Efficacy of Fenbendazole Against Encysted Small Strongyle Larvae

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Fenbendazole administered at 10 mg/kg for 5 consecutive days has been demonstrated to be highly effective in removing encysted small strongyles in the equine large intestinal mucosa. No alternative treatments exist that prevent the larval cyathostomosis syndrome. Authors’ addresses: College of Veterinary Medicine, University of Florida, Gainesville, FL 32610-0125 (DiPietro); School of Veterinary Medicine, Louisiana State University, Baton Rouge, LA 70803 (Klei); and School of Veterinary Medicine, University of Tennessee, P.O. Box 1071, Knoxville, TX 37996 (Reinemeyer). © 1997 AAEP.

1. Introduction
Larval cyathostomosis is the disease syndrome resulting from the pathological changes induced by the activity and emergence of developing cyathostome larvae from the large intestinal mucosa. It occurs mainly in the autumn and winter months. Several clinical syndromes have been described, ranging from sudden onset weight loss and ventral edema with or without diarrhea to chronic diarrhea.1–3 The prognosis in suspected cases must be guarded because the underlying pathology can be severe without the animal showing marked clinical signs, and only ~50% of the diarrhea cases respond to symptomatic treatment.

2. Materials, Methods, and Results
Three controlled anthelmintic trials were carried out to determine the efficacy of fenbendazole treatment against cyathostome larvae encysted in the mucosa of the large intestine (LI) of naturally infected horses. Thirty animals (ten per site) were left as untreated controls while 30 animals (ten per site) were treated with fenbendazole at 10 mg/kg daily for 5 consecutive days. The efficacy of treatment was determined by comparing the cyathostome worm burden (luminal and mucosal) of the treated animals at necropsy with those of the controls. Efficacy against hypobiotic early third-stage larvae recovered following pepsin/HCl digestion of aliquots of the LI mucosa ranged 91–99% (overall 98%; p < 0.001). Overall efficacy against developing late third-stage larvae and fourth-stage larvae as measured by using digestion and mural transillumination of aliquots of LI mucosa was 96% (p < 0.001) and 92% (p < 0.001), respectively. Luminal adults and larvae were reduced by 91% (p < 0.001).

3. Discussion
These studies have clearly demonstrated that five consecutive treatments with fenbendazole administered at 10 mg/kg is highly effective in reducing mucosal third-stage and fourth-stage cyathostome...
larvae, including the hypobiotic early third-stage larvae. Although this regimen could be used therapeutically in cases of chronic larval cyathostomosis, the strategic use of the 5-day fenbendazole regimen in late autumn and winter months could be beneficial in the prevention of the disease syndromes currently known as larval cyathostomosis. Efficacy against early and late third-stage larvae and fourth-stage larvae suggests that treatment during this period can interrupt the parasite's life cycle, contributing to a reduction in pasture contamination and subsequent reinfection.

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References