

Identification Camel endo parasites in Flootation and Sedimentation Techniques in Hargeisa, Somaliland

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Abstract

The camels are mostly in raised in Africa and Asia. As the livestock population distributed estimated two thirds found in Africa and Asia. Few camelia found in Australia and north America. Camels called desert ship due there living in harsh condition and their tolerance in heat, hungry. Camels provide valuable things such as meat, milk and transportation and have significance income in many livelihoods. Camels can be raised in the areas arid, semi-arid and desert area of both in Africa. The gastro intestinal parasite is the world challenge of production and economy crisis. The gastrointestinal parasite also causes mortality and high morbidity. The gastrointestinal parasites can be classified trematode, cestode and nematodes. Somaliland is one largest camel population in east Africa and is most countries that export camels and other livestock in some Asian countries particularly in Saudi Arabia, Yemen, and Oman. The camels have unique characteristics was different from other livestock. The methods used of this parasite to examine the parasitological examination such as floatation and sedimentation methods they were positive for Coccidiosis, Toxocarasis and Schistosomiasis, the temperature of the Camels assessed was found 37Co , 37Co , in less than one minute. Also, the blood parameter assesses such as blood count and the result were one the camels are anemic while the other nearly normally there is no indication about anemic. The animal recommends for deworming for anthelminthic.

Introduction

The world population of camelids was 35 million, mostly raised in Africa and Asia, though few raised in Australia and North America. African and Asians get benefits from camelids such as meat, milk and transportation, in different geographical regions. [1].

The camels divided in two species such as camel dromedarius and camels bactrianus, in other word Old camel and new camels are distributed in 47 countries approximately 95% of the whole population of Old-World Camels, one-humped camel, also known as dromedary (*Camelus dromedarius*).

Camel dromedarius and camel Bactrians was the two unique species of camels, also called Old camel and new camel. 95% of whole Old-world camel distributed in 47 countries differ geographical epidemiology. Old world camels known as one humped camel its alternative name is dromedary (*Camelus dromedarius*). The camels can be raised where it geographical areas was semi-arid and arid zones, for such reason camels called ship of desert. The camels have crucial role in their production such as food security and economy provider like other livestock

species in Africa and Asia. 82% from 19 million in 2017 Old-World camels increased in such rate [1].

Like other livestock species the gastrointestinal parasites had been caused mortality and morbidity in wild and domestic camels that was impact in loss of valuable product such meat milk and transportation in Africa and Asia [2].

One of the gastrointestinal parasites include camel Coccidiosis its causative agents was *Coccidia Eimeria* in camelia, in a rare cases *Eimeria* 10% caused mortality in both young and adults. This *Eimeria* localize and cause damage of intestinal of camels, so the camelia seen symptoms include diarrhea. [3, 4, 5, 6, 7, 8]. 204 fecal samples examined were positive *Eimeria* in 14 camels. [9], in India 86% were positive dromedary camelia found oocysts of *E. cameli*, *E. dromedarii*, *E. pellerdyi* and *E. bactrianus*. [10]. In Iraq from diagnostic test of fecal samples positive the oocysts for *E. dromedarii* and *E. noelleri* [11], also, in India and Sudanese calve camels positive for *coccidia* oocysts [12].

The various internal or endo parasite infected with camels, *Trypanosoma evansi* is host reservoir of gastropod-borne trematodes (e.g. *Fasciola* spp., *Dicrocoelium dendriticum* and

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Schistosoma spp.) or metacestode larvae of zoonotic tapeworms, such as Echinococcus granulosus (s.l.). the external or ectoparasites affected in camels and several blood suckers such as ticks, mites, lice, and fly, flies. These host reservoirs transmitted many zoonotic diseases include viral and bacterial diseases (e.g. Crimean-Congo hemorrhagic fever virus, Coxiella burnetii, Anaplasma spp., Rickettsia spp., Bartonella spp. and Yersinia pestis) [13].

The diversity of parasites has impact on the productivity of camels and other livestock in Ethiopia, among these parasites include Toxocara / Neoascaris vitulorum. These parasites are endemic in Africa and Asia there tropical favorable condition of parasites in the ages of young calves of both cattle and camels cause in disease in these two species of camels and cattle and other livestock. 30% of the prevalence of cattle and camels parasites reported in Ethiopia [14,15]. In Somaliland the camels are third large population of livestock after cattle and small ruminants, both endo and ectoparasites were endemic in Somaliland and causes gastrointestinal helminthiasis.

