

Intestinal Helminthiasis: A Rare Cause of Obscure Gastrointestinal Bleeding Diagnosed by Capsule Endoscopy

Sofia Oubaha¹, Karima Benjouad^{2*}, Fatima-zahra Belabbes², Hafida Sghir², Zouhour Samlani², Khadija Krati²

¹Physiology Department, Faculty of Medicine and Pharmacy at Cadi Ayyad University, Marrakech

²Gastroenterology Department, Mohammed VI University Hospital, Marrakech

*Corresponding author: Karima Benjouad

| Received: 14.05.2019 | Accepted: 25.05.2019 | Published: 30.05.2019

DOI: 10.36347/sjmcr.2019.v07i05.018

Abstract

Case Report

Intestinal helminthiasis is a rare cause of gastrointestinal bleeding. In this article, we report the case of a 22-year-old patient who was admitted for intermittent melena associated with iron deficiency anemia. While oeso-gastroduodenal fibroscopy and colonoscopy did not show abnormalities, capsule endoscopy revealed a large number of parasites infesting the small intestine. The patient was successfully treated with Albendazole. Endoscopy capsule has proven to be an important tool in the diagnosis of intestinal parasitosis.

Keys words: Intestinal helminthiasis, obscure gastrointestinal bleeding, capsule endoscopy.

Copyright © 2019: This is an open-access article distributed under the terms of the Creative Commons Attribution license which permits unrestricted use, distribution, and reproduction in any medium for non-commercial use (NonCommercial, or CC-BY-NC) provided the original author and source are credited.

INTRODUCTION

Intestinal helminthiasis is a health problem in developing countries. It can be asymptomatic especially in an immunocompetent patient; as it may be responsible for various clinical manifestations: abdominal pain, transit disorders, gastrointestinal bleeding, martial deficiency anemia... We report the case of a 22-year-old patient who was diagnosed with intestinal parasitosis revealed by intermittent melena associated with anemic syndrome. The diagnosis was made during a capsule endoscopy.

CASE REPORT

A 22-year-old male patient, with no medical history, was admitted to our department for intermittent melena evolving since a year associated with an anemic syndrome. The physical examination was unremarkable apart from signs of anemia.

In the biological assessment, the blood cell count showed hypochromic microcytic anemia (Hct: 19% (normal 42%-54%), Hb:6.1g/dl (13-17g/dl), MCV: 77fL (80-100 fl), MCH :24pg (27-32pg), MCHC: 31g/dl (32-35 g/dL), normal leukocytes without eosinophilia.

At endoscopic exploration; the Esophagogastroduodenoscopy (EGD) showed no mucosal or vascular lesions, the colonoscopy was normal. The CT enterography was also normal.

The capsule endoscopy performed in our department revealed aphthoid and linear intestinal ulcerations, with a large number of parasites infesting the small intestine some of which were attached to the mucosal surface (Figure 1).



Fig-1: Helminths infestating the patient's small bowel as seen with capsule endoscopy

Parasitological examination of the stool was performed several times in our patient but showed no ova, cysts or parasites.

The patient was treated with Albenzodazole plus oral iron supplementation. His hemoglobin was significantly improved after treatment and was normal during a follow-up visit 6 months later.

DISCUSSION

Intestinal helminths are parasites that live in the human gut. They are multicellular worms that feed from the content of the intestine, or by sucking the blood from the intestinal mucosa. This leads to inflammation of the small intestine or colon, ulcers, anemia and deficiencies of proteins, iron and vitamins. Intestinal helminths are usually transmitted by contact with infected faeces (contaminated soil, food or water).

Intestinal helminths are a problem not only in developing countries but also in developed countries. Due to the globalization of human activity, potential sources of infection are distributed worldwide [1].

Helminths are among the most common infectious agents that affect humans, particularly in marginalized, low-income regions of the world with limited resources. It is estimated that more than 1 billion people in developing countries are infected with one or more helminth species [2,3].

Helminths are also responsible for high rates of morbidity and mortality (including iron deficiency anemia, chronic diarrhea, convulsions and portal hypertension) [4].

