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Letter to the editor
Endoscopic Diagnosis of Hookworms

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After reading the article by Pizza et al. on endoscopic diagnosis of hookworms, we thought it would be important to mention some issues related to this case of hookworms diagnosed in a patient with anemia. (1) Endoscopy found a mobile parasite in the duodenum and multiple worms in the ascending colon and in the cecum. The authors assumed that findings from esophagogastroduodenoscopy and colonoscopy were compatible with hookworms.

However, Necator americanus helminths and Ancylostoma duodenale helminths (commonly grouped together as hookworms) reside in the upper portions of the small intestine while helminths of the genus Trichuris trichiura (commonly known as whipworm) reside in the cecum and the ascending colon. (2) If the usual habitat sites of these germs and macroscopic aspects clearly evidenced in the two photographs included with the article are taken into account, the etiological agents identified by endoscopy and colonoscopy in the case described in this article are from a different species.

The photographs show a worm in the cecum whose appearance is distinct from the worm detected in upper endoscopy: it has a rolled end that resembles the macroscopic characteristics of a male T. trichiura. (2, 3) T. trichiura can produce clinical symptoms such as severe anemia and even dysentery which are similar to those of hookworm infections. (3, 4)

Similarly, intestinal polyparasitism should be considered in patients who come from vulnerable populations such as rural areas and developing countries. Studies in Colombia have established prevalences of polyparasitism of 84% and 89.2% of the patients analyzed in regions of the Amazon and the Atlantic Coast. (5, 6) The combination of hookworms and T. trichiura had a prevalence of 16.7%. (5)

Diagnosis of intestinal helminthiasis can be complex. It begins with detection of eggs or adult parasites in fecal matter as indicated in the review of the topic. (7) However, the authors do not report performing any stool tests making other techniques for establishing the taxonomy of these worms, and thereby providing optimal therapy, a requirement.

One such technique is extraction of the worm with biopsy forceps after it has been identified during endoscopy. (7) This procedure is not only diagnostic but is also therapeutic since T. trichiura is sometimes embedded in the mucosa and cannot be expelled after anthelmintic treatment. (8, 9)

The article also indicated that the patient was treated with pyrantel pamoate, but the most suitable treatments for polyparasitism are based on repeated doses of benzimi-

dazoles such as albendazole, mebendazole and ivermectin. Among these drugs, albendazole is the most effective for management of both immature and adult forms of hookworms and whipworms. (10, 11)

Pyrantel pamoate is generally left as an alternative therapy for N. americanus or A. duodenale infections but is not effective for treatment of trichuriasis. (2, 3)

REFERENCES

1. Pizza-Restrepo J, Mosquera-Klinger G. Diagnóstico endoscópico de uncinaria: presentación de un caso con anemia ferropénica grave. Rev Colomb Gastroenterol. 2019;34(4):433-437. http://doi.org/10.22516/25007440.289
2. Bethony J, Brooker S, Albonico M, Geiger SM, Loukas A, Diemert D, Hotez PJ. Soil-transmitted helminth infections: ascariasis, trichuriasis, and hookworm. Lancet. 2006;367(9521):1521-1532. http://doi.org/10.1016/S0140-6736(06)68653-4
3. Ok KS, Kim YS, Song JH, Lee JH, Ryu SH, Lee JH, Moon JS, Whang DH, Lee HK. Trichuris trichiura infection diagnosed by colonoscopy: case reports and review of literature. Korean J Parasitol. 2009;47(3):275-280. http://doi.org/10.3347/kjp.2009.47.3.275
4. Jha AK, Goenka MK, Suchismita A. Clinical correlates of trichuriasis diagnosed at colonoscopy. Indian J Gastroenterol. 2017;36(5):420-423. http://doi.org/10.1007/s12664-017-0795-8
5. Fernández-Niño JA, Astudillo-García CI, Segura LM, Gómez N, Salazar AS, Tabares JH, Restrepo CA, Ruiz MA, López MC, Reyes P. Perfiles de poliparasitismo intestinal en una comunidad de la Amazonía colombiana. Biomédica. 2017;37(3):368-77. https://doi.org/10.7705/biomedica.v37i3.3395
6. Agudelo-López S, Gómez-Rodríguez L, Coronado X, Orozco A, Valencia-Gutiérrez CA, Restrepo-Betancur LF, Galvis-Gómez LA, Botero-Palacio LE. Prevalencia de parasitosis intestinales y factores asociados en un corregimiento de la Costa Atlántica colombiana. Rev Salud Pública. 2008;10(4):633-642. https://doi.org/10.1590/S0124-00642008000400013
7. Soga K, Handa O, Yamada M, Sakagami J, Yagi N, Naito Y, Toshikazu Y, Itoh Y, Arizono N. In vivo imaging of intestinal helminths by capsule endoscopy. Parasitol Int. 2014;63(1):221-228. http://doi.org/10.1016/j.parint.2013.09.006
8. Sunkara T, Sharma SR, Ofosu A. Trichuris trichiura-An Unwelcome Surprise during Colonoscopy. Am J Trop Med Hyg. 2018;99(3):555-556. http://doi.org/10.4269/ajtmh.18-0209
9. Wang DD, Wang XL, Wang XL, Wang S, An CL. Trichuriasis diagnosed by colonoscopy: case report and review of the literature spanning 22 years in mainland China. Int J Infect Dis. 2013;17(11):e1073-e1075. http://doi.org/10.1016/j.ijid.2013.02.008
10. Centers for Disease Control and Prevention (CDC) [internet]. Parasites-Trichuriasis (also known as Whipworm Infection): Resources for Health Professionals [consultada el 28 de agosto de 2019]. Disponible en: https://www.cdc.gov/parasites/whipworm/health_professionals/index.html
11. Knopp S, Mohammed KA, Speich B, Hattendorf J, Khamis IS, Khamis AN, Stothard JR, Rollinson D, Marti H, Utzinger J. Albendazole and mebendazole administered alone or in combination with ivermectin against Trichuris trichiura: a randomized controlled trial. Clin Infect Dis. 2010;51(12):1420-1428. http://doi.org/10.1086/657310