



Closing the Brief Case: Benign Rectal Polyp with *Schistosoma mansoni*

Mohsin Jamal, Omar Rayes, Linoj Samuel, Robert Tibbetts, Jason D. Pimentel

Department of Pathology, Henry Ford Hospital, Detroit, Michigan, USA

ANSWERS TO SELF-ASSESSMENT QUESTIONS

1. Which species of *Schistosoma* does not stain acid fast positive?

- A. *S. haematobium*.
- B. *S. mansoni*.
- C. *S. japonicum*.
- D. *S. intercalatum*.

Answer: A. In Ziehl-Neelsen staining, all tissues and any microorganisms take on the carbol fuchsin stain. Cells lacking a lipid layer are decolorized by acids and lose the red color of carbol fuchsin. In acid-fast organisms, the red color is not removed by the acid decolorization. The shells of *S. mansoni*, *S. intercalatum*, and *S. japonicum* eggs stain positive with Ziehl-Neelsen stain, unlike the eggs of other *Schistosoma* species.

2. What is the mode of transmission of *Schistosoma* infection in humans?

- A. Arthropod bite.
- B. Ingestion of larvae in infected meat.
- C. Fecal-oral transmission.
- D. Entry through the skin.

Answer: D. Schistosomal parasites are found in freshwater snails. The infectious form of the parasite (cercariae) leaves the snail and enters the water, contaminating it. The human host becomes infected when the skin comes into contact with water containing the cercariae.

3. Which commercially available test in the United States is the most sensitive and specific in diagnosing *Schistosoma* infection?

- A. The Kato-Katz technique.
- B. Antibody detection.
- C. Genotype analysis.
- D. Antigen detection.

Answer: B. The Centers for Disease Control and Prevention (CDC) uses a combination of tests with purified adult worm antigens for antibody detection. Depending on the species, the sensitivity can range from <50% for *S. japonicum* to 95% for *S. haematobium* and 99% for *S. mansoni*. The specificity of this test for detecting schistosome infection is 99%.

Citation Jamal M, Rayes O, Samuel L, Tibbetts R, Pimentel JD. 2017. Closing the Brief Case: Benign rectal polyp with *Schistosoma mansoni*. J Clin Microbiol 55:1226–1227. <https://doi.org/10.1128/JCM.01454-16>.

Editor Carey-Ann D. Burnham, Washington University School of Medicine

Copyright © 2017 American Society for Microbiology. All Rights Reserved.

Address correspondence to Robert Tibbetts, rtibbet1@hfhs.org.

See page 992 in this issue (<https://doi.org/10.1128/JCM.01402-16>) for case presentation and discussion.

TAKE HOME POINTS

- More than 250 million people are infected with *Schistosoma* species worldwide. Schistosomiasis is the third most devastating tropical disease in the world, after malaria and intestinal helminthiasis, and is classified as a neglected tropical disease.
- Intestinal schistosomiasis has a wide spectrum of disease manifestations. Chronic infections can persist for years. In advanced cases, other organ systems, including the brain, liver, spleen, etc., can become involved.
- In areas where schistosomiasis is endemic, stool and urine sample examination by the Kato-Katz techniques is highly effective as a screening test. However, serological testing is a very sensitive and specific confirmatory test.