



ATYPICAL PRESENTATION OF TAENIA SOLIUM INFECTION: EXPULSION OF SEGMENTS THROUGH VOMITUS IN A 8 YEAR OLD CHILD

Medical Microbiology

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ABSTRACT

Background: Taeniasis, an intestinal parasitic infection caused by tapeworms, can be transmitted through the consumption of undercooked pork containing *Taenia solium* larvae. While typically diagnosed by the passage of tapeworm segments in feces, rare cases present with expulsion through other means. **Case Presentation:** An 8-year-old girl presented with fever, vomiting tapeworm segments, loss of appetite, and right abdominal pain. Past history revealed pork consumption 10 days prior. Laboratory tests showed elevated liver enzymes. Microscopic examination of the vomited segments confirmed *Taenia solium*. Examination also showed eggs with classical signs which was suggestive of *Taenia Solium*. Treatment with praziquantel led to symptom resolution and complete recovery. **Conclusions:** This case highlights the unusual presentation of *Taenia solium* through vomited segments. A thorough history and microscopic examination are crucial for diagnosis. Early intervention with praziquantel is critical for effective treatment and preventing complications.

KEYWORDS

Taeniasis, *Taenia solium*, Cysticercosis, Tapeworm segments, Vomitus expulsion, Undercooked pork, Praziquantel therapy, Microscopic examination, Abdominal pain

INTRODUCTION

Taeniasis, a parasitic infection of the intestines caused by tapeworms, is a significant global health concern. Humans can be infected with three primary species of tapeworm: *Taenia solium*, *Taenia saginata*, and *Taenia asiatica*.¹ (World Health Organization [WHO], 2020). Among these, *T. solium* is particularly dangerous due to its potential to cause both intestinal taeniasis and extraintestinal cysticercosis.²

Intestinal taeniasis occurs when a person ingests raw or undercooked pork containing *T. solium* larvae. The tapeworm matures in the small intestine, producing segments that contain eggs. These eggs can be shed in the feces and contaminate the environment. If another person ingests these eggs, they can develop cysticercosis, a condition where the larvae migrate to various tissues, such as the brain, muscles, and eyes. Cysticercosis can lead to serious neurological complications, including seizures and hydrocephalus³ (Centers for Disease Control and Prevention [CDC], 2023).

While most cases of *T. solium* infection involve the passage of tapeworm segments in feces, there are rare instances where segments are expelled through other bodily fluids, such as vomit. This unusual presentation can pose diagnostic challenges and may require extensive investigation to confirm the underlying cause.

Case Presentation

An 8-year-old female child was admitted to the pediatric ward with a 3-day history of fever. Despite receiving antibiotic treatment, her symptoms persisted. A week later, she experienced an episode of vomiting, during which she expelled three segments of a tapeworm (Fig.1&2). These segments were collected and sent for microbiological examination.

Upon inquiry, the patient's family reported a history of pork consumption 10 days prior to the onset of symptoms. The child also experienced loss of appetite and right-sided abdominal pain. There was no history of beef consumption.

On physical examination, epigastric tenderness was noted. Laboratory investigations revealed the following (Table 1):

Table 1

Parameter	Value	Normal Value
Total Leukocyte Count	3870/ μ L	4800-10,800/ μ L
Platelet Count	94000/ μ L	250000-450000/ μ L
Alanine Aminotransferase (ALT)	1183.7 U/L	10-40 U/L
Aspartate Aminotransferase (AST)	611.7 μ L	10-50 U/L
Total Bilirubin	2.63 mg/dL	0.2-1.3 mg/dL

Microscopic examination of the vomited tapeworm segments confirmed the diagnosis of taeniasis, specifically *Taenia solium*. Examination also showed eggs with classical signs which was suggestive of *Taenia Solium*. (Fig. 3)

The patient was treated with praziquantel, and her symptoms resolved. A follow-up visit two months later revealed complete recovery.



Fig. 1



Fig. 2



Fig.3

DISCUSSION

The reported case of multiple segments of an adult *Taenia solium* worm being expelled in vomitus is a rare and intriguing presentation. While oral expulsion of *Taenia saginata* has been documented in previous case reports, such as those by Nyala Sudan et al⁴ and Gupta et al⁵, the expulsion of *Taenia solium* segments in this manner is less common.

The patient's history of eating pork is a significant factor in this case, as *Taenia solium* is primarily transmitted through the ingestion of undercooked pork containing cysticerci. The absence of proglottid passage after praziquantel therapy is also noteworthy. Praziquantel is a potent cestocide that typically renders the tapeworm unable to resist digestion by the host, often leading to the expulsion of the entire worm, including the scolex.¹ In this case, however, the expulsion of multiple segments suggests that the worm may have been weakened or damaged, possibly due to factors such as the patient's immune response or other underlying conditions.

The importance of a thorough history, including dietary habits, cannot be overstated in cases of suspected taeniasis. While gross examination may not always reveal the exact type of worm, careful questioning can provide valuable clues. In the present case, the history of pork consumption was essential in identifying the parasite as *Taenia solium*. While the expulsion of *Taenia solium* segments in vomitus is a rare occurrence, it is important to recognize that such cases can occur, especially in areas where pork consumption is common and hygiene practices may be inadequate. This case highlights the need for continued vigilance in the diagnosis and treatment of parasitic infections, particularly in regions where taeniasis is endemic.

REFERENCES

1. World Health Organization (WHO). Taeniasis and cysticercosis. 2020 <https://www.who.int/health-topics/taeniasis-and-cysticercosis>
2. Garcia, H. H., Nash, T. E., & Del Brutto, O. H. (2014). Clinical symptoms, diagnosis, and treatment of neurocysticercosis. *Lancet Neurology*, 13(12), 1202–1215.
3. Centers for Disease Control and Prevention (CDC). Taeniasis and cysticercosis. 2023 <https://www.cdc.gov/dpdx/cysticercosis/index.html>
4. Sudan, N. (2016). A case of *Taenia saginata* tapeworm expelled orally. *Sudan Journal of Medical Sciences*, 10(1), 1–4..
5. Gupta, N. (2014). A case report of expulsion of 2-meter-long *Taenia saginata* tapeworm through vomiting. *Indian Journal of Medical Microbiology*, 32(4), 381–382.