Not Only *Helicobacter pylori* Lives in Stomach - Case Report

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Received: February 24, 2020

Published: April 28, 2020

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Abstract

This case report brings attention to an unusual pathogen which can live in the human stomach and cause dyspeptic symptoms, weight loss and typically does not spring as the first hypothesis of medical doctors. The 67-year-old Brazilian man described in this report had a delay in his diagnosis of almost 2 years, until his complaints were resolved, which makes this an interesting case report.

Keywords: Strongyloides stercoralis; Gastric Strongyloidiasis; Proton Pump Inhibitors; Case Report; Dyspeptic Symptoms

Abbreviations

H. pylori: *Helicobacter pylori*; UGE: Upper Gastrointestinal Endoscopy; CT: Computed Tomography; *S. stercoralis*: *Strongyloides stercoralis*

Introduction

Helicobacter pylori might be the most commonly remembered pathogen by doctors with patients complain about dyspeptic symptoms or present gastritis at upper gastrointestinal endoscopy. The main reason is that a great proportion of world population is colonized by this gram-negative bacterium and because publications focus on association between *H. pylori* and gastric inflammation [1].

On the other hand, in patients using immunosuppressive drugs, with cancer or living in developing countries, an open-minded approach considering other pathogens is necessary. The purpose of this case report is to emphasize the idea that other pathogens can live in our stomach.

Case Report

A 67-year-old Brazilian man undergoing chronic immunosuppressive corticosteroid therapy (20 mg/day) and methotrexate (10 mg/week) since 2016, to treat temporal arteritis and rheumatic polymyalgia, was hospitalized on June 2018, to investigate consumptive syndrome due to asthenia, hyporexia and weight loss of approximately 20Kg in 2 years. Neoplasms, thyroidopathy, diabe-

tes and HIV infection were ruled out, but his colonoscopy showed an extensive colitis. Its histopathological analysis shows ulcerative colitis and he was discharged with empiric sulfasalazine therapy (4 g/day).

The patient condition continued to deteriorate and asthenia worsened after 1 month (July/2018), associated with vomit, postprandial plenitude, postprandial discomfort, keeping him from eating normally. Upper gastrointestinal endoscopy (UGE) revealed erosive gastritis and duodenitis with histopathological examinations showing gastritis without *H. pylori* infection. The patient was in use of Omeprazole 20 mg/day due to the chronic corticosteroid therapy and we adjusted its dose to 40mg/day.

In August/2018, the patient returned presenting hyporexia, lack of appetite, intense postprandial epigastric pain, alimentary vomits and heartburn. In the Emergency Room, laboratory tests (hemogram, RCP, creatinine, electrolytes, amylase and lipase), ECG and an abdominal CT angiography were normal. Based on symptoms, a new UGE was performed and showed a Grade D Los Angeles erosive esophagitis, severe erosive pangastritis and severe duodenitis. Furthermore, the histopathological examination detected gastric strongyloidiasis (Figure A and B). The patient was treated with Albendazole (800 mg twice a day during 7 days) with complete resolution of symptoms. Since the hospital discharge, the patient was evaluated twice at the out-patient clinic, gained weight and has normal digestion presently.

Figure A: Histology of the patient's biopsied stomach tissue demonstrating eggs (black arrow), larval (red arrow) and adult forms (blue arrow) of *Strongyloides stercoralis* within the crypts and surface epithelium.

Figure B: Histology of the family's biopsied stomach tissue demonstrating adult forms of *Strongyloides stercoralis* within the crypts and surface epithelium.

Discussion

Strongyloides stercoralis is an intestinal nematode detected in millions of people around the world, mainly in endemic Tropical countries because of the high humidity and temperature required for its proliferation [2]. In humans is usually underdiagnosed due to the lack of symptoms in healthy populations, therefore we point the need to be aware of Strongyloidiasis as a differential diagnosis of postprandial epigastric pain in immunosuppressed patients, especially in endemic areas such as Brazil [3,4].

The most frequent cause of reinfection is the chronic use of glucocorticoids in an immunosuppressive dose [5]. Other factors, such as alcoholism, male gender, Caucasian race, extreme poverty and poor excreta disposal are associated with a higher prevalence

of intestinal infections by *S. stercoralis* [3]. Immunosuppressed patients may have normal eosinophil count, despite active disease [4].

Prophylaxis should be performed routinely in immunosuppressed patients. A meta-analysis suggests that the best option, considering the cost-effectiveness, is the use of Ivermectin at a dose of 200 µg/kg/day for 2 days, repeated within 2 weeks [6]. Other options, as Albendazole and Thiabendazole, may also be used as a second line treatment [7]. At our case, Albendazole was used due to its availability at our Hospital. Endemic areas perform prophylaxis for immunosuppressed individuals at intervals, which can be from 3 to 6 months, although this time is not well established in the medical literature [6].

The stomach acidity hinders *S. stercoralis* reproduction. Some medications are capable of attenuating its acidity, therefore allowing the parasite development, as proton pump inhibitors [7]. In this case report, our patient was in use of Omeprazole during the last 2 years. Gastric involvement can be identified by numerous symptoms, including vomiting, weight loss, dyspepsia, epigastric pain and nausea, and also endoscopic findings, like ulcerative lesions, perforation and multiple nodules [8-10]. In addition, Jaka., *et al.* reported a case of upper GI bleeding associated with this nematode [11].

A systemic review of 25 cases of duodenal Strongyloidiasis revealed some characteristic endoscopic findings, such as edematous and erythematous mucosa, swollen folds and white villi, which could be important indicators of infection in endemic areas. In this study, 24% of the diagnosis of *S. stercoralis* infections were established only from biopsy, and the fecal samples were negative [4,12].

Conclusion

This case highlights the importance of considering Strongyloidiasis as differential diagnosis in immunosuppressed patients presenting gastrointestinal symptoms, especially in endemic areas. In addition, an important factor to take into consideration is the use of proton pump inhibitors and its facilitation for the disease development in the stomach.

Conflict of Interest

No conflict of interest.

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