Caught on Colonoscopy: Schistosomiasis Manifesting as a Single Colonic Polyp

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KEYWORDS: Colonoscopy; Parasites; Polyp; Schistosomiasis

PRESENTATION
A screening colonoscopy identified an unexpected diagnosis in a 64-year-old male patient. He was an asymptomatic landscaper who presented for a first-time screening colonoscopy based on age. His only active medical issue was psoriasis, for which he took apremilast. At the time of colonoscopy, he denied any bright red blood per rectum, melena, changes in stooling habits, abdominal pain, nausea, vomiting, changes in appetite, weight loss, or night sweats. He did not report any family history of colon cancer. He was a lifelong nonsmoker and denied any current alcohol use. He lived in North Carolina in a home with his wife, 3 sons, 3 daughters-in-law, and a 2-year-old granddaughter. There were no pets in the home. He grew up in Luzon, Philippines, where he worked as a rice paddy farmer. He emigrated to the United States in 1995.

ASSESSMENT
Physical examination was grossly unremarkable. Vital signs showed a blood pressure of 118/74 mm Hg, a pulse of 60 beats per minute, and a body mass index of 27.32 kg/m². Conjunctiva were not pale, and sclera were anicteric. The oropharynx showed no suspicious lesions. No cervical or inguinal lymphadenopathy was noted. Abdominal examination showed a soft, nondistended, nontender abdomen with normoactive bowel sounds. Neither the liver edge nor the splenic tip was palpable. Extremities showed no significant edema. Skin examination was notable for a few scaly, dry patches on bilateral arms and legs, consistent with prior psoriatic lesions.

DIAGNOSIS
The patient underwent screening colonoscopy. He had hemorrhoids on perianal examination. A 10-mm flat polyp was found in the cecum (Figure 1) and removed with a saline injection-lift technique. A second 3-mm sessile polyp was found in the cecum and removed. Resection and retrieval were complete for both polyps. Aside from a few small diverticula in the sigmoid colon, no other abnormalities were noted. The quality of the bowel prep was noted to be “excellent.” Microscopic examination of the cecal polyps showed numerous round-to-oval parasite ova in the submucosal tissue. Based on the morphology and size of the ova, the pathologist reported that this was consistent with schistosomiasis. He underwent subsequent stool testing, which was positive for Schistosoma japonicum (Figure 2). Urine microscopy was negative. Complete blood count showed a normal absolute eosinophil count of \( 0.23 \times 10^9/L \). Hepatic function panel was also normal.

MANAGEMENT
The patient was initially treated with 40 mg/kg of praziquantel prior to the identification of the species of schistosomiasis from the stool culture. The patient tolerated this treatment without any reported side effects from the praziquantel. His stool was retested 6 weeks after treatment with praziquantel, and it was still positive for S. japonicum, which requires a higher dosage of praziquantel for treatment. He was given a second dose of praziquantel at 60 mg/kg.

Worldwide, more than 200 million people are estimated to be infected with schistosomiasis. Schistosomiasis is caused by parasitic trematode worms that live in certain types of freshwater snails. The infectious form of the parasite emerges from the snail, contaminates the water, and

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**Funding:** This material is the result of work supported with resources and the use of facilities at Duke University Medical Center.

**Conflict of Interest:** None.

**Authorship:** All authors had access to the data and a role in writing this manuscript.

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0002-9343/$ -see front matter © 2018 Elsevier Inc. All rights reserved.

https://doi.org/10.1016/j.amjmed.2018.06.034
penetrates the skin of individuals who come into contact with contaminated water.2

*S. japonicum* commonly occurs in China, Indonesia, and the Phillipines.3 In these endemic areas, infection is typically acquired in childhood.2 Infections tend to occur in rural areas, notably in wet rice cultures in Asia.4 Most infected individuals do not develop systemic illness. The natural course of the infection depends on the age of primary exposure, the intensity of ongoing exposure, development of immunity against repeat infection, and genetic susceptibility.2 In general, the intensity of infection increases during the first 2 decades of life and subsequently decreases to very low levels in adults, presumably owing to development of acquired immunity.5

Chronic infection related to schistosomiasis is most common among individuals in endemic areas with ongoing exposure.2 The most common symptoms of chronic intestinal schistosomiasis include chronic or intermittent abdominal pain, poor appetite, and diarrhea. In heavy infection, chronic colonic ulceration may lead to intestinal bleeding and iron deficiency anemia.5

Diagnosis depends on chronicity of disease and if the patient is from an endemic region. Acute illness is often associated with eosinophilia in the blood and tissues, whereas peripheral eosinophilia may be minimal or absent in chronic infection.2 Among returning travelers, serology is preferred (sensitivity 97% and specificity 91%) because parasite burden is generally low, making microscopy less sensitive.7 However, in individuals from endemic areas, parasite burden should be determined with microscopy for egg detection and antigen for gut-associated parasite proteins.8 Identification of schistosome eggs in stool or urine via microscopy is the gold standard for diagnosis of schistosomiasis.9 Eggs of *S. japonicum, Schistosoma mansoni, Schistosoma haematobium, Schistosoma mekongi*, and *Schistosoma intercalatum* can be found in stool, but eggs of *S. haematobium* are primarily found in urine.

Endoscopic findings of colonic schistosomiasis vary widely and are nonspecific.10 In the early stage of the disease, the colonoscopy can range from normal mucosa to edematous, congestive mucosa, petechial hemorrhage, or even frank ulcerations. In the late stage, it may show a thickened bowel wall, elevated yellow nodules, polyp(s), or intestinal stricture. Colon polyps associated with *Schistosoma* have been reported on only few occasions. They arise owing to granulomatous inflammation surrounding eggs deposited in the bowel wall. In 1 study including 216 patients with intestinal schistosomiasis, only 8 had intestinal polyps: 3 of them were rectal and 5 colonic.11

The presentation of intestinal schistosomiasis as a flat cecal polyp is unusual. To the best of our knowledge, only 1 prior study has reported a similar finding.10 However, the current literature does not include endoscopic findings, including polyps, to prompt for serologic or microscopic screening for schistosomiasis. We would recommend that providers be aware of the potential for this diagnosis in patients from endemic countries who are found to have a thickened bowel wall, intestinal stricture, elevated yellow nodules, or polyp(s).

ACKNOWLEDGMENTS
The authors would like to thank Susan Reeves and Duke University Medical Center Photo Pathology for preparation of the images.

References


