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SHORT COMMUNICATION

Peritonitis caused by jejunal perforation with *Taenia saginata*: report of a case

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Abstract Complicated Taeniasis necessitating surgical intervention is extremely rare and is usually reported to occur in the distal ileal region of the Gastrointestinal tract. A case of peritonitis secondary to proximal jejunal perforation due to *Taenia saginata* is presented. Preoperative evaluation suggested the diagnosis of acute duodenal ulcer perforation. Although no real change in management and outcome is present, Taenia remains an exceptional direct cause of intestinal perforation, and should be kept on the list of differential diagnosis of peritonitis and acute abdomen in endemic geographical locations.

Keywords Jejunal perforation · Taeniasis · Peritonitis · Poor hygiene

Introduction

Taenia saginata, also called beef tapeworm, is a parasite attacking the gastrointestinal tract and most frequently seen in rural areas (Sleisenger and Fordtrans 1998). Infection occurs through the ingestion of inadequately cooked or raw beef containing viable cysticercus's larvae (Sleisenger and Fordtrans 1998). Although Taeniasis is very well known to cause under-nutrition and release of toxic metabolites, its association with acute surgical conditions is not very well recognized (Sleisenger and Fordtrans 1998; Demiriz et al. 1995). In this article, a case of jejunal perforation caused by Taeniasis and misinterpreted preoperatively as acute duodenal ulcer perforation is presented.

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Case presentation

A 69-year old male complaining of abdominal pain, loss of appetite, nausea and vomiting for two days was examined. The patient described vague abdominal discomfort, distention and flatulence with intermittent spontaneous relief of symptoms within the last two months. Clinical examination revealed a board-like stiff abdomen together with obvious and generalized rebound tenderness. Markedly elevated WBC count of 20,000/mm^3 with otherwise normal blood profile was noted. Direct upright abdominal X-ray showed clearly the presence of pneumoperitoneum in the right sub-diaphragmatic area. Ultrasound evaluation added nothing then abundant free peritoneal fluid.

Clinical, laboratory and radiographic findings pointed to a probable diagnosis of perforated duodenal ulcer causing acute abdomen. Urgent laparotomy revealed the presence of large quantity of yellow-green small intestinal secretion with fibrin pseudo-membrane deposits on the visceral peritoneum. Further exploration demonstrated a perforated jejunum few centimeters distal to the ligament of Treitz. Surprisingly, a long segment of *Taenia saginata* was swinging out of the perforated lumen, the remaining part being still intraluminal. Taenia was withdrawn outside the lumen as much as possible until got ruptured spontaneously. Simple closure enterorrhaphy was performed and thorough abdominal cleansing with removal of pseudo-membranes as much as feasible was done. 24 French sump drain was placed in the recto-vesical pouch and abdominal cavity closed.

Parasitological examination of the worm confirmed the diagnosis of *Taenia saginata*. Postoperative recovery of the patient was uneventful.

Niclosamide 500 mg × 4/day was given after discharge. The patient came back after one week to report the passage of two long worms in his stool thereafter.

Discussion

Among parasitic infections, Ascariasis is known to be responsible for higher incidence of intestinal complications than Taeniasis. Ascariasis condemned being the cause of small intestinal obstruction, biliary lesions, pancreatitis, appendicitis and peritonitis in children (Cole 1965; Louw 1966).

Complications of Taeniasis include obstruction, inflammation and perforation of small intestine, appendix and colon (Demiriz et al. 1995; Bordon 1992; Jain et al. 1998). Few case reports are present in the medical literature because complicated Taeniasis necessitating surgical intervention is very rare. There is no clearly described pathophysiology, but mechanical intestinal obstruction due to a bolus of Taenia enhancing parasite—mucosa contact, leading to a gross inflammatory edema is the most widely accepted theory (Lenoble and Dumontier 1988). Due to this locally irritative reactions or the direct effect of Taenia, bowel perforation and consecutive peritonitis may occur (Lenoble and Dumontier 1988). This mechanism is favorable in the small intestine, especially in the ileocecal valve where luminal diameter is narrow and parasite – mucosa contact is more likely to happen (Bordon 1992). Therefore a less complicated cause of Taeniasis is expected in the large intestine. Still one case of colonic perforation caused by Taeniasis and misinterpreted as colonic carcinoma by ultrasonographic examination has been reported from Turkey (Demiriz et al. 1995). In the literature, only one case of jejunal perforation caused by infection with Taenia tapeworm possessing unusual morphology that has not been previously described has been reported from Thailand (Jongwutiwes et al. 2004).

Conclusion

Parasitic infections are a major problem in many parts of the world, especially in developing Countries. A majority of the patients are asymptomatic and do not have serious sequel. This report shows that *Taenia saginata*, a worm with long length of 4–5 m ordinarily but may reach 25 m occasionally, should be on the list of differential diagnosis of intestinal obstruction or perforation in any site of the Gastrointestinal tract especially in rural areas and geographic locations characterized with low socioeconomic levels and poor hygiene.

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