An Outbreak of Coccidiosis in a Stall Fed Sheep Farm and its Treatment in Shimoga Region, Karnataka

J. Adeppa, Ananda K. Javaregowda¹ and C. M. Krishnamurthy
Department of Veterinary Parasitology, Karnataka Veterinary, Animal & Fisheries Sciences University, Veterinary College, Shimoga-577204

(Received : 10-08-2014; Accepted : 13-05-2015)

Abstract

An outbreak of coccidiosis in a stall fed sheep farm in Shimoga was tested in for coccidiosis. Out of 47 samples, 29 (61.7%) samples were heavily infected (27.6%) had a moderate infection of *Eimeria* spp. and 5 (10.63%) samples were found negative. The affected animals were treated with Amprolium along with supportive therapy for five days. After treatment, the animals recovered and their faecal samples were found negative for coccidial oocysts.

Key words: Sheep, Stall fed, *Eimeria* spp., Shimoga, treatment.

In sheep, coccidiosis is one among the main factor responsible for high mortality, particularly among the young stock. The mortality varies but is seldom more than 10% (Soulsby, 1982 and Devi *et al.*, 2004). In tropical countries like India, the climatic conditions are very conducive for sporulation and survival of oocysts throughout the year (Kumar and Hafeez, 1999).

Eimerian infection on adult sheeps serves as a source of infection for the young stock. The disease results in heavy mortality and morbidity up to the age of about 6 months and also predispose the animal to other microbial infections (Pandit and Mir, 1988).

Materials and Methods

A private sheep farm with of 250 animals under 6 - 9 months age group under stall fed condition situated near to the Veterinary College, Shimoga, were reported mortality of 10-12 lambs of 2-3 months old died in a span of 2-3 days with a clinical symptoms of severe bloody diarrhea, anorexia and general weakness. Based on the history the cause for death was suspected for coccidiosis, the faecal samples from 47 ailing lambs of 3-4 months old were collected directly from the rectum as per standard procedure for laboratory examination. The gross examination of the fecal samples were subjected to direct and sedimentation methods as per the standard procedures (Bowmann, 2009). The oocysts in the positive fecal samples were then subjected

⁰Corresponding author. Email : dranandakj@yahoo.co.in
to sporulation using 2.5% potassium dichromate solution to study the morphological characters and to record the time taken for sporulation for species differentiation.

Results and Discussions

The gross examination of 47 faecal samples showed frothy mucus, blood clots and tarry colored. 42 samples were found positive for oocysts of Coccidia with the overall prevalence rate of 89.36%. Among positive samples, 29 (69.04%) were heavily infected. 13 (30.96%) had a moderate infection and the remaining 05 (10.63%) samples were found negative. Pandit and Mir (loc. cit.) reported the overall prevalence of 62.83 per cent Eimerian infection in sheep belongs to Jammu and Kashmir. Whereas, Singh and Swarnakar (2010), screened 60373 faecal samples of sheeps in Rajasthan found overall incidence of 37.87%. The difference in the incidence rate of ovine coccidiosis in the present study might be due to variation managemental practices adopted with different agro-climatic conditions and number of animals included in the study.

In the present study, it was observed that, the outbreak of coccidiosis was occurred only in lambs of less than 6 months of age. This is in agreement with the Pandit and Mir (loc. cit) who reported the higher incidence of Eimerian infection in lambs (73.98%) followed by weaners (66.14%) and adults (47.98%). Similar observation was made by Yadav et al., (2007) who reported the cause of mortality and ill health among 16 Beetle kids, housed with 25 adult goats in Jammu.

A total of eight species were identified in the present study viz., *Eimeria parva, Eimeria ashata, Eimeria faurei, Eimeria ovinoidalis, Eimeria ovina, Eimeria intricata, Eimeria arloingi* and *Eimeria granulosa* (Table I). Among eight identified species, *Eimeria parva* is found to be the most predominant species responsible for the outbreak of ovine Coccidiosis. The present findings are in agreement with Pandit and Mir (loc. cit) and Singh and Swarnakar (loc. cit).

It was also observed that, in the present study the outbreak of coccidiosis in sheep was occurred in the monsoon season, this might be due to sudden change in the weather and stress conditions are responsible for occurrence of the infection. Similar observation was made by Singh and Swarnakar (loc. cit) who reported higher incidence of coccidiosis in sheep (41.85%) in monsoon and minimum in summer (32.80%).

