



A Case Report on Coccidiosis in a Lamb in Damot Sore District, Wolaita Zone, Southern Ethiopia

Ejigu Hizikel*

Veterinary Clinician in a Damot Sore District, Wolaita Sodo, Ethiopia.

***Corresponding Author(s): Ejigu Hizikel**

Doctor of Veterinary Medicine, Damot Sore District
Veterinary Clinic, Wolaita Sodo, Ethiopia.
Email: ejiguhizikel@gmail.com

Abstract

Coccidiosis is an intestinal protozoan parasitic disease and it is one of the major constraints to sheep producing countries worldwide. This case report describes the clinical case of ovine coccidiosis. A 6-month-old lamb was examined on March 26, 2024, at Gununo veterinary clinic, WolaitaSodo. The lamb displayed fever (40.9°C), straining with eversion of the rectum and painful vocalization. The perineum of the lamb was stained with blood-tinged feces. The mucus membrane was also slightly congested. A floatation technique for fecal sample examination revealed typical coccidian/Eimeria oocysts under a microscope with X40 objective lens. The lamb was treated successfully with sulfadimidine sodium at a dose of 1.5 ml/2.5 kg /day as initial dose and 0.75 ml/2.5kg/day as a maintenance dose intramuscularly, for three successive days and 2.5 mg/kg diclofenac sodium as a single intramuscular injection. Therefore, thorough diagnosis and opportune treatment is indispensable in reducing economic losses due to coccidiosis.

Received: Sep 28 2024

Accepted: Nov 04, 2024

Published Online: Nov 11, 2024

Journal: Journal of Veterinary Medicine and Animal Sciences

Publisher: MedDocs Publishers LLC

Online edition: <http://meddocsonline.org/>

Copyright: © Hizikel E (2024). *This Article is distributed under the terms of Creative Commons Attribution 4.0 International License*

Keywords: Coccidiosis; Lamb; Damote sore.

Introduction

Coccidiosis is an intestinal protozoan parasitic disease and it is one of the major constraints to livestock productivity worldwide [1]. It is a contagious enteritis caused by protozoans of genus *Eimeria* that develop in small intestine and large intestine and it affects 4-6-month-old kids and lambs in particular [2,3]. So far 15 species of *Eimeria* are known to occur in sheep, *Eimeria* *ovinoidealis* and *Eimeria* *crandallis* are the most pathogenic and widespread [4,3]. The principal source of clinical coccidiosis for lambs is contamination of bedding, drinkers and feeders by fecal matter from adult sheep which contains large numbers of oocysts. Stressors such as weaning, harsh weather, dietary changes, traveling and regrouping are significantly influence incidences of coccidiosis in small ruminant [5].

Coccidian can invade and destroy intestinal cells of their host and causing anemia, electrolyte loss and poor absorption of nutrients. The clinical coccidiosis can be manifested by diarrhea (fetid and contains mucus and flecks of fresh blood in severe

cases), fever, abdominal pain (manifested by straining accompanied by painful vocalization and tenesmus), anorexia and reduced weight gain [1,6,4]. The subclinical form is commonly manifested by unthriftiness [7]. Diagnosis of coccidiosis should be based on clinical signs, oocyst counts in faecal samples, pathological findings and, finally, clinical response to treatment [8]. Anti-coccidian such as Decoquinat and diclazuril are considerably more expensive and not available ubiquitously thus sulfa-drugs such as sulphamethoxy pyridazine and sulfadimidine accompanied with hygienic protocols are found to be effective and reasonable [1].

Case presentation

A 6month-old lamb was brought to Gununo veterinary clinic, Wolaita Sodo, on March 26, 2024 from Demba peasant association, with a major complaint of straining in attempt to pass feces and contain blood. The feed intake of the lamb was also reduced which started three days before admission. The lamb was managed intensively with her dam and other flock of sheep.



Cite this article: Hizikel E. A Case Report on Coccidiosis in a Lamb in Damot Sore District, Wolaita Zone, Southern Ethiopia. *J Vet Med Animal Sci.* 2024; 7(2): 1148.

Clinical Examinations and Findings: On clinical examination the lamb was febrile with rectal body temperature of 40.9°C; the respiratory, and heart rates were within the normal limits. There was straining, eversion of the rectum and painful vocalization in attempts to defecate. A fleck of fresh blood with staining of perineum and tail has been appreciated. The evacuated fecal matter was semi-solid and blood tinged. The conjunctiva mucus membrane was slightly congested and the lamb was depressed.

Diagnosis

Differential Diagnosis: Coccidiosis, salmonellosis and colibacillosis from which coccidiosis was diagnosed tentatively.

Sample Collection: Faecal sample was taken and wet smear was prepared.

Laboratory investigation and findings: For further investigation of the case, fecal samples were collected directly from rectum and immediately processed before the lamb dispatched at Gununo Veterinary Clinic. Fecal examination for coccidian oocytes was carried out using floatation method as described by [9]. Three grams of feces was added to 42 ml of saturated salt solution in a graduated cylinder. The contents were then mixed thoroughly using a glass rod, and were poured through a tea strainer into another beaker. The filtrate was then filled to 10ml test tube until convex meniscus formed and the cover-slip was putted on the top thoroughly and kept for 20 min in the test tube rack. Finally, the cover-slip was carefully lifted and placed on glass-slide and viewed under a compound microscope X40 objective lens. Fortunately, the floatation technique was found helpful and no further investigations were performed. Accordingly, typical coccidian/Eimeria oocytes were appreciated under microscope with X40 objective lens (Figure 1). Therefore, based on the history, clinical findings and laboratory results, a definitive diagnosis of coccidiosis was made and treatment regimen was arranged.



