Journal of Entomology and Zoology Studies

Available online at www.entomoljournal.com

E-ISSN: 2320-7078
P-ISSN: 2349-6800
www.entomoljournal.com
JEZS 2020; 8(5): 1720-1721
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Received: 18-06-2020
Accepted: 22-07-2020

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Clinical changes in parasitic enteritis in Sirohi breed buck a clinical study

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Abstract
Goats are generally resistant to many diseases. However when we rear more number of animals in one place and insufficiency of pasture facilities, intensive system of rearing leads to spread of many diseases. The present study was conducted in a 1.5 year old buck with the history of diarrhea on Instructional Goat farm, COVSc and AH, Rewa. The animal showed high rise in temperature, signs of severe diarrhea which was profuse watery to pasty feces, usually pale yellow to greenish in color and occasionally streaked with blood and foul smelling. The parasitological examination involving qualitative and quantitative estimation of parasitic load revealed presence of the eggs of Haemonchus species, M. expansa species, stongyle and strongyloides. There was reduction in Hb, total erythrocyte count and PCV values which were haemolglobin (Hb) 4 g/dl, TEC 6.17X10^3 and PCV(%) 18.; whereas there was an increase in total eosinophil count and total leukocyte count as TLC 18X10^3 and DLC (neutrophils 32%, lymphocytes 51%, monocytes 3% and eosinophils 14%). The animal was treated with antiparasitic drug Fentas plus and other supportive treatment was given which lead to quick recovery in animal. Hence identification of diseases in goat and its prevention is most important.

Keywords: Clinical, parasitic, enteritis, breed buck

Introduction
Enteritis and diarrhea constitute the most serious problem among farm animals which leads to considerable economic loss**.** It is one of the major problems faced by goat rearers especially those rearing under intensive or semi-intensive system of breeding because of the significant mortalities of young animals, cost of treatment, weight loss or even retarded growth [1]. The etiology of diarrhea is multiple, including infectious agents, poor management, reproductive factors, nutritional factors and immune depression [2]. The diarrheic animals lose fluid, rapidly dehydrated and suffered from electrolyte loss, acidosis. The infectious agents may cause initial damage to the intestine but death from scours usually results from dehydration, acidosis and loss of electrolytes [3].

Gastrointestinal parasitism is the major differential diagnosis in older kids or adult goats showing diarrhoea, unthriftiness, poor growth rates, anaemia or hypoproteinaemia. Parasitic gastroenteritis is the commonest cause of diarrhoea in older goats. Goats are very sensitive to the effects of internal parasitism. The effect of parasitism is determined by the interactions between the type of parasites present in your geographic area, parasite life cycles, the environment including weather patterns and type of farm management, and the host factors. The local climate determines which species of parasites are present and their life cycle. Temperature determines the speed of development and survival of the free-living stages of parasites. For example, larvae may be killed above 104°F, develop optimally at 86-95°F (in 8-9 days), have delayed development for 14 days at 68-77°F, and survive without hatching for more than 30 days at 32°F. Moisture allows larvae to escape from feces onto vegetation and prevents the larval stages from drying out. Vegetation density and height also play a role in transmission of parasites. Confluent and dense grasses provide a cooler, moister microclimate for larvae by shielding them from sunlight.

Parasites adapt to different environments with their own strategies. During extremes of temperature, larvae halt development and reside in the host in an arrested state (hypobiosis) until favorable environmental conditions return. Some species of larvae adapt by burrowing into the ground or by staying within protective egg casings. Thus it is necessary to follow stringent measures by goat rearers to decrease the worm load

Case history and clinical findings

The study was conducted in a 1.5 year old buck with the history of diarrhea on Instructional Goat farm, COVSc and AH Rewa. Initially buck was bright, afebrile and eager to feed. When the diarrhea progressed animal showed variable degree of diarrhea, the animal was also suffering from one or more of the following signs: elevated in body temperature (102^0F), loss of appetite, cessation of rumination, labored breathing, accelerated heart and respiratory rates, weakness and was reluctant to move. Animal showed the signs of severe diarrhea which was profuse watery to pasty feces, usually pale yellow to greenish in color and occasionally streaked with blood and foul smelling. Defecation was frequent soiling the tail and buttocks. As diarrhea progressed, dehydration of the affected buck occurred and buck became very weak, completely anorexic and severely sunken eyeball and pale conjunctival mucous membranes.

The parasitological examination involving qualitative and quantitative estimation of parasitic load revealed presence of the eggs of Haemonchus species, M. expansa species, stongyle and strongyloides.

The haematological examination was also conducted which revealed there was reduction in Hb, total erythrocyte count and PCV values which were haemolglobin (Hb) 4 g/dl, TEC $6.17X10^3$ and PCV(%) 18.; whereas there was an increase in total eosinophil count and total leukocyte count as TLC $18X10^3$ and DLC (neutrophils 32%, lymphocytes 51%, monocytes 3% and eosinophils 14%) in infected goat as compared to healthy goats. The significantly lower concentrations of hemoglobin, packed cell volumes and total erythrocyte counts in the parasitic infested animals could be correlated with blood loss due to leakage attributed to severe damage caused by the heavy parasitic burden

Treatment and Discussion

The concurrent helminthoses was managed by oral administration of drug Fentas-Plus_ (combination of 1.5% fenbendazole and 0.5% praziquantel) (INTAS Pharmaceutical Ltd.) @ 1 bolus per 30 kg body weight of the animal. Quantitative evaluation i.e. eggs per gram (EPG) of feces was determined by using McMaster technique [4] at day 10, 20 and 30 post treatment. A second dose of the anthelmintic was repeated after 14 days of first treatment due to very low effect of first treatment adjudged by quantitative estimation (EPG) of parasitic intensity. The anthelmintic efficacy of the drug used against strongyle infestation was assessed at days 10, 20 and 30 post-treatment by estimation of fecal egg count. The case was treated with Fluid therapy (Ringer Lactose 250ml once daily) for 2 days and nervine tonic Tribivet (2 ml, once) for 5 days. The animal responded to treatment latter on after 5 days animal again showed watery diarrohoea thus the animal was treated with dicrysticin –S @ 5 ml for 5 days along with mentioned dose of tribivet and Avil @ 2 ml for 5 days suspecting secondary bacterial infection. The animal showed good recovery and started taking food and water with alertness third day post treatment. It is evident from the present study that application of a combination of benzimidazole (fenbendazole) and acetylated quinoline (praziquantel) is highly effective against nematodal and cestodal infections, respectively [5].

Conclusion

The rotational grazing, appropriate drug dosage formulation should be practiced and introduction of animals to infective pastures should be checked to prevent development of resistance against the effective anthelmintic. The variation in hematology and serum biochemistry of different animal signified that alteration in these parameters could prove a valuable indicator of health. The secondary bacterial infection should also be taken care off by providing appropriate antibacterial drugs to prevent further complications.

Acknowledgement

The author is thankful to COVSc and AH Rewa, NDVSU Jabalpur.

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