

Case Report

Incidental finding of *Taenia saginata* during laparotomy for penetrating abdominal trauma by stab wound

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ABSTRACT

Taenia saginata (*T. saginata*) is worldwide in distribution. *T. saginata* has been known as intestinal parasite of man from very ancient times. We report a case of incidental finding of *T. saginata* during laparotomy for penetrating abdominal trauma by stab wound. The incidental finding of *T. saginata* during surgery for penetrating abdominal trauma though rare but it accounts for high mortality and morbidity in patients who have penetrating abdominal trauma. It is therefore importance in increasing public knowledge about food hygiene and elimination of worm for better postoperative outcome in patient with abdominal trauma.

Keywords: *T. saginata*, Penetrating trauma, Laparotomy

INTRODUCTION

Taenia saginata (*T. saginata*) is worldwide in distribution. It is generally found amongst those who eat beef. So *T. saginata* also known as beef tapeworm. The name taenia is derived from the Greek word meaning tape or band. It was originally used to refer to most tapeworms, but is now restricted to members of genus taenia. The adult tapeworm of *T. saginata* live in human small intestine, commonly in the jejunum and moves against the peristaltic movement in the hosts intestine. The adult worm of *T. saginata* is opalescent, white in colour, ribbon like, dorsoventrally flattened, segmented. the adult worm consists of head (scolex), neck, and body (strobila). The head has no hooklets, therefore *T. saginata* also known as unarmed tapeworm. Cattle and buffalo are the intermediate host and humans are definitive host.¹

T. saginata causes taeniasis in human intestine and cysticercosis in cattle. Human can become infected when ingest raw or undercooked beef meet containing cysticerci. Taeniasis is usually cause mild symptoms like nausea, abdominal pain, altered bowel movement.² However, some article reported complication of taenia in human like

obstruction, and perforation.³⁻⁵ We report case of incidental finding of *T. saginata* during laparotomy for penetrating abdominal trauma by stab wound.

CASE REPORT

A 34-year male presented to emergency room with penetrating abdominal trauma by stab wound. The patient brought to hospital by his friends. Initial vitals were as follows: blood pressure 90/70 mmHg, heart rate 110 beats/min, temperature normal, and oxygen saturation about 98% at room air. The patient was well oriented to time place and person. The patient was in severe pain and bleeding profusely. After admission emergency resuscitation was done with normal saline and ringer lactate. 1 unit of whole blood was given and patient was hemodynamically stabilised.

On physical examination there was an elliptical shaped puncture wound approximately size about 3×1 cm over umbilical region. The omentum was visible in wound gap. No other major injuries were found except some bruises over epigastrium region and his right arm. Examination of

all other system was done and found to be normal (Figure 1).



Figure 1: Patient presenting with evisceration of omentum after stab wound.

Operative summary

Patient was posted for emergency exploratory laparotomy after stabilisation without any radiological investigation. Laparotomy done under general anaesthesia through midline vertical incision. On exploration of abdominal cavity, there is incomplete transection of jejunum approximately about 60 cm distal to duodenojejunal flexure. Unexpectedly 4 tapeworms approximately about 1.2 m length were seen in jejunum at injury site. Resection and end to end anastomosis done after removal of tapeworm from jejunum (Figure 2).

The patient tolerated operation well and shifted to ICU for postoperative care. There was no sign of leakage of anastomosis. A clear fluid diet was started on fifth day. Patient tolerated liquid diet well and shifted to regular diet on 7th day. The patient discharged home on tenth post-operative day in good condition.

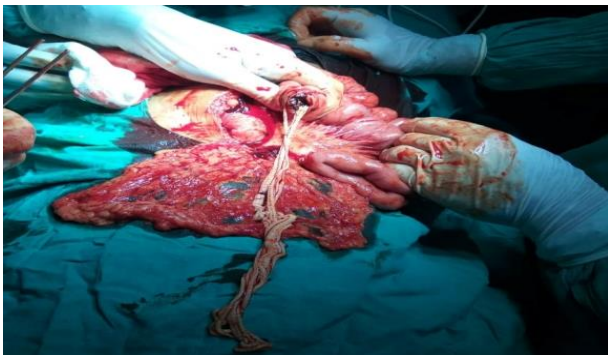


Figure 2: Incidental finding of worms during laparotomy.

DISCUSSION

Human acquire tapeworm infection by eating under cooked beef infected with the larval stage of *T. saginata*, under cooked pork containing the larval stage of *T. solium* or *T. asiatica*. Usually, only one adult tapeworm is present in the gut but up to 10 have been reported. The ova of all

the three *Taenia* are indistinguishable microscopically. However, examination of scolex and proglottides can differentiate them: *T. solium* has rostellum and two rows of hooklets on the scolex, and discharges multiple proglottides (3-5) attached together with lower degree of uterine branching (upto 30); *T. saginata* has only four suckers in its scolex, and discharges single proglottids with greater uterine branching; *T. asiatica* has rostellum without hooks on its scolex and it is difficult to differentiate from *T. saginata*, except that there are fewer uterine branches (16-21).⁶

Length of adult tapeworm usually 5 m or less for *T. saginata* and 2 to 7 m for *T. solium*. The adult produce proglottids which are mature, become gravid, detached from the tapeworm, and migrate to the anus or passed in stool (approximately 6 per day). Taeniasis due to *T. solium*, *T. saginata* or *T. asiatica* is usually characterised by mild and nonspecific symptoms. Abdominal pain, nausea, diarrhoea or constipation may arise when tapeworm fully developed in the intestine, approximately 8 weeks after ingestion of meat containing cysticerci.⁷ These symptoms may continue until the tapeworm dies following treatment, otherwise live for several years.

Though *T. saginata* taeniasis produces only mild abdominal symptoms, the most striking feature consist of passage (active and passive) of proglottids. Occasionally, appendicitis or cholangitis can result from migrating proglottids.⁸⁻¹⁰ Some articles have reported several complications of *T. saginata* like intestinal obstruction, perforation of small intestine stomach colon or appendix.^{8,11} Also, an article reported case of biliary peritonitis caused by gall bladder perforation due to *T. saginata* induced gangrenous cholecystitis.¹²

The standard treatment for taeniasis due to *T. saginata* is single dose of praziquantal (10-20 mg/kg). Niclosamide (2 g single dose for adult) or nitazoxanide (25 mg/kg) also alternative.^{2,8,13}

CONCLUSION

Traumatic abdominal injuries one of the major public health problems worldwide. It affects all age groups. However, presence of tapeworms' infection in trauma patients has rarely been reported. In our case we saw *T. saginata* in the intestinal lumen. Young patients who were already predisposed to parasitic infection and become exposed to traumatic abdominal injury suffer more postoperative complications that increase the morbidity and mortality. Taeniasis and its complications more common in developing countries and more common among those who eat raw or undercooked meat. So, possibility of *T. saginata* should be consider in patient with gastrointestinal symptoms. Since delay in its managements may have fatal outcome. So increasing public health knowledge regarding food hygiene and encouraging them to avoid eating raw or undercooked beef or pork and maintaining personal clean habits are essentials to

minimise the morbidity and mortality associated with *T. saginata* in abdominal trauma patients.

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