

# Large Colon Polyp as the Only Manifestation of Chronic Schistosomiasis Infection

Aimen Farooq, MD<sup>1</sup>, Azhar Hussain, MBBS<sup>2</sup>, Charanjeet Singh, MD<sup>3</sup>, Kambiz Kadkhodayan, MD<sup>4</sup>, Mustafa Arain, MD<sup>4</sup>, Muhammad K. Hasan, MD<sup>4</sup>, and Dennis Yang, MD<sup>4</sup>

<sup>1</sup>Department of Internal Medicine, AdventHealth Orlando, Orlando, FL

<sup>2</sup>Ameer ud Din Medical College, Lahore, Pakistan

<sup>3</sup>Department of Pathology, AdventHealth Orlando, Orlando, FL

<sup>4</sup>Center for Interventional Endoscopy, AdventHealth Orlando, Orlando, FL

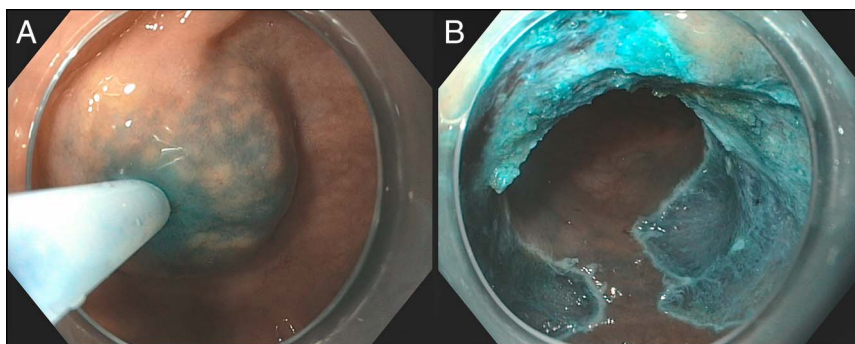
## CASE REPORT

Schistosomiasis (bilharzia) is a parasitic infection caused by the blood fluke of phylum Platyhelminthes, recognized for significant morbidity in endemic areas.<sup>1,2</sup> We present a case of a patient with colonic polyp as the only manifestation of chronic *Schistosoma* infection.

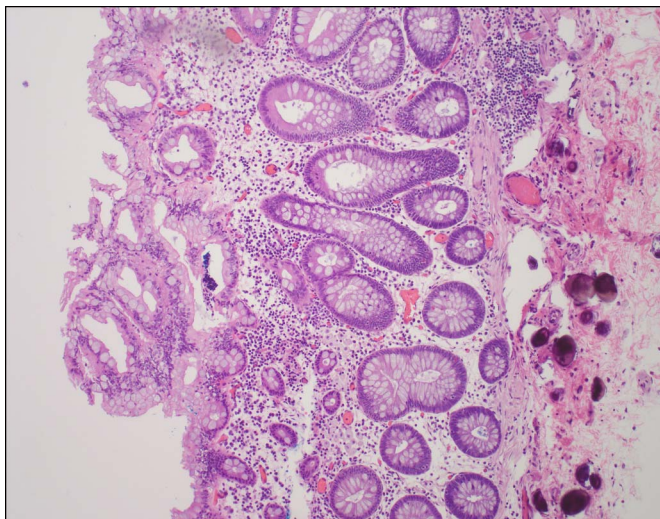
A 62-year-old woman, originally from Southeast Asia, underwent colonoscopy for cancer screening. On colonoscopy, a subtle, slightly elevated, nearly circumferential polyp was identified in the rectosigmoid colon, extending from 8 to 15 cm from the anal verge. Lesion margins were best visualized using narrow band imaging. Endoscopic appearance was most suggestive of a serrated adenoma. However, submucosal injection with methylene blue and saline revealed uncharacteristic small yellow nodules on the mucosa of the polyp (Figure 1). Furthermore, endoscopic mucosal resection (EMR) revealed extensive submucosal fibrosis. The entire polyp was removed through piecemeal EMR (Figure 1). The patient recovered well and did not report any adverse events.

