

Non-Homogenous Filling Defect Related to *Taenia saginata* in the Common Bile Duct (*Ductus choledochus*): A Case Report

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Abstract: *Taenia saginata* is a common endoparasite in some regions where consumption of undercooked or raw meat products with lack of sanitation is highly observed. Here, our case is a 43-year-old male patient who presented with a localized abdominal pain in the epigastric region lasting about 10 days. As a heterogeneous zone sizing about 34x8 mm in the gallbladder lumen was found by means of abdominal USG (ultrasonography) along with eosinophilia during the examinations due to weight loss and continuous stomachache, the patient was hospitalized to our clinic. There was obstruction in the common bile duct which was detected by abdominal tomography. Therefore, the common bile duct was observed as being filled in the MRCP (magnetic resonance cholangiopancreatography). ERCP (endoscopic retrograde cholangiopancreatography) was performed on the patient, demonstrating the presence of *Taenia saginata*. He was then discharged administering niclosamide. As a consequence, it should be considered any possible presence of tapeworm in the etiology of abdominal pain and weight loss that could not be found during clinical and laboratory testing, but suspected after imaging and revealed by ERCP.

Keywords: *Taenia saginata*, ERCP, etiology

INTRODUCTION

Taenia saginata, a common endoparasite in some regions where undercooked and raw meat consumption is high with lack of sanitation, is digested as metacystode, followed by attaching to jejunum or ileum mucosa by means of scolex and consequently growing there [1].

An obligatory human parasite, *T. saginata*'s mature tapeworms is not seen in another living. Their definitive host is human, whereas intermediate hosts include herbivorous animals. The parasite can comprise between 1000 and 2000 rings, reaching up to 10 meters in length. As the parasite does not have rostellum protrusion and hooks, it is also known as unarmed tapeworm. In an infected individual, the last matured embryonated egg of the parasite (also known as oncosphere) separates from strobila and leaves the anus by either its active movement or defaecation. Since it leaves the anus by active movement, it is also known as "bowels emptier". Once the segments (rings)

reach to the soil, eggs are scattered around [2, 3]. When those eggs are digested into cattle or other herbivorous animals, the hatching motile embryos penetrate to the bowel walls, followed by being localized in muscles by circulation. Then, they begin to grow forming liquid-filled vesicles. The resulting larva is called "Cysticercus bovis", which becomes infectious to human within 3 or 4 months reaching up to 1 cm in length. The infection results from consumed meat that are either raw or undercooked containing *Cysticercus bovis* in human. After digestion, the scolex of *Cysticercus bovis* invaginates outward and attaches to the small intestinal wall [4]. The process of maturation for *T. saginata* takes about 10 to 12 weeks. A single tape is capable of producing about 50,000 eggs per day. Patients with the tapeworm generally do not present with any symptoms or they may have mild to moderate complaints [5]. In general, the infection can be recognized by a motile ring in the stool or underclothes. Some patients may present abdominal pain, nausea, diarrhea, anorexia and weight loss [4]. Our patient was

complaining about abdominal pain and weight loss, as well.

CASE REPORT

Our case was a 43-year-old male patient who presented with a localized abdominal pain in the epigastric region lasting about 10 days. A heterogeneous zone sizing about 34x8 mm in the gallbladder lumen was found by means of immediate abdominal USG (ultrasonography) due to weight loss and abdominal pain (parasitic infestation? sludge?). The patient was hospitalized to our clinic for further follow-up and treatment.

The physical examination revealed normal respiratory and circulation systems and vital findings with a tenderness in the epigastric region.

In laboratory assessment, the results were as follows: white blood cell count of 6.910 in complete blood count; eosinophilia of 7.8% (Normal: 0.9 – 6%), while biochemical measures demonstrated normal AST, ALT, alkaline phosphatase, gamma-glutamyltransferase, bilirubins, urea, amylase, creatine and electrolytes. During the imaging studies, there was

obstruction in the common bile duct which was detected by upper abdominal computed tomography (CT). The common bile duct was observed as being filled by means of the MRCP. ERCP was performed on the patient with the papilla being assessed as normal. Introducing opaque material through the common channel allowed the common bile duct and the intrahepatic bile ducts to be visible. The common bile duct was seen as dilated, having non-homogenous filling defects (i.e. parasites). However, as the common bile duct could not be selectively cannulated, needle-knifeprecut sphincterectomy was performed. Due to prolonged operation, the process was ended so as to continue on the 2nd session. No complication was encountered during the operation. After 6 days, the patient received the ERPC again. During this assessment, the papilla was precut. When opaque material was introduced through the common channel, the common bile duct and the intrahepatic bile ducts could be seen. The common bile duct was seen as dilated, having non-homogenous filling defects. After sphincterectomy was performed, balloon was used to perfuse it. The parasitic segments of *T.saginata* were extracted. The common bile duct was seen as normal during check-up (Figure 1).



Fig. 1: Scan shoing common bile duct

For the purpose of treating *Taenia saginata*, niclosamide is effective by 90% when administering in two equal doses every one hour or as a single dose of 2 g (4 x 500 mg tablets) in adults [6]. In this case, we administered niclosamide as treatment protocol. In conclusion, the success rate of therapy can be improved when taking account of parasitic infections as a rare cause other than endemic regions, and it is also possible to reduce the treatment costs.

DISCUSSION

Taenia saginata, a common endoparasite in some regions where undercooked and raw meat consumption is high with lack of sanitation, is digested as metacestode, followed by attaching to jejunum or ileum mucosa by means of scolex and consequently growing there [1]. An obligatory human parasite, *T.saginata*'s mature tapeworms is not seen in another

living. Their definitive host is human, whereas intermediate hosts include herbivorous animals, mainly the cattles. The parasite can comprise between 1000 and 2000 rings, reaching up to 10 meters in length. As the parasite does not have rostellum protrusion and hooks, it is also known as unarmed tapeworm. In an infected individual, the last matured embryonated eggs of the parasite (also known as oncospheres) separate from strobila and leave the anus by either their active movement or defaecation. Since it leaves the anus by active movement, it is also known as “bowels emptier”. Once the segments (rings) reach to the soil, eggs are scattered around [2, 3]. The parasite can lead to a series of symptoms including abdominal pain, weight loss, anemia and diarrhea. Sometimes, it can be detected during the follow-up due to eosinophilia. However, it follows an asymptomatic course in most cases and, these findings thus have an important role on spreading the parasite.

In our present case, a heterogeneous zone sizing about 34x8 mm in the gallbladder lumen and eosinophilia were found by means of abdominal USG (ultrasonography) along with weight loss and continuous stomachache. As a result of detected filling defect in the common bile duct by means of abdominal CT and MRCP, the patient was undergone to ERCP with a diagnosis of *Taenia saginata*. Therefore, this is an important case suggesting that any possible parasitic infections should not be ignored in patients presented with such complaints.

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