

A rare clinical occurrence of canine coccidiosis

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ABSTRACT

A male non descript one and half month old puppy was presented to infectious unit of Teaching Veterinary Clinical Complex, Veterinary College and Research Institute with a history of vomiting, black colour watery diarrhea. On physical examination, the animal had pyrexia, pale mucous membrane, tick infestation and severe dehydration with sunken eyeballs. The puppy passed blackish watery diarrhoeic faeces and raw blood at the end of defaecation. on faecal examination unsprouted oocysts of *Isoospora* (Syn: *Cystisosporea*) species were detected. Haemogram of the puppy revealed anaemia and neutrophilia. The pup was treated fluid therapy at the dose rate of 10 ml/kg body weight and haemtenics followed by with oriprim at the dose rate of 25 mg/kg for five days.

Coccidia are obligate intracellular parasites normally found in the intestinal tract and they belong to the phylum Apicomplexa, class Sporozoasida, order Eucoccidiorida. Coccidian genera that infect cats and dogs are *Isoospora* (also called *Cystisosporea*), *Hammondia*, *Besnoitia*, *Sarcocystis*, *Caryospora*, *Toxoplasma*, *Neospora*, *Cryptosporidium* and *Cyclospora* species. Members of the genus *Isoospora* the most commonly recognized coccidians infecting dogs or cats are species specific for the definitive host. Atleast four species *Isoospora canis*, *I. ohioensis*, *I. burrows* and *I. neorivolta* infect dogs (Dubey and Greene, 2012). They are mostly apathogenic or induce a very mild disease in dogs. The present case study describes a very rare occurrence of clinical coccidiosis in a pup.

Anamnesis, signalment, clinical examination and laboratory diagnosis : A male non descript one and half month old puppy was presented to infectious unit of Teaching Veterinary Clinical Complex, Veterinary College and Research Institute with history of vomiting, black colour watery diarrhea and recent adoption of puppy from street side. On physical examination, the animal had pyrexia, pale mucous membrane, tick infestation and severe dehydration with sunken eyeballs. The puppy passed blackish watery diarrhoeic faeces and raw blood at the end of defaecation (Fig. 1).

Faeces collected aseptically using a sterile swab and processed by centrifugal sedimentation technique and microscopically examined as per the method described by Zajac (1994). Faecal examination revealed presence of unsprouted oocysts of *Isoospora* species (Fig. 2) identified by morphological characteristics as described

by Zajac (1994). Haemogram of the puppy revealed anaemia (haemoglobin – 8 g/dl and RBC 4×10^6 /ml)

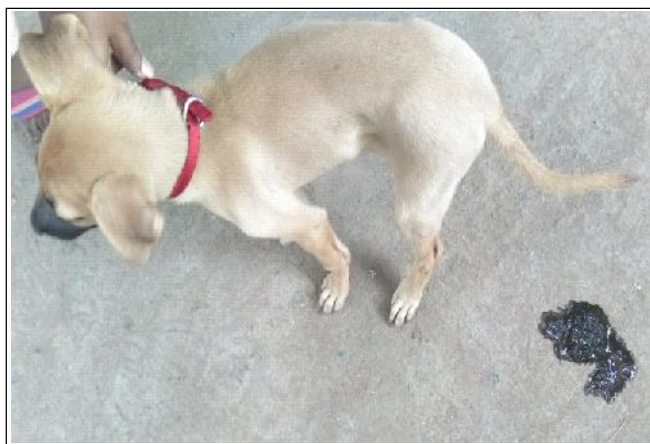


Fig. 1 : Dog affected with coccidiosis

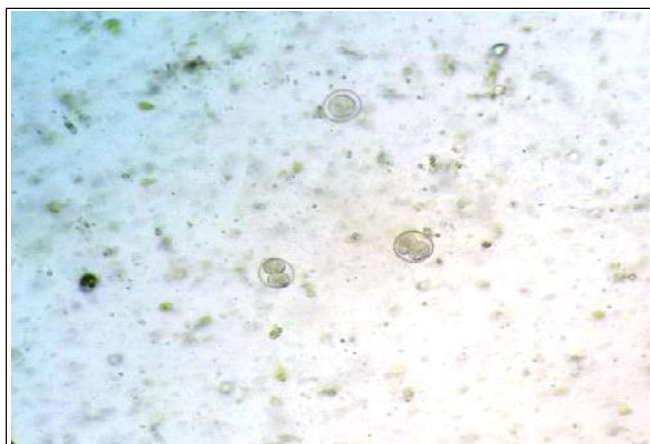


Fig. 2 : Oocysts of *Isoospora*

neutrophilia (74 %), lymphocytopaenia (20 %). The pup was treated with fluid therapy at the dose rate of 10 ml/kg body weight, haemtenics and oriprim at the dose rate of 25 mg/kg for five days,

Discussion : Coccidia are common parasites of dogs worldwide. Coccidiosis is diagnosed by history, clinical signs and the presence of characteristic oocysts in the faeces. Diarrhoea with weight loss, dehydration and although rare, haemorrhagic enteritis are the primary sign attributed to coccidiosis in dogs and cats. Anorexia, vomiting, mental depression and ultimately death may be seen in severely affected animals. There are few reports were published on canine coccidiosis. Intestinal coccidiosis may be manifested clinically when dogs and cats are shipped or weaned or experience a change in ownership (Dubey and Greene, 2012). This is well correlated with this case where the history revealed that the animal was adopted one week before from street and clinical signs of vomiting, diarrhea and passing of raw blood at the end of defaecation were noticed on clinical examination. Although clinical coccidiosis is very rare in dogs, poor nutritional status, immunosuppression, concurrent occurrence of other infectious diseases are the predisposing factors associated with the onset of clinical coccidiosis. The above reason suited very well for this case where blood biochemistry revealed anaemia and

neutrophilia which indirectly indicates poor nutritional status of the puppy with underlying bacterial infection.

Faecal examination revealed presence of unsporulated oocysts of *Isospora*. The oocysts were identified by morphological characteristics of unsporulated oocysts. Some of the oocysts were partially sporulated containing two sporocysts without sporozoites. Dubey and Greene (2012) stated that the oocysts sporulate partially by the time a faecal examination is made.

Sanitation is very important in control of coccidiosis in animals. Frequent removal of faeces from the kennel, avoiding faecal contamination of feed and water and withheld feeding of raw meat along with insect control are the essential strategies which prevent coccidiosis in canines.

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