

Case Report

Open Access, Volume 3

Clostridium difficile and helicobacter pylori co-infection

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Received: May 16, 2022

Accepted: Jun 15, 2022

Published: Jun 22, 2022

Archived: www.jcimcr.org

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DOI: www.doi.org/10.52768/2766-7820/1904

Abstract

A 64 year old male patient presented with ulcerative colitis exacerbation along with dyspepsia, nausea and weight loss. He was found to have stool Clostridium Difficilis toxin test positive and H.Pylori stool antigen positive. It is rare to have both of these infections in the same patient and there is no guideline on management of this co infection. The plan was to start treatment of Clostridium Difficilis then to treat Helicobacter Pylori. The patient responded well to this management indicating the possibility of adopting this approach in such patients.

Keywords: Helicobacter pylori; Clostridium difficilis; Eradication therapy.

Introduction

H.Pylori is a urease producing, flagellated gram negative spiral bacteria that is considered the most prevalent chronic infection in humans [1]. Its prevalence is just above 50% worldwide [2]. H.Pylori has been linked to several pathologies such as gastritis, peptic ulcer disease, mucosa associated lymphoma, gastric adenocarcinoma, iron deficiency anemia, idiopathic thrombocytopenia, and others [4,5].

Clostridium Difficilis is a spore forming gram positive anaerobic rods that can result in a range of manifestations from asymptomatic carrier to severe fulminant life threatening colitis [6].

Medical literature is full of data about H.Pylori mono infection treatment and Clostridium Difficilis mono infection treatment [7]. Furthermore, there are many researches about Clostridium Difficilis infection following H.Pylori eradication treatment [8]. However, there is paucity of information on Clostridium Defficilis and H.Pylori co infection. In this paper we discuss a rare case of both pathogens coexist in the same patient.

Case description

This is a 64 year old male patient who is known to have mitral valve replacement since 2010 on Warfarin 5 mg daily. He is also known to have ulcerative colitis since 2018 that was well controlled on azathioprine 100 mg daily and mesalamine 4.8 gm daily. He presented to outpatient clinic with dyspepsia of six weeks duration, weight loss of around three kg over the same period along with mild bloody diarrhea of three bowel motions per day. The patient had general weakness and easy fatigability. He also had dizziness and shortness of breath. The patient had colonoscopic examination in November 2021 which showed mayo score grade one pancolitis and ascending colon sessile polyp lesion of around 2.5 cm in diameter that was removed totally in two pieces by endoscopic mucosal resection. He had gastroscopy in July 2020 and showed gastritis with no H.Pylori infection. No history of recent antibiotics exposure but he was on intermittent omeprazole 20 mg PRN. There was no history of recent travel or contact with patients with diarrhea. On examination, he was vitally stable, slightly pale with mild abdominal tenderness. Per rectal exam revealed fresh blood with

no masses. Laboratory tests showed WBC 6.5, HB 4.5, platelets 285, CRP <6, ESR 22, INR 3.2, creatinine, lipase, amylase, liver enzymes and electrolytes were normal. Stool analysis showed inflammatory cells but no ova or parasites on sequential stool tests. Clostridium Difficilis toxin A and B were positive. In addition, H.Pylori stool antigen was positive. Plain abdomen X-ray and ultrasound abdomen were unremarkable. The patient was admitted to hospital for blood transfusion and further management. Blood film, iron, ferritin, total iron binding capacity, vitamin B12, folate were sent before blood transfusion. He was given 4 units of packed red blood cells over 2 days and his hemoglobin became 9.5. He was reluctant to undergo gastroscopy at the time being and opted to go for it with his planned colonoscopy in November 2022. Joint decision was taken to treat Clostridium first and to defer treatment of H.Pylori later, so the patient was given oral vancomycin 250 mg Q 6 hours along with his own medication. Two days later, he was discharged home and prescribed vancomycin 250 mg Q 6 hours for 2 weeks. At a follow up outpatient clinic visit 4 weeks later, the patient was complaining of dyspepsia, nausea but he did not have diarrhea or rectal bleeding. Therefore, the decision was to give concomitant eradication therapy for H.Pylori for 2 weeks and the patient was given appointment 6 weeks later to confirm H.Pylori eradication. He tolerated the treatment very well and his symptoms subsided. Follow up H.Pylori stool antigen 4 weeks following the completion of treatment was negative. He did not develop diarrhea and stool test for clostridium Difficilis toxin was negative.

Discussion

H.Pylori and Clostridium difficile co infection are rarely encountered in clinical practice as each of them has distinct clinical manifestations which are different from the other. However, there are plenty of data regarding Clostridium Difficilis infection that followed H.Pylori treatment and eradication [9].

Our case was unique because the patient has upper gastrointestinal symptoms that is related to H.Pylori infection and has lower gastrointestinal symptoms that are related to an episode of flare up of ulcerative colitis secondary to Clostridium Difficilis infection. These infections were confirmed with standard stool tests.

Bloody diarrhea resolved upon treatment of Clostridium Difficilis with vancomycin and this also confirms the cause effect relationship of bloody diarrhea to Clostridium Difficilis infection. After that, the patient was given concomitant eradication therapy for H.Pylori and he responded very well in term of resolution of dyspepsia and nausea that also confirm the cause effect relationship between the patient's upper gastrointestinal symptoms and H.Pylori infection.

In our case, we first treated Clostridium Difficilis infection as it carries higher risk of complications in inflammatory bowel disease patients. Then, we treated H.Pylori infection four weeks post Clostridium Difficilis treatment. There are no guidelines that support our approach but it sounds logically plausible to treat Clostridium Difficilis first.

There was one case report that addressed this issue in the medical literature which was published in the American Journal of Gastroenterology in 2019 by Bello, Fatema. Their approach of treatment was similar to our approach [10].

Conclusion

In conclusion, we recommend treatment of Clostridium Difficilis first and then to treat H.Pylori in patients with both symptomatic infections.

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