Case History

The animals was 26 camels that was affected the disease, the history that gave the owner was that camels were sick any sex of the camel, male and female, also there is a previous treatment with veterinarian this doctor used mostly antibiotic such as Penicillin or Pen-strep, Oxytetracycline and Multivitamin, but there is no prognosis or recovery about this treatment, on the other hand, there were mortality in the herds, 5 camels were died due to unknown disease, so the owner of the animals told me while I was taking interview or history of both animal and disease. So, a first case had a diarrhea with abundant of adult parasite that live with feces on the ground they enter the trees, so this history gave clue of tentative diagnosis of the disease was gastrointestinal parasites, another symptom include emaciation, while animal feeding, swollen joints abdominal edema with emphysema, there is white mucus membrane of the animals. The diarrhea was watery and have petrification with odors.

Case Report

I was present of two case of calves that age was 9-11 month who visited 18 April 2020 to the clinic of the Ministry of livestock and fishery development, for follow up of the cases and medication. During the initial assessment it was clinically deemed that the calves had gastrointestinal parasite with diarrhea of adult parasite, emaciation and even mortality other camels in the herds.

The extensive past medical history included: severe emaciation, watery diarrhea first case show diarrhea with adult parasite, white, pale mucus membrane, abdominal pain, abdominal edema, swollen joint, appetent means the animals feeding normally, weight loss, one young calf cannot stand normally, they can stand with support.

The past extensive of note was medication long-term antibiotic such as Pen-strep, Oxytetracycline and Tylozine with previous veterinarian, with recurrent gastrointestinal infection. After Follow up there is no improvement medication, finally after

make tentative diagnosis I treated anthelmintic for parasite such albendazole 10 % with measurement kg body of the calves, animals have good signs of recovery and health improvement.

Methodology

This prospective study of camel with gastrointestinal parasite visited and investigated then collected samples such blood, feces, ear swab of parasite examination to the central laboratory of Ministry of livestock and fishery development and also, assessed body temperature of the calves to be evaluated and diagnosis of the causative agent of the disease, fresh feces collected processed two procedure of parasitological examination include Floatation method and Sedimentation method, then blood collected with vacutainer tube with EDTA, to prevent blood clotting and preserve with ice box, then processed into CBC blood counting.

Result

Successful of the two case of calves the laboratory procedures such floatation, sedimentation and blood count, measurement of body temperature, and ear swab for examination of adult parasite, the body temperature of first case of calves its temperature was 37°C, in less than one minute, the second was 36°C, in less than one minute this indicate there risk factor that influenced the body temperature of the calves, scientifically the parasites increase the body temperature beyond the normal temperature of the body. The ears swabs for examination ear in adult parasitic there is no adult parasite found in the ear of the calves, so it means this are negative.

The floatation and sedimentation method show that the two calves are positive for Toxocariasis, schistosomiasis, Eimeria camels of Coccidiosis species that affected. Show in figures below:

Finally, the CBC count indicated that HGB one of the calves is low and an anemic condition and need for fluid therapy, the remain calves have normal HGB there is an anemic condition.

Discussion

In this report of case that followed up in multiple relevant predisposing factors, the case diagnosed in the gastrointestinal parasite that affect the wall and gut animal that affect the metabolism and digestive process of the camels causes mal-absorption and diarrhea sometimes with parasite and egg shed the feces, other signs, emaciation abdominal edema and joint swollen and weight loss the previous treatment cannot prognosis, but the later treatment of anthelmintic albendazole 10% they show good prognosis and drug effective to reduce the burden of parasites.

Coccidia particularly Eimeria cameli of that causative coccidiosis of the camels that reduce production and productivity animals, also causes mortality and morbidity of camel relevant in gastrointestinal parasites. Though these two calves are case report to identify causative and made parasitological examination they produce they positive Eimeria cameli, this similar result in the

study below thought there is slightly different the sample size but similar the case are positive in *Eimeria cameli*.

Twenty camel calves, 28 young camels, 40 racing camels from three herds and 18 breeding camels totaling 106 camels were investigated for the cause of mortality. Fifty-eight (55%) were diagnosed as having coccidias in their gut, of which 49 (46.7%) revealed a coccidiosis, and 9 (8.5%) a coccoidal infection. Forty-eight (45.3%) including all 20 calves were negative for coccidia. [16]. This reported agreed there were positive in *Coccidia Eimeria* though there was slight difference in number of sample animals.

massive members of coccidian parasites of different stages. Histopathological investigations showed that at least 5 different locations of the small intestine, especially the caudal ileum and jejunum are required to diagnose coccidiosis. Similar to the first scientific description of camel coccidiosis caused by *Eimeria* (*Globidium*) *cameli* [17]. The present report found positive *Eimeria* in the two calves. It was considered that these stages belong to *Eimeria cameli*, because immature oocysts of *E. cameli* were found within the intestinal epithelial mucosa [6].

