Nasal Expulsion of Taenia Saginata: a Rare Route of Expulsion

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Citation

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Abstract

We report a case of an 18-year-old female, in whom a 6.3 meter long worm (taenia saginata) was expelled through the nose. This kind of expulsion is very rare. This case has been reported to emphasize the precautions to be taken while handling the vomitus of patients with suspected taeniasis in endemic areas. The health care professionals and in particular the population need to be educated, so that this rare route of "oro-oral transmission" may be prevented.

Key Messages: The main aim of presenting this case report is that health professionals in general should take proper precautions while dealing with patients in endemic areas as there is a possibility of “oro-oral transmission” in taeniasis.

INTRODUCTION

Two species from the genus Taenia are common parasites of man: Taenia solium (the pork tapeworm) and Taenia saginata (the beef tapeworm). Improperly disposed human feces, poor meat inspection programs, and eating of improperly cooked meat are well known risk factors for the transmission of the disease. Rarely, the worm may be present in the stomach leading to potentially infective oro-gastric secretions of these patients. Contamination with these secretions may lead to infection to the caregivers making it an unusual but important route of transmission of taeniasis, particularly in the highly endemic areas. As far as literature is concerned, no case similar to ours has been reported ever before.

CASE HISTORY

An 18-year-old villager girl reported to the emergency department of our hospital with a history of recurrent vomiting and abdominal pain of one day duration. The patient gave history of loss of appetite and nausea of the same duration. There was no past history of similar attacks, but the patient was a routine beef eater. Physical examination of the patient was normal except mild tenderness in the epigastric region. Mild tachycardia was noted, with normal blood pressure. Laboratory investigations revealed a hemoglobin of 9g/dl, a leucocyte count of 12300/µl and a DLC showing an eosinophil count of 13%. X-ray of the abdomen and abdominal ultrasonography was normal. The patient was subsequently labelled with a provisional diagnosis of intestinal ascariasis (very common in this part of world) and put on NPO, I.V.-fluids and Ryles tube suction. On the next day, the nasogastric tube got blocked and was subsequently removed. On removal, the head end of a tapeworm which was retrieved through the nose (figure 1, 2, 3) was entangled to the lower end of the tube (figure 4).

Figure 1

Figure 2

Figure 3

Figure 4

The patient got instant relief of her symptoms. Microbiological examination confirmed it to be a 6.3 meter long Taenia saginata strobila with immature, mature and gravid proglottids.

The patient was given a single dose of praziquantel: 15 mg/kg body weight. Parasitological controls (two series of three fecal samples each), performed two months later, were negative for Taenia eggs.

DISCUSSION

Taenia saginata, also known as Taenia rhynchus saginata or the beef tape worm, is a parasite of both cattle and humans, which can only reproduce in humans. T. saginata occurs where cattle is raised, human feces is improperly disposed off, meat inspection programs are poor, and where meat is eaten without proper cooking. Of the 32 recognized species of Taenia, only Taenia solium and Taenia saginata are medically important. However, recent epidemiologic studies in Southeast Asia have identified a third Taenia species in humans, known as the Asian species [1,2]. Approximately 50 million people worldwide are infected by T saginata or T solium.

T. saginata is common in cattle-breeding regions. Areas with the highest (i.e. >10%) prevalence are central Asia, the Near East, and central and eastern Africa [3]. Most individuals with taeniasis are either asymptomatic or have mild-to-moderate complaints.

Humans develop a tape-worm infection by eating raw or undercooked beef or pork. The cysticercus becomes activated, attaches to the wall of the small intestine by the scolex, and becomes a mature tapeworm. This maturation process takes 10-12 weeks for T. saginata and 5-12 weeks for T. solium. A single tape worm produces an average of 50,000 eggs per day and may live 25 years. Most intestinal taeniid infections are asymptomatic. When symptoms occur,

they are usually mild and involve abdominal pain, anorexia, weight loss, or malaise. In case of T. solium, the cysticercus causes a mass effect in various vital organs (e.g., brain, eye, heart). The mortality rate for cysticercosis is low and is generally caused by complications such as encephalitis, increased intracranial pressure secondary to edema and/or hydrocephalus, and stroke. The most common complaint is passage of proglottids (segments of worm) with stools, which is associated with slight discomfort.

The most common serious complication of adult tape-worm infection is appendicitis. Other reported complications include intestinal obstruction [4], obstruction of bile ducts or pancreatic duct [5], abnormal vaginal bleeding [6] and rarely anastomotic leak [7] or granulomatous gastritis [8]. Taeniasis invades the upper small bowel in humans. It is very unusual to see this parasite in the stomach [8].

Treatment for cestode infection is with the drug Praziquantel. Praziquantel opens membrane calcium channels of the worm causing its paralysis, aiding the body in expelling the parasite through peristalsis.

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