Iron deficiency anemia is the main manifestation of hematophagous helminths. It is the result of two mechanisms. The first mechanism is blood consumption by the parasite which binds to the mucosal surface using their cutting device and sucks the blood. The second one is the release of anticoagulant agents by the parasite which maintains blood loss from the injured mucosa [5].

Eosinophilia can also be detected in 30% to 60% of cases [6], and its peak typically coincides with the development of adult helminths in the intestine [7]. We have not found eosinophilia in our patient.

The diagnosis of helminthiasis is normally based on parasitological examination of stool by detecting the parasite or its eggs [7]. However, in our case, the parasitological examination of the stool was negative several times. This was also the case in some other cases of intestinal parasites diagnosed by capsule endoscopy reported in the literature [7-9].

The capsule endoscopy not only allows the diagnosis of intestinal helminthiasis but also the study of the ecology and the environment of the parasite [8].

Even if the parasitic origin is an infrequent cause of gastrointestinal bleeding, it may be suspected in subjects with risk factors (mental disorders, living in rural areas) and with eosinophilia, regardless of geographic region. This case was a real diagnostic challenge since our patient had no risk factors and never presented eosinophilia and parasitological stool examinations were normal.

However; by following the protocol of diagnosis for occult gastrointestinal bleeding, indicating the realization of a capsule endoscopy if EGD fibroscopy and colonoscopy did not show any abnormalities; the diagnosis of gastrointestinal bleeding secondary to helminthiasis was possible by visualizing parasites on the capsule endoscopy.

CONCLUSION

This case report describes a rare cause of occult gastrointestinal bleeding, which should be considered in the differential diagnosis, especially in subjects at risk. The capsule endoscopy has proven to be an important tool in the diagnosis of intestinal parasitosis by showing several parasites infesting the small intestine.

REFERENCES

1. De Marval F, Gottstein B, Weber M, Wicht B. Imported diphyllbothriasis in Switzerland: molecular methods to define a clinical case of Diphyllbothrium infection as Diphyllbothrium dendriticum, August 2010. *Eurosurveillance*. 2013 Jan 17;18(3):20355.
2. Hotez PJ, Molyneux DH, Fenwick A, Kumaresan J, Sachs SE, Sachs JD, Savioli L. Control of neglected tropical diseases. *New England Journal of Medicine*. 2007 Sep 6;357(10):1018-27.
3. Hotez PJ, Brindley PJ, Bethony JM, King CH, Pearce EJ, Jacobson J. Helminth infections: the great neglected tropical diseases. *The Journal of clinical investigation*. 2008 Apr 1;118(4):1311-21.
4. WHO Technical Report Series. Research Priorities for Helminth Infections Technical Report of the TDR Disease Reference Group on Helminth Infections. 2012: 972.
5. Lwambo NJ, Bundy DA, Medley GF. A new approach to morbidity risk assessment in hookworm endemic communities. *Epidemiology & Infection*. 1992 Jun;108(3):469-81.
6. Kucik CJ, Martin GL, Sortor BV. Common intestinal parasites. *American family physician*. 2004 Mar 1;69(5).

7. Christodoulou DK, Sigounas DE, Katsanos KH, Dimos G, Tsianos EV. Small bowel parasitosis as cause of obscure gastrointestinal bleeding diagnosed by capsule endoscopy. *World journal of gastrointestinal endoscopy*. 2010 Nov 16;2(11):369.
8. Soga K, Handa O, Yamada M, Sakagami J, Yagi N, Naito Y, Yoshikawa T, Itoh Y, Arizono N. In vivo imaging of intestinal helminths by capsule endoscopy. *Parasitology international*. 2014 Feb 1;63(1):221-8.
9. Xouris D, Vafiadis-Zoumbulis I, Papaxoinis K, Bamias G, Karamanolis G, Vlachogiannakos J, Ladas SD. Possible *Strongyloides stercoralis* infection diagnosed by videocapsule endoscopy in an immunocompetent patient with devastating diarrhea. *Annals of gastroenterology*. 2012;25(3):268.