

An Astonishing Encounter: Bowel Obstruction Caused by Taenia Saginata

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Abstract: *Small bowel obstruction (SBO) is a common gastrointestinal condition often warranting acute surgical intervention but the cause being Taeniasis is very uncommon. We present this unusual intra operative finding of Taenia worms during nasal suctioning to empty stomach contents in a 30 year old woman posted for emergency laparotomy to relieve small bowel obstruction.*

Keywords: Taenia saginata, Small bowel obstruction, Tapeworm, Praziquantel

1. Introduction

In human, tapeworm species can cause a parasitic infection by ingestion of raw or under cooked beef (*T. saginata*) or pork (*T. solium* and *T. asiatica*). Although *Taenia saginata* can be found in many areas worldwide however, it is more prominent in tropical and underdeveloped countries. Taeniasis usually presents with vague symptoms or mild abdominal pain or discomfort. Symptoms can vary from less common symptoms like nausea, change in appetite, weakness or weight loss to more serious rare complications of intestinal obstruction and perforation of the gut. We are presenting a rare case of small bowel obstruction in a young female patient caused due to *T. saginata* infection.

2. Case Report

We present a 30 - year - old woman presented to emergency department with abdominal pain for a period of three days. Pain was colicky in nature, started as a localized pain in the center of the abdomen then became diffuse to all over the abdomen. This was associated with abdominal distention but no vomiting or constipation. She had history of passing long white streaks like materials with her stool for one week before the development of her pain. However, no complains of bleeding per rectum or melena. Abdominal examination revealed, mildly distended abdomen and tense, no guarding or rigidity, no palpable mass, exaggerated bowel sound and rectum is empty on per rectal examination. Blood investigations were normal. Abdomen X - ray showed dilated loops of small intestines with multiple air fluid levels. CT scan of the abdomen showed dilated small bowel loops with multiple internal air fluid level suggestive of small bowel obstruction. Emergency laparotomy was performed with intra - operative findings of small bowel adhesions along with strictures. Unexpectedly in the process to clear bowel during nasal suctioning two long and segmented yellowish color worms were discovered. No other intra - operative abnormalities were identified. Microbiological study of those worms was suggestive of *Taenia saginata*. Post - operatively patient's stool sample microbiological study also confirmed eggs of *Taenia* species. She was treated with single dose of Praziquantel

based on her body weight. Subsequently stool test showed negative result for *Taenia* eggs on fourth day after administration of drug and she reported the passage of a large dead worm in stools after 5 days of treatment. She recovered uneventfully and discharged home after 10 days of admission. She was then seen in outpatient clinic and is progressing well.



Figure 1: Intra - operative Finding of Small Bowel Adhesions



Figure 2: Intra - operative Finding of Small Bowel Stricture



Figure 3 & 4: *Taenia saginata* worm being taken out during Ryle's tube suctioning

3. Discussion

Taeniasis is tapeworm infestation acquired by ingesting undercooked beef or pork. Two major species are found including the pork tapeworm or *Taenia solium* and the beef tapeworm or *Taenia saginata*. A subspecies of *Taenia saginata* is found in Asian regions and it has been renamed as *Taenia saginata asiatica*. Taeniasis is endemic in Southeast Asia. Humans serve as the definitive host. [1]

Patients become aware of *T. Saginata* infection by noticing passage of proglottids in their faeces. Usually Intestinal Taeniasis manifests as abdominal discomfort, nausea, vomiting, change in appetite, weight loss. Adult parasite may rarely be present in the stomach and the gastric secretions. [1, 2]. Migration of the proglottids to the gastrointestinal system lumen can lead to rare serious acute surgical conditions, such as acute appendicitis, Meckel's diverticulitis, pancreatitis, cholecystitis, liver abscess, obstruction and perforation of the intestine and anastomotic leakage [3]. Intestinal obstruction and perforation of the gut are rare complications considering the worldwide distribution of *T. saginata* infection, with a prevalence rate of up to 10% among some population groups in endemic areas. Surgery is recommended only for the treatment of complications [2]

This entity can be diagnosed by detecting eggs or proglottids in the stool as early as approximately 3 months after infection. Eosinophilia and elevation of serum IgE may be present. Specific DNA tests are now available providing an absolute diagnosis. [2, 3] Sometimes unusual and rare diagnosis is made intra - operatively. As in our case we traced the worm during nasal suctioning to clear stomach. Treatment measures include Praziquantel to be the drug of choice. Niclosamide can also be used. Both drugs are very effective, simple to administer and comparatively free from side effects. Infection by *T. saginata* is preventable by cooking beef to 60 °C for over 5 min and improving hygiene and modifying lifestyles. [1, 3]

4. Conclusion

Taeniasis being a rare infection should be kept in mind as a very rare possible cause of bowel obstruction, mostly in endemic areas. These rare diagnosis are mostly made intra operatively and surgery is recommended only for the treatment of complications. Medical treatment includes Praziquantel or Niclosamide as a single dose. Preventive measures are best way to avoid any serious complications.

References

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