

CASE REPORT

FASCIOLOPSIASIS: A FIRST CASE REPORT FROM MALAYSIA

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Abstract. Fasciolopsiasis is a disease caused by the largest intestinal fluke, *Fasciolopsis buski*. The disease is endemic in the Far East and Southeast Asia. Human acquires the infection after eating raw freshwater plants contaminated with the infective metacercariae. There has been no report of fasciolopsiasis either in man or in animal in Malaysia. We are reporting the first case of fasciolopsiasis in Malaysia in a 39-year-old female farmer, a native of Sabah (East Malaysia). This patient complained of cough and fever for a duration of two weeks, associated with loss of appetite and loss of weight. She had no history of traveling overseas. Physical examination showed pallor, multiple cervical and inguinal lymph nodes and hepatosplenomegaly. Laboratory investigations showed that she had iron deficiency anemia. There was leukocytosis and a raised ESR. Lymph node biopsy revealed a caseating granuloma. Stool examination was positive for the eggs of *Fasciolopsis buski*. The eggs measure 140 x 72.5 µm and are operculated. In this case, the patient did not present with symptoms suggestive of any intestinal parasitic infections. Detection of *Fasciolopsis buski* eggs in the stool was an incidental finding. She was diagnosed as a case of disseminated tuberculosis with fasciolopsiasis and was treated with antituberculosis drugs and praziquantel, respectively.

INTRODUCTION

Fasciolopsiasis is a disease caused by the largest intestinal fluke, *Fasciolopsis buski*. It was estimated that in 1947, 10 million people were infected worldwide, but no estimation of the current prevalence is available (Beaver *et al*, 1984). The number may be greater today. The disease is still confined to the Far East and Southeast Asia. The most heavily endemic areas are in Eastern China (Tsieh, 1988). Lower incidences with focal endemicity are observed in Taiwan, Bangladesh, India and Thailand (Graczyk *et al*, 2001). Wiwanitkit *et al* (2002) reported a high prevalence of *Fasciolopsis buski* in Northeastern Thailand and Bunnag *et al* (1983) reported 10.7% prevalence of fasciolopsiasis among primary school students in Central Thailand. All of the students ate fresh water lily stems and most

ate other fresh water plants including water caltrop, watercress and morning glory (Bunnag *et al*, 1983). Hadidjaja *et al* (1982) reported the first autochthonous case of *Fasciolopsis buski* infection in man in Indonesia in 1982.

In Malaysia, there was no report of fasciolopsiasis in human nor in animal, but there were few reported cases of *Fasciola hepatica* and *Fasciola gigantica* in cattle in Kuala Lumpur district (Griffiths and Nagendram, 1965; Saleha, 1991).

Human beings acquire the infection by eating contaminated raw water plants, especially when peeling off the outer layers with their teeth. This mode of infection explains the high prevalence of this disease among children and among people living near water chestnut and water caltrop plantations (Tsieh, 1988).

The adult flukes are flat, fleshy worms that measure 20 to 75 mm in length and 8 to 20 mm in diameter. There is no cephalic cone and ceca is unbranched. The eggs are operculated and unembryonated when laid and measure 140 by 53 µm (Tsieh, 1988). Each worm produces about

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25,000 eggs daily (Schmidt and Roberts, 2000).

The eggs are passed in feces and hatch in three to seven weeks in water. The free-swimming miracidia attack a suitable snail host and develop through the stages of sporocyst, redia and cercaria. The cercariae attach to aquatic plants, such as water caltrop, water chestnut, water lotus, water hyacinth and water bamboo, where they become encysted metacercariae. Human beings become infected by eating contaminated aquatic plants containing the metacercariae. The metacercariae excyst in the duodenum of the host, and mature to become the adult worms in three months, without further migration. Pig is the reservoir host. However, in predominantly Muslim countries, such as Bangladesh, human carriers rather than pigs may act as the reservoir for the transmission of fasciolopsiasis (Tsieh, 1988).

Most infected persons are asymptomatic (Chandra, 1976). In cases of severe infection, when hundreds or thousands of flukes are harbored, prominent clinical signs and symptoms such as abdominal pain, diarrhea, low grade fever and generalized edema may be seen (Tsieh, 1988). Inflammation at the site of attachment provokes excess mucous secretion.

The diagnosis is made by detecting eggs in the stool. The distinction between eggs of *Fasciolopsis buski* and *Fasciola hepatica* is very difficult to make in routine stool examinations. If a patient is from the Far East or Southeast Asia and has not traveled to an area in which *Fasciola hepatica* is endemic, a large, operculated egg can be safely identified as being that of *Fasciolopsis buski*. Differentiation between the adults of these species is seldom necessary (Tsieh, 1988).

Treatment is usually effective in early or lightly infected cases. Prevention is by immersion of vegetables in boiling water for a few seconds to kill the metacercariae, snail control and avoid contaminating bodies of water grown with aquatic plants with human feces.

CASE REPORT

The patient is a 39-year-old female farmer, a native of Sabah (East Malaysia). She was re-

ferred from a district hospital with complains of cough and fever for a duration of two weeks, associated with loss of appetite and loss of weight (6 kgs over one month). She had two past histories of previous admissions for left leg cellulitis. Patient had no history of traveling overseas. On examination, there was pallor, multiple palpable cervical and inguinal lymph nodes, hepatosplenomegaly and multiple healing ulcers on the left leg. Laboratory investigations revealed a hemoglobin of 7.29 g/dl and peripheral blood film showed a microcytic, hypochromic red blood cells. Total white blood cell count was $21 \times 10^9/l$ with an increase in neutrophils and ESR of 80 mm/hr. Sputum examination carried out three times for acid-fast bacilli (AFB) was negative. Lymph node biopsy revealed a caseating granuloma. Stool examination was positive for the eggs of *Fasciolopsis buski* (Fig 1). The egg measures $140 \times 72.5 \mu\text{m}$ and is operculated. As was mentioned earlier, a distinction between eggs of *Fasciolopsis buski* and *Fasciola hepatica* is difficult to make. Since this patient is from Sabah (East Malaysia) and had no history of traveling overseas or to any areas endemic for *F. hepatica*, we identified the egg as being that of *F. buski*. She was diagnosed as a case of disseminated tuberculosis with fasciolopsiasis and was treated with antituberculosis drugs and praziquantel respectively.

DISCUSSION

Bunnag *et al* (1983) recommended a single



Fig 1—Egg of *Fasciolopsis buski* from the patient showing a prominent operculum. Unstained, x 250.

dose of praziquantel (15 mg/kg) of body weight for the treatment of fasciolopsiasis. This patient did not present with symptoms suggestive of fasciolopsiasis or any other intestinal parasitic infections. Detection of eggs of *F. buski* in the stool of this patient is an incidental finding. In this case the patient could be having an early or a light infection with *F. buski*.

Fasciolopsiasis, as a food-borne parasitic zoonosis, which also infects farm pigs, remains a public health problem. It is most prevalent in school-age children. Control programs implemented for food-borne zoonosis are not fully successful for fasciolopsiasis because of century-old tradition of eating raw aquatic plants (Graczyk *et al*, 2001).

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