Exercise-induced ischemic colitis in an amateur marathon runner

Fig. 1 Patchy erythematous and edematous mucosa with ulcerations extending from the splenic flexure to the cecum with pseudomembrane formation seen on endoscopy.

Fig. 2 Colonic biopsy showing necrotic mucosa with pseudomembrane formation (hematoxylin and eosin, $\times 200$).

A previously healthy 25-year-old man presented to the emergency department with acute-onset diffuse abdominal pain, which started halfway through a marathon run. Soon after presentation, he had a small amount of coffee-ground emesis and 10–15 loose bowel movements with hematochezia. His abdomen was diffusely tender to mild palpation. Laboratory investigation revealed leukocytosis, mild acute kidney injury, and rhabdomyolysis. Stool cultures for bacteria, ova and parasite, and *Clostridium difficile* were negative.

Gastroscopy showed a healing Mallory–Weiss tear. Colonoscopy highlighted moderately severe, patchy colitis extending from the splenic flexure to the cecum (● Fig. 1). Histological examination of the

ascending colon revealed loss of crypts, acute colitis, and pseudomembrane formation consistent with ischemic colitis (● Fig. 2). The patient was managed conservatively and subsequently improved with resolution of hematochezia.

During exercise, physiologic shunting of blood flow away from the gut occurs due to a catecholamine surge that causes splanchnic circulation vasoconstriction. Typical presentation includes frequent loose stools, with visible blood or maroon-colored stools, and cramp-like or sharp diffuse abdominal pain. Symptoms may appear during or even a few hours after exercise. Most cases are self-limiting and resolve with supportive care; however, three reported cases required surgical resection due to shock, sepsis or peritonitis [1–3].

Findings on colonoscopy include patchy hemorrhagic mucosal lesions with thickened edematous mucosal folds. The colonic single-stripe sign may be seen, appearing as a single, linear ulcer running longitudinally along the antimesenteric fold [4]. If symptoms have resolved, delaying endoscopy after the 4th day is less likely to be diagnostic [5].

In conclusion, exercise-induced ischemic colitis is a rare condition but should be considered in all patients presenting with abdominal pain and hematochezia following recent strenuous exercise. With the

increase in recreational marathon runners, public awareness is crucial in order to inform individuals of the possible complications and the best ways to avoid them.

Endoscopy_UCTN_Code_CCL_1AD_2AJ

Competing interests: None

Amine Benmassaoud¹, Yonca Kanber², Josiane Nawar¹, Talat Bessissow¹

¹ Division of Gastroenterology, McGill University Health Center, Montreal, Canada

² Department of Pathology, McGill University Health Center, Montreal, Canada

References

- 1 Beaumont AC, Teare JP. Subtotal colectomy following marathon running in a female patient. *J R Soc Med* 1991; 84: 439–440
- 2 Schaub N, Spichtin HP, Stalder GA. [Ischemic colitis as a cause of intestinal bleeding after marathon running]. *Schweiz Med Wochenschr* 1985; 115: 454–457
- 3 Lukela MP, Chey WD. Exercised-induced ischemic colitis in a recreational athlete previously attributed to inflammatory bowel disease. *J Med Cases* 2012; 3: 379–382
- 4 Zuckerman GR, Prakash C, Merriman RB et al. The colon single-stripe sign and its relationship to ischemic colitis. *Am J Gastroenterol* 2003; 98: 2018–2022
- 5 Amoyal P, Borjes P, Lyonnet P et al. [Subtotal colectomy for necrotizing ischemic colitis in a long-distance runner]. *Gastroenterol Clin Biol* 1989; 13: 430

Bibliography

DOI <http://dx.doi.org/10.1055/s-0034-1377536>
Endoscopy 2014; 46: E480
© Georg Thieme Verlag KG
Stuttgart · New York
ISSN 0013-726X

Corresponding author

Talat Bessissow, MDCM, FRCPC
Division of Gastroenterology
McGill University Health Center
1650, Cedar Avenue 7th floor
C7-200 Montreal
Quebec H3G 1A4
Canada
Fax: +1-514-692-5937
talat.bessissow@mcgill.ca