Figure 1: Eimeria oocytes under microscope: magnified: X 40.

Treatment And Management: Prompt and vigorous treatment regimen was continued with thorough follow up. Accordingly, broad-spectrum antibiotic Sulfadimidine sodium 33.3% (HebeiYuanheng Pharmaceutical Co., Ltd, China) with 1.5 ml/2.5

kg /day as initial dose and 0.75 ml/2.5kg/day as maintenance dose, for three successive days, IM and 2.5 mg/kg diclofenac sodium (Jiangsu PengyaoPharma.China) as a single intramuscular injection were administered. Forty-eight hours post treatment, the lamb was presented with rectal body temperature of 38.9°C. The appetite of the lamb was also returned to normal (owner report). Generally, considerable change was appreciated at the end of the therapy (72 hours post-treatment).

Discussion

The present incident in lamb was diagnosed as ovine coccidiosis based on the history, clinical findings and laboratory results. Coccidiosis is one of the most economically significant diseases of sheep worldwide and caused by protozoans of genus Eimeria of which Eimeria crandallis and Eimeria ovinoidalis are the most pathogenic species in lambs (usually 1-6month old). The agents parasitize the epithelium lining of the alimentary tract and cause loss of epithelial cells and villous atrophy [1]. Alike current case, coccidiosis in lambs is exhibited by unthriftiness, diarrhea (blood-stained soft feces in rectum), perineum smudged with feces, abdominal pain, weakness, inappetence, fleece damage, mild fever, recumbency and emaciation; death may proceed if the case left untreated promptly [4-6]. The present case was treated successfully with sulfadimidine and Diclofenac administration. The improvement was noted forty-eight hours post treatment which is in agreement with a case reported by [6,10-12] also reported the therapeutic efficacy of Sulfadimidine (sulfamezathine) against Eimeria in goat kids, ram and calf, respectively with improvement 48hrs post treatment in goats and ram while it takes five days in calf.

Conclusion and Recommendations

In conclusion, coccidiosis is an intestinal protozoan parasitic disease and it is one of the major constraints to sheep producing countries worldwide. Hence, thorough diagnosis and opportune treatment of coccidiosis with sulfadimidine drugs plays a paramount role in combating economic losses of the disease.

The following recommendations are forwarded

Maintaining the hygiene of the premises and feeding trough and separating youngs from adults plays significant role in reducing the incidence.

Providing a well-balanced diet to affected lamb that supports the immune system.

The owner should be advised to isolate the new animals for a week before introducing them to the herd to prevent the introduction of coccidia or other pathogens.

Acknowledgements

I am also grateful to acknowledge my stuff colleagues in the Damot Sore district who are animal health worker, Ato Abera Dele, for his kind support during sample collection.

References

1. Scott P. Sheep Medicine. Manson Publishing Ltd. 2007; 99.
2. Engidaw S, Anteneh M, Demis C. Coccidiosis in Small Ruminants. African Journal of Basic and Applied Sciences. 2015; 7: 311-319.
3. Khodakaram-Tafti A, Hashemina M. An overview of intestinal coccidiosis in sheep and goats. Review Veterinary Medicine. 2017; 167: 9-20.

4. Odden A, Enemark H, Robertson L, Ruiz A, Hektoen L, et al. Treatment against coccidiosis in Norwegian lambs and potential risk factors for development of anticoccidial resistance-a questionnaire-based study. *Journal of Parasitological Research*. 2017; 116: 1237-1245.
5. Constable P, Hinchcliff K, Done S, Grundberg W. *Veterinary Medicine: A Textbook of the Diseases of Cattle, Horses, Sheep, Pigs, and Goats*. UK: Elsevier. 2017; 1879.
6. Oyewusi J, Oyewusi I, Takeet O, Muastapha O, Awoyomi O, et al. Ovine Coccidiosis: A Case Report. *Journal of Veterinary Advance*. 2015; 1023-1028.
7. Chartier C, Paraud C. Coccidiosis due to *Eimeria* in sheep and goats, a review. *Small Ruminant Research*. 2012; 103: 84-92.
8. Andrews A. Some aspects of coccidiosis in sheep and goats. *Small Ruminant Research*. 2013; 110: 93-95.
9. Hansen J, Perry B. *The epidemiology, diagnosis and control of helminth parasites of ruminants. A handbook*. 1994.
10. Reddy B, Sivajothi S, Rayulu V. Clinical coccidiosis in adult cattle. *Journal of Parasitic Disease*. 2015; 39: 557-559.
11. Mancebo O, Acevedo C, Rossiter A, Suarez M, Guardia N, et al. Coccidiosis in goat kids in the province of Formosa (Argentina). *Veterinaria Argentina*. 2002; 19: 342-348.
12. Gopalakrishnan A, Dimri U, Joshi V, Kundave V, Ajith Y, et al. A clinically rare occurrence of rectal mucosal prolapse associated with tenesmus in a calf caused by *Eimeria* sp. *Journal of Parasitic Diseases*. 2017; 41: 723-725.