The affected animals were treated with Amprolium (55mg/kg b. wt. daily PO for 7 days) along with supportive therapy. After treatment, the animals were recovered from the infection and their faecal samples were found negative for oocysts of *Eimeria spp*.

<table>
<thead>
<tr>
<th>Species</th>
<th>Shape</th>
<th>Morphology</th>
<th>Micropyle</th>
<th>Micrometry</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Eimeria parva</em></td>
<td>Sub sphericlal to round, wall smooth</td>
<td>No visible micropyle, no polar cap</td>
<td>(16.5 X 14.1 µm)</td>
<td></td>
</tr>
<tr>
<td><em>Eimeria ashata</em></td>
<td>Ellipsoidal, wall smooth, pinkish yellow</td>
<td>A dome shaped polar cap over micropyle</td>
<td>(25.9 X 22 µm)</td>
<td></td>
</tr>
<tr>
<td><em>Eimeria Ovinoidalis</em></td>
<td>Ovoid, ellipsoidal or sub-spherical</td>
<td>Minute micropyle present</td>
<td>(22.1 X 19.3µm)</td>
<td></td>
</tr>
<tr>
<td><em>Eimeria faurei</em></td>
<td>Egg shaped or Ovoid, with one end narrow.</td>
<td>Micropyle distinct, no polar cap.</td>
<td>(28.9 X 21 µm)</td>
<td></td>
</tr>
<tr>
<td><em>Eimeria ovina</em></td>
<td>Ellipsoidal to ovoid</td>
<td>Micropyle and micropolar cap</td>
<td>(27.8 X 16.7 µm)</td>
<td></td>
</tr>
<tr>
<td><em>Eimeria arloingi</em></td>
<td>Predominntly ellipsoidal</td>
<td>Distinct micropyle cap.</td>
<td>(27.1X17.7 µm)</td>
<td></td>
</tr>
<tr>
<td><em>Eimeria intricata</em></td>
<td>Ellipsoidal, or ovoid, thick wall</td>
<td>Well developed micropylar cap</td>
<td>(35.6 X 27.2 µm)</td>
<td></td>
</tr>
<tr>
<td><em>Eimeria granulosa</em></td>
<td>Pyriform, egg or urn-shaped</td>
<td>Micropyle &amp; cap present at broad end.</td>
<td>(24.2 X 21.6 µm)</td>
<td></td>
</tr>
</tbody>
</table>
Summary
In the present study, the overall incidence of ovine coccidiosis was found 89.36% in lambs of 3-4 months old maintained under stall fed management near to Veterinary College, Shimoga, Karnataka. The outbreak occurred in monsoon season; hence it is warranted that the regular screening of sheep especially the young stock for the presence of coccidian oocysts and prophylactic measures is of prime importance to prevent major outbreaks of ovine coccidiosis.

References

Indian Vet. J., March 2016, 93 (03) : 19 - 21

Latex Agglutination Test - A Rapid Diagnostic Technique for the Detection of Haemonchus Contortus Infection in Sheep

K. Ananda1 and Javare Gowda
Department of Veterinary Parasitology, Veterinary College, Karnataka Veterinary, Animal and Fisheries Sciences University, Shimoga-577 204.

(Received : 10-08-2014; Accepted : 13-05-2015)

Abstract
Hundred abomasums and serum samples were collected from local abattoir of Shimoga district, Karnataka to find H. contortus infection and found 57 abomasums positive, 150 serum from migratory sheep to detect antibodies of H. contortus by LAT using somatic Ag. Out of 100 serum samples from local abattoir, 86 showed positive agglutination reaction and 14 were negative with uniform turbidity. Among 86, 18 were heavily infected with a agglutination of +3 to +4 and remaining 68 were weakly positive with an agglutination of +1 to +2. The sensitivity and specificity of LAT was found 100% and 50%, respectively. Among 150 migratory sheep screened, the LAT was able to detect circulating antibodies in 119 serum samples with a sero-prevalence rate of 79.33% with somatic antigen of H.contortus.

Key words: Sero-prevalence, Haemonchus contortus, Sheep, LAT

Haemonchus contortus is an economically important, highly pathogenic blood sucking abomasal nematode of small ruminants, especially sheep and goats (Newton and Munn, 1999). Unlike other gastrointestinal nematodes, H.contortus usually does not cause diarrhea. Due to the nonspecific signs and lack of diarrhea, haemonchosis is often undiagnosed until death. The death can appear sudden, even though the course of infection may have been prolonged. Hence, an attempt was made in the present study to detect the H.contortus infection in sheep.

1Corresponding author: Email: dranandakj@yahoo.co.in