EFFICACY OF AMPROLIUM FOR THE TREATMENT OF PATHOGENIC EIMERIA SPECIES IN GOAT KIDS

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Eimeria infections are common in goats worldwide, and clinical coccidiosis frequently occurs after heavy infection of susceptible animals, primarily young kids. Of the many species of Eimeria that are known to infect goats, three are considered pathogenic, E. christenseni, E. ninakohlyakimovae, and E. arloingi. Amprolium is structurally related to thiamine, and its antiparasitic activity is thought to be related to competitive inhibition of active thiamine transport into the parasite. Although amprolium is approved in many countries for the treatment of Eimeria infections in animals, there is little data available on the efficacy and proper dose of the drug for use in goat kids. Therefore the purpose of this clinical trial was to determine the efficacy of 2 different doses of amprolium in goat kids heavily infected with pathogenic Eimeria species.

This study was done on a single farm in North Carolina (United States). The farm had a history of clinical coccidiosis that had been confirmed by fecal examination prior to the study. Forty Boer goat kids ranging from 3-4 months of age were randomly divided into 2 groups. Fecal samples were collected from all 40 kids on the day 1 of the study and then goats were treated orally with 9.6% amprolium at a dose of 10 mg/kg daily for 5 days (n=20) or a dose of 50 mg/kg daily for 5 days (n=20). Fecal samples were collected again on day 7, and oocyst counts were conducted using a modified McMaster technique. Morphological identification of Eimeria species was done on a pooled fecal sample using a sodium nitrate flotation technique.

The Eimeria oocyst per gram concentrations were significantly reduced on day 7 in the kids that received amprolium at a dose of 50 mg/kg (3,050 ± 430 epg on day 1 as compared to 1,500 ± 190 epg on day 7). However concentrations were not significantly different between day 1 (2,100 ± 340) and day 7 (1,800 ± 260) in kids that received amprolium at a dose of 10 mg/kg. Clinical evaluation of the kids on day 7 showed normal fecal consistency in the kids treated with 50 mg/kg amprolium, but diarrhea was still present in the group that received the 10 mg/kg dose. Out of 100 Eimeria oocysts identified from a pooled fecal sample, E. christenseni was the most frequently identified (52%) parasite.

The results of this trial indicate that amprolium can be an effective treatment for pathogenic Eimeria species in goat kids, however higher doses (50 mg/kg) should be used.