

Management of Enteritis due to *Entamoeba histolytica* in a Pup

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Abstract

A 45 days old, nondescript pup was presented to TVCC, RIVER with the history of whitish diarrhea for the past two days with normal appetite and reduced growth rate. The puppy was dull and depressed. Puppy was not vaccinated, not dewormed and fed with only milk. The Conjunctival mucous membrane was pale pink in color, rectal temperature 103.3°F and heart rate 147 bpm. Other vital parameters were normal. A fresh wet mount of feces was examined for parasites and the organism *Entamoeba histolytica* was found. To confirm this, a drop of Lugol's iodine was added to the wet mount and examined. The pup was treated with oral suspensions Septran® and Griptol® for 10 days. After 10 days, the faecal sample showed negative for *E. histolytica*.

Keywords: Amoebiasis, puppy, diarrhea

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INTRODUCTION

Amoebiasis is caused by infection with the protozoan parasite *Entamoeba histolytica*. Anemia may also be one of the clinical signs in advanced cases due to the ingestion and breakdown of red blood cells by the trophozoite form of the amoeba [1]. The parasitic ameba whose trophozoites can cause necrotizing and ulcerative colitis and hepatic abscesses in humans and captive nonhuman primates [2, 3]. The major source of this organism is either drinking water contaminated by human faeces, or a human carrier, who together with poor sanitary conditions, by handling food, can infect others. Infection is by the ingestion of highly resistant cysts, which descend to the large bowel [4].

This protozoal infection, originating from the lumen of the large bowel, requires the regular bacterial flora of *Aerobacter aerogenes* and *Escherichia coli* together with the proteolytic enzymes trypsin and pepsin for the organism to excyst and invades gut epithelium [5].

A 45 days old, nondescript puppy was presented to TVCC, RIVER with the history of whitish diarrhea for the past two days with

normal appetite but reduced growth rate. The animal was fed with only milk. The puppy was dull and depressed. Puppy was not vaccinated and dewormed.

CLINICAL ASSESSMENT

The conjunctival mucous membrane showed signs of anemia, rectal temperature 103.3°F, heart rate 147 bpm and bilateral ocular discharge noticed (Figure 1). Other vital parameters were normal.



Fig. 1: Puppy affected with Amoebiasis.

LABORATORY ASSESSMENT

A fresh wet mount of feces was examined for parasites and the organism *Entamoeba histolytica* was found. To confirm this, a drop

of Lugol's iodine was added to the wet mount and cyst of *E. histolytica* (Figure 2) was observed under 40× of light microscope.



Fig. 2: Cyst of *Entamoeba histolytica*.

CLINICAL MANAGEMENT AND OUTCOME

The puppy was treated with suspension sulfamethoxazole + trimethoprim (Septran[®]) @ 50 mg/kg B.wt. BID and levofloxacin hemihydrate + ornidazole (Griptol[®]) @ 1 ml/kg B.wt. BID for 10 days. The diarrhea reduced after the treatment. The faecal samples showed negative for *E. histolytica* after the treatment. The puppy recovered uneventfully.

DISCUSSION

Although amoebiasis is a potentially serious human disease, dogs and cats are not likely to be significant reservoirs of these parasites for humans. Dogs and cats more likely acquire their infections from human feces (coprophagy) or from food or water contaminated by human feces. The owners may have infected the pet or may have been exposed to a common source of *E. histolytica* cysts. With free-living amoebiasis, humans and animals are at risk for exposure to the same environmental sources. Immuno-competency is important in determining whether infection becomes established [6].

Importance must be given in taking an accurate history, which often gives insight as to etiology and, as with amoebiasis and the mode of transmission. With increased tourist travel to endemic areas and tropical and subtropical areas, protozoal infections must be considered in the subsequent development of gastroenteritis in both animals and man [7]. Most important is the realization that ineffective treatment will result in

chronicity, with the following potentially fatal complications of peritonitis, liver abscesses, diaphragmatic adhesions, pleuropulmonary involvement, amebic pericarditis and multiple internal organ abscessation, gangrene of the intestinal tract, scarring with possible intestinal strictures and an ameboma or tumor-like local thickening of the intestinal wall [4]. In this case, although there is no history of travelling and human affections may be unsanitary measure or contact with other pets may lead to the disease in this puppy. Gastric amoebiasis due to *E. histolytica* should be considered as a potentially zoonotic cause of gastrointestinal disease in animals.

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