Platynosomum Fastosum Infestation in a Cat: A Case Report

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INTRODUCTION

Platynosomum fastosum (Kossack, 1910) (syn. P. concinnum) is a trematode that is usually found in the domestic cat. It is mainly a problem in tropical countries (Taylor and Perri, 1977) and has been reported in southern U.S.A. (Greve and Leonard, 1966), Bahamas (Leam and Walker, 1963), Papua New Guinea (O'Sullivan et al., 1976), Hawaii (Palumbo et al., 1974), Nigeria (Ikede et al., 1971) and Malaysia (Amin, 1978).

Cats are known to acquire the disease by the ingestion of lizards, thus the disease is usually referred to as 'lizard poisoning'. The ingested infective stages of the parasite migrate to the bile ducts and gall bladder where they mature within 8-12 weeks (Taylor and Perri, 1977).

It has been reported that 37-73% of the stray cats in Malaysia were infected with the fluke (Retnasapathy & Prathap, 1971; Amin, 1978). However, no case with severe clinical symptoms had been reported previously at Universiti Pertanian Malaysia.

RESULTS

Clinical Findings

On presentation, the animal was emaciated and had a grossly distended abdomen. The ventral part of the body as well as the left forelimb were swollen. The mucous membranes were pale and the animal was exhibiting extreme inspiratory dyspnoea. The animal was hospitalised without a diagnosis pending a further clinical examination after the animal had recovered from this episode of inspiratory dyspnoea. However during transportation to the hospital ward, the animal developed respiratory arrest and failed to respond to all resuscitative measures. Permission was obtained for an autopsy.

Pathological Findings

At autopsy, the abdomen was markedly distended and showed generalised subcutaneous oedema especially at the ventral aspect of the body. A large quantity of straw coloured fluid was
found in the peritoneal cavity (200-230 ml) as well as in the pleural cavity (100-120 ml).

The liver was markedly enlarged with a thickened, fibrotic capsule (1-2 mm). It was firm, distorted and had a rounded border. On cut surface, it was slightly icteric with distended bile ducts which were filled with a large number of flukes. The other organs showed no gross changes.

Histologically, the liver capsule appeared markedly thickened with fibrous tissue. This fibrous connective tissue was also found around the portal triads. In other areas, sections of adult flukes could be seen in several bile ducts and hyperplasia of the mucosa and fibrosis of the wall were prominent.

There were a few focal areas of mild inflammatory cell infiltration made up especially of lymphocytes and macrophages. A few focal areas of fatty change in the hepatocytes were evident. 

Parasitological Findings

A representative sample of these flukes was examined. The flukes showed morphological features consistent with those of Platynosomum fastosum (Soulsby, 1968; Talbot 1969; Ikede et al., 1971).

DISCUSSION

Platynosomum fastosum is regarded as a common liver fluke of cats in Nigeria (Ikede et al., 1971), West Africa (Oppong and Rommel 1972), Hawaii (Palumbo et al., 1974), Papua New Guinea (Talbot, 1969) and Malaysia (Amin, 1978) with 16%, 42%, 41%, 13% and 37% reported respectively. However, no clinical manifestation of the infestation has been seen at Universiti Pertanian Malaysia.

Cats can harbour a light infestation of Platynosomum fastosum without showing clinical signs (Ikede et al., 1971). A survey by Amin (1978) in the state of Selangor in Malaysia suggested a similar conclusion. In severe infestation, it is associated with emaciation, listlessness, anorexia and hepatomegaly (Ikede et al., 1971; Lean and Walker, 1963) which were shown in this case. Jaundice, diarrhoea and vomiting may also be present in Platynosomum fastosum infestation. The distended abdomen and generalised oedema are probably complications of the liver dysfunction.

One hundred and fourteen flukes were found in one-third of the liver portion in an Australian case (O’Sullivan et al., 1976) and the heaviest infestation by 1184 flukes was reported in West Africa (Oppong and Rommel, 1972). In Malaysia, an average of 100-130 flukes has been reported (Amin, 1978).

However, experimental infection of cats with liver flukes revealed that it is not a severe disease. Sixty-nine percent of the cats infected with 1,000 flukes showed only mild and transient signs of inappetence and lethargy (Taylor and Perri, 1977).

No attempt was made to count the flukes in this case, but they were obviously numerous. With the changes seen in the liver, some degree of liver dysfunction is to be expected. It is believed that the cat must have died of respiratory embarrassment due to the severe hydrothorax. No jaundice, vomiting or diarrhoea was seen in this case although Retnasabapathy and Prathap, 1971 observed only diarrhoea in 222 naturally infected Malaysian cats.

The diagnosis of platynosomiasis in live cats can be made by the detection of eggs in faeces (Taylor and Perri, 1977). A formalin-ether sedimentation technique is the best method (Palumbo et al., 1974). However, ova of Platynosomum fastosum are not present during the first two months after infection and thus, this method cannot be used to confirm infestation in a newly infected animal (Taylor and Perri, 1977).

In conclusion, platynosomiasis can be a chronic debilitating disease with clinical signs associated with liver dysfunction in heavy infestations.

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