

Answer to Photo Quiz: *Taenia* Species

(See page 1139 in this issue [doi:10.1128/JCM.06364-11] for photo quiz case presentation)

The spherical egg shown had a diameter of 40 μm . The thick, radially striated shell and hooked embryo inside the egg are characteristic of a *Taenia* egg. This egg is surrounded by a thin primary membrane. It is unusual to see the primary membrane of *Taenia* eggs, because this delicate membrane ruptures after the egg is released from the gravid proglottid. The presence of a primary membrane does not distinguish between the eggs of *Taenia* species, which can be distinguished by the morphology of the adult worms but not by that of the eggs. *Blastocystis hominis* was also detected. The patient was treated with albendazole for suspected *Ascaris lumbricoides* infection and with praziquantel for *Taenia* infection.

Intestinal taeniasis is acquired by ingestion of *Taenia* larvae in undercooked beef (*Taenia saginata*) or pork (*Taenia solium* and *Taenia asiatica*) (2). Intestinal taeniasis has a worldwide distribution, but the prevalence differs depending on factors that affect the transmission of the parasites, such as dietary habits (eating specific raw or undercooked meats) and sanitation (exposure of animals to human feces). Once ingested, the larva matures into an adult worm and attaches to the wall of the small intestine, where it produces gravid proglottids containing eggs. Intestinal taeniasis is usually asymptomatic, although some patients have nonspecific abdominal symptoms (cramping, vomiting, or diarrhea) or distress upon detecting segments of the adult worm in their stool. The adult worms can persist for years, but they are readily treated with a single dose of oral praziquantel once detected.

It is difficult to determine how often parasitic infections cause appendicitis. Intestinal parasitic infections are present in a minority of people with acute appendicitis (1). Since appendectomy is a common surgical operation, and intestinal parasites are also common in some places, it is not surprising that parasites are present

in some surgically removed vermiform appendices. In a small fraction of cases, the lumen of an acutely inflamed appendix is occluded by a worm, usually *A. lumbricoides*, which strongly suggests that the parasite was the cause of appendicitis (3).

REFERENCES

1. Chamisa I. 2009. A clinicopathological review of 324 appendices removed for acute appendicitis in Durban, South Africa: a retrospective analysis. *Ann. R. Coll. Surg. Engl.* 91:688–692.
2. Hoberg EP. 2002. *Taenia* tapeworms: their biology, evolution and socio-economic significance. *Microbes Infect.* 4:859–866.
3. Wani I, et al. 2010. Appendiceal ascariasis in children. *Ann. Saudi Med.* 30:63–66.

Thomas J. Sandora

Division of Infectious Diseases
Children's Hospital Boston
Department of Pediatrics
Harvard Medical School
Boston, Massachusetts, USA

Alexander J. McAdam

Department of Laboratory Medicine
Children's Hospital Boston
Department of Pathology
Harvard Medical School
Boston, Massachusetts, USA

Address correspondence to Alexander J. McAdam,
Alexander.mcadam@childrens.harvard.edu.

Copyright © 2012, American Society for Microbiology. All Rights Reserved.
doi:10.1128/JCM.06387-11