. Conclusion

Studies suggested that livestock of this region should be treated for gastrointestinal nematodes & amphistomes on post rains i.e. in late august or early September and mineral supplementation should be included in their diet for early recovery and to increase immunity to withstand any infection.

#### References

- [1] Agrawal, M.C., Vohra, S., Gupta, S., Singh, K.P., 2004. Prevalence of helminthic infections in domesticated animals in Madhya Pradesh. *J. Vet. Parasitol.*, 18(2): 147-150.
- [2] Bal M.S., Mahajan V., Verma S., Alok and Sharma S., 2007. Outbreak of parasitic gastroenteritis in Sheep and Goats. *J. Vet. Parasitol.*, 21(1): 93-96.
- [3] Bandyopadhyay, B., 1999. Gastrointestinal Parasitic infections of Sheep and Goats at Salboni, West Bengal. *J. Vet. Parasitol.*, 13(1): 79-80.
- [5] Hassan S.S., Kaur K., Joshi, K. and Juyal, P.D., 2005. Epidemiology of paramphistomosis in domesticated ruminants in Punjab and other adjoining areas. *J. Vet. Parasitol*, 19(1): 43-46.

- [6] Katoch, R., Mandial, R.K. and Nagal, K.B., 1999. Outbreak of *Haemonchus contortus* infection in sheep of Himachal Pradesh. Indian Vet. J., 76: 932-933.
- [7] Khajuria, J.K. and Kapoor P. R., 2003. Prevalence of sheep and goats at Kathua-Jammu. J. Vet. Parasitol, 17 (2): 121-126.
- [8] Muraladharan K., 2005. Prevalence of gastrointestinal parasites of livestock in a central dry zone of Karnataka. J. Vet. Parasitol., 19(1): 31-34.
- [9] Sharma D., Katoch R. and Agnihotri R.K., 2007. Gastrointestinal helminthes in Gaddi Sheep. J. Vet. Parasitol., 21(2): 141-144.
- [10] Vohra, S., Katoch, R., Yadav, A., Khajuria J.K. and Srivastava, A.K., 2006. Seasonal prevalence of *Cercaria pigmentata* in *Indoplanorbis exustus* in Jammu district. Published in XVII National congress of Vet. Parasitology and National symposium on “Strengths, Challenges and Opportunities in Veterinary Parasitology” held at, Rajiv Gandhi College of Veterinary and Animal Sciences, Kurumapet, Puducheery, India. Pp 77.
- [11] Yadav A., Khajuria J.K. and Raina A.K., 2006. Seasonal prevalence of gastrointestinal parasites in sheep and goats of Jammu. J. Vet. Parasitol., 20(1): 65-68.
- [12] Yadav C. L. and Sadana, J. R. (1999). An outbreak of gastrointestinal nematodeosis in dairy cattle in Hissar, India. J. Vet. Parasitol., 13 (1): 23-26.