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Cystoisosporosis in a puppy

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Abstract

A two-month-old male German Shepherd pup was presented to the small animal outpatient unit, Teaching Veterinary Clinical Complex, Pookode, Wayanad with a history of malodorous dark tarry diarrhoea, intermittent vomiting and weakness for five days. The condition was diagnosed by microscopic examination of the faecal sample as cystoisosporosis. The treatment was initiated with intramuscular injection of sulphadiazine trimethoprim @ 20mg/Kg body weight for three days followed by sulphamethoxazole trimethoprim tablets for the subsequent four days. The animal made an uneventful recovery.

Keywords: *Cystoisosporosis* Sulphadiazine-Trimethoprim

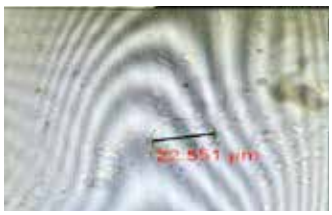
Introduction

Cystoisosporosis (previously known as isosporosis) is noticed in puppies aged few weeks to a few months old, and might be associated with stress, transport or change in diet or immunosuppression. Daugschies *et al*. (2000) reported that depending upon the age of the animal, immune status and the parasitic burden, severe dehydration and death can occur. Successful management of cystoisosporosis in a dog is reported in this article.

Case History and Observation

A two-month-old male German Shepherd pup weighing about 3.4Kg was presented with a complaint of malodorous dark tarry diarrhoea, intermittent vomiting and weakness (Fig.1). Owner reported a decreased feed and water intake. The pup was vaccinated against Canine distemper and Parvovirus. The animal was dewormed 1 month back with an oral suspension containing Pyrantel embonate and Febantel.

Fig.1. Dull and depressed animal in lateral recumbency

a 

b 

Fig.2. Photograph of *cystoisospora* spp. oocyst detected from a puppy (a, b) immature oocyst containing two sporoblast. (a) – Length of oocyst (b) - Width of oocysts

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The animal was emaciated, dull and depressed on general examination. On clinical examination, the animal showed a body temperature of 101.3°F. The conjunctival mucous membranes were pale roseate in colour. Rapid thready pulse (168/min) and tachycardia (168 beats/minute) were also observed. Distended abdomen, serous nasal discharge and malodorous dark tarry faeces were observed. Complete Blood Count revealed mild leucocytosis (19.23×10^3/µL), neutrophilia (14.72×10^3/µL) and anaemia (2.52×10^6RBC/µL) with a haemoglobin concentration of 8g/dL. Faecal sample examination revealed the presence of sporulated oocyst of *Cystisospora* spp. (++++) (Fig.2). The microscopic image of the sporulated oocyst was acquired and analysed by LAS 4.10 Software (Leica Microsystem, Germany). The oocyst was oval without micropyle and measured 18.902µm to 22.551µm.

Treatment and Discussion

The treatment was initiated with sulphadiazine trimethoprim (@ 20 mg/Kg body weight twice intramuscularly). Supportive treatments include fluid therapy with Dextrose Normal Saline (@ 10mL/kg body weight) and B-complex vitamins (0.5ml intramuscularly) for three days. The animal was advised with Sulphamethoxazole Trimethoprim (PO @ 20mg/Kg), B-complex vitamins and Multivitamins orally for four days. The case was reviewed after seven days and no parasitic ova could be detected from the faecal sample. There was complete recovery from dark tarry diarrhoea and the animal showed normal defecation and food intake. The pup became active and healthy. Daugshies *et al*. (2000) and Lappin (2010) reported that diarrhoea among the puppies is a major health hazard encountered which can affect the normal development of the animal along with immunologically compromising it for various diseases and vaccination failure. Garanayak *et al.* (2017) reported that trimethoprim and sulphamethoxazole @ 40 mg/kg body weight in combination with metronidazole @ 10 mg/kg body weight twice daily for 5 days provided effective management for isospora infection in dogs and cats.

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