Histopathology revealed features consistent with a hyperplastic polyp but with numerous calcified *Schistosoma* eggs in the muscularis mucosa and submucosa, surrounded by dense fibrosis, consistent with chronic intestinal schistosomiasis (Figure 2). The patient will follow with her primary physician for treatment and is due for surveillance colonoscopy in 6 months.

Polyp formation in intestinal schistosomiasis is believed to arise from granulomatous inflammation.<sup>3</sup> Egg deposition in the colonic submucosa generates a cellular immune response leading to inflammation and necrosis, which heals by fibrosis and causes hypertrophy of the muscularis. Increasing numbers of ova traveling from the vasculature to intestinal lumen are entrapped by the hypertrophic, fibrous foci, causing foreign body reaction, progressive inflammation, and nodular changes, eventually giving rise to the polypoid appearance of the involved mucosa.



**Figure 1.** EMR of bilharzial colon polyp. Endoscopic assessment of a slightly elevated smooth polypoid lesion in the rectosigmoid colon. Submucosal lifting with injection of methylene blue with saline reveals yellow mucosal nodules on the polyp surface (A). Endoscopic appearance of resection bed after completion of EMR (B). EMR, endoscopic mucosal resection.



**Figure 2.** Pathology (hematoxylin and eosin stain stains) of bilharzial colon polyp at  $\times 100$  magnification. The surface epithelium of the colon with tufting and crypt epithelium with saw tooth-like appearance, tapering at the base without dilatation or branching, consistent with a hyperplastic polyp. Numerous calcified ova (dark purple in appearance) surrounded by fibrosis (pale pink) can be seen in the muscularis mucosae and upper submucosa.

On endoscopy, bilharzial colon polyps can mimic serrated polyps, but these polyps may have yellow mucosal nodules, as observed in this patient during EMR. As opposed to most hyperplastic or serrated polyps, we noted significant submucosal fibrosis during endoscopic resection, presumably secondary to the inflammatory fibrotic reaction. Schistosomiasis manifesting solely as colon polyps without associated gastrointestinal symptoms has not been previously reported. In our case, the patient was completely asymptomatic, and the diagnosis of bilharzial infection was exclusively based on histopathologic findings after colon polyp resection.

The long-term implications of bilharzial colon polyps are unknown, but epidemiological studies suggest a strong association between chronic intestinal infection and cancer.<sup>4</sup> Additional

studies are needed to determine the potential implications of colon polyps associated with chronic intestinal schistosomiasis.

## DISCLOSURES

**Author contributions:** All authors mentioned above contributed to the conception, design, drafting, finalizing, and approving the final manuscript in order of appearance and meet the ICJME criteria for authorship. All authors are willing to accept accountabilities for all aspects of the manuscript. A. Farooq and A. Hussain reviewed the literature and drafted the original manuscript under the guidance of D. Yang and colleagues K. Kadkhodayan, M. Arain and M. Hasan who provided the case and endoscopic images, reviewed, and edited the final manuscript. C. Singh provided the pathology photomicrographs and brief histology findings. D. Yang is the article guarantor.

**Financial disclosure:** None to report.

**Informed consent** was obtained for this case report.

Received July 14, 2022; Accepted September 6, 2022

## REFERENCES

1. Wu GY, Halim MH. Schistosomiasis: Progress and problems. *World J Gastroenterol.* 2000;6(1):12–9.
2. Strickland GT. Leading article: Tropical infections of the gastrointestinal tract and liver series. Gastrointestinal manifestations of schistosomiasis. *Gut.* 1994;35:1334–7.
3. Elbaz T, Esmat G. Hepatic and intestinal schistosomiasis: Review. *J Adv Res.* 2013;4(5):445–52.
4. Xu Z, Su DL. *Schistosoma japonicum* and colorectal cancer: An epidemiological study in the people's Republic of China. *Int J Cancer.* 1984;34(3): 315–8.

**Copyright:** © 2022 The Author(s). Published by Wolters Kluwer Health, Inc. on behalf of The American College of Gastroenterology. This is an open access article distributed under the terms of the Creative Commons Attribution-Non Commercial-No Derivatives License 4.0 (CCBY-NC-ND), where it is permissible to download and share the work provided it is properly cited. The work cannot be changed in any way or used commercially without permission from the journal.