Schistosomiasis the egg is the second parasite that I was found in the procedure of floatation and sedimentation methods, so the two calves positive for this parasite. This study similar that fecal egg procedure positive for Schistosomiasis though this study related the Schistosomiasis *mansoni* in the effect of colostrum immune. So, both study similar to the positive Schistosomiasis This reduced female Schistosome fecundity by 33% with more pronounced effects (66%) on fecal egg output and a decrease of the mean granuloma surface in the liver after experimental infection with *Schistosoma Manzon*. [18].

The final result of the present report was Toxocariasis that the two calves positives for *Toxocara vitulorum*, this similar that the positive for this study and this case report for Toxocariasis is similar though there is slightly difference about the prevalence rate and the sample size also the species they affected because the study select cattle while this case report is camels thought the agent affected both species. above result the overall prevalence of the infection observed by laboratory work by different age group and sex in this present study was similar with [19].

Conclusion

The two calves affected gastrointestinal parasites such as Toxocariasis, Coccidiosis and Schistosomiasis, elevated in body temperature indicate presence of parasite, also blood parameter indicated that calves were anemic state and required fluid therapy, and deworming. The floatation and sedimentation is basic test method showed that two calves positive of these parasites.

Recommendation

Based on the above conclusion the following recommendations are forwarded:

- o Treatment of calves with dewormed such as anthelminthic of

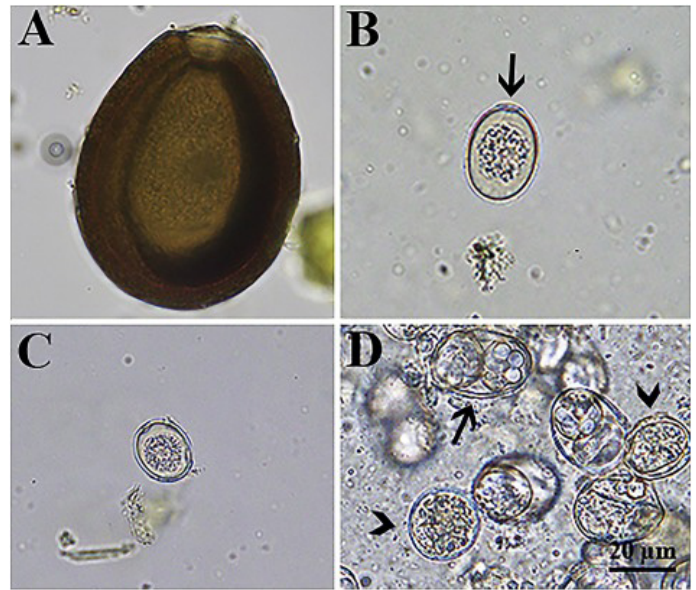
albendazole in order to treat the gastrointestinal parasites species Toxocariasis, Coccidiosis and Schistosomiasis.

- o To give support treatment antibiotics of Oxytetracline, and fluid therapy on the other hand in the complex vitamin to support in anemic state of the calves

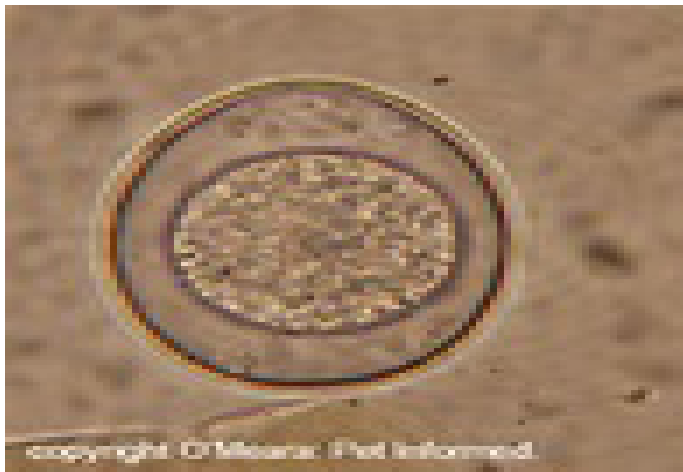
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21. Annex



26. Figure-3: Eimeria Cameli egg that found in calves, and old word.



22. Figure-1: Toxocariasis egg that found in calves.



27. Figure 4: first calves



23. Figure-2: Schistosoma egg that found in calves.



28. Figure 5: Joint Swollen of second calves