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Case Report

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Case Report of Ischemic Colitis Post Mild Covid 19 Infection

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ABSTRACT

Background: COVID-19 has emerged as a global health pandemic emergency with a massive effect on public health globally. In addition to its effects on respiratory tract, COVID-19 disease had been linked to many gastrointestinal symptoms. Rarely, it has been associated with intestinal ischemia due to the resultant hypercoagulable state.

Case Summary: We report a case of a young lady previously healthy, who presented with severe abdominal pain associated with tenesmus and mucoïd-bloody diarrhea, diagnosed to have ischemic colitis post covid19 infection.

One of the port of entry of coronavirus 2 (SARS-CoV-2), to cause infection, is via an angiotensin-converting enzyme2 (ACE2). View that these ACE 2 receptors are highly expressed at the level of gastrointestinal tract, a variety of symptoms will occur. Recently, coagulopathy due to COVID-19 has emerged as a major component of the disease. The resultant ischemia has been reported to be associated with a hypercoagulable state. Lately, few cases were described worldwide of intestinal ischemia due to COVID-19 infection, mainly occuring in patients presenting with severe respiratory illness. Our patient did not complain of severe COVID-19 infection in the context of dyspnea or respiratory distress and did not have any features of shock requiring a vasopressor therapy.

Treatment for ischemic colitis mainly involves supportive care with bowel rest.

Conclusion: New datas concerning covid 19 infection are emerging. Ischemic colitis is a new aspect of manifestation of the infection, which can take place without necessarily being linked to a severe infection with covid 19 as in our case.

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Keywords: Ischemic colitis, COVID 19 infection, Gastrointestinal tract, Case report

Abbreviations

COVID 19, corona virus disease 2019; ACE, angiotensin-coverting enzyme; IV, intravenous; PO, per os.

Introduction

The novel coronavirus SARS-CoV-2, designated as COVID-19 by the World Health Organization (WHO) on the February 11-2020, has emerged as a global health threat pandemic emergency and had a massive effect on public health globally, responsible of infection of more than 124 million people with the death of more than 2,74 million worldwide [1]. In addition to its effects on respiratory tract, the COVID 19 disease had been linked to many gastrointestinal symptoms mainly abdominal pain, diarrhea, nausea and vomiting. Rarely, it has been associated with intestinal ischemia due to the resultant hypercoagulable state [2].

We report a case of a young lady previously healthy, who presented to our hospital complaining of severe abdominal pain associated with tenesmus and mucoïd-bloody diarrhea, diagnosed to have ischemic colitis post covid 19 infection.

Case Presentation

31 years old lady, allergic to drofenine, presented to our emergency department complaining of severe abdominal pain associated with severe multiple episodes of mucoïd bloody diarrhea increasing in intensity and frequency.

History goes back to 20 days ago, when the patient tested positive for COVID 19, and started to have crampy abdominal pain with myalgia and diaphoresis so started on klacid 500mg daily 1 tab for 3 days with multivitamins supplements. 3 days after, the patient started to have severe continuous abdominal pain, mainly on lower quadrants, associated with increase tenesmus and mucoïd diarrhea of small volume reaching more than 20 episodes per day that turned lately bloody, associated with decrease po intake. (Figure 1).

PMH: none.

PSH: C section.

Occupational History: registered nurse.

At presentation, the patient is afebrile, BP 100/60mmHg, HR 95. The patient looks in distress. On physical exam, she is dehydrated

with diffuse lower quadrant tenderness and active bowel sound on abdominal exam.

Laboratory test showed leukocytosis with left shift (WBC 13900, NT 84%), elevated CRP (58), hypokalemia and disturbed amylase/lipase. Stool analysis turned positive for WBC, RBC and entamoeba coli cyst with positive fecal occult blood. Toxin A and B for Clostridium difficile were negative.

Urgent ct scan abdomen pelvis without contraste done in ER and showed significant mucosal thickening on rectum, recto-sigmoïd and sigmoid colon associated with perirectal and presigmoïdal fat stranding; findings going with severe recto-sigmoïditis with visualized lower lung segments showing fibrotic opacities going with post COVID 19 changes.

In front of these findings, the patient was admitted to regular floor, started on IV hydration + IV antibiotics (combination of fluoroquinolones and metronidazole) with correction of her electrolytes and symptomatic treatment for her severe abdominal pain. Despite these interventions, the patient did not improve clinically, and the pain was persistent despite paracetamol, NSAID and Dolosal. So, an urgent colonoscopy with recto-sigmoïdoscopy was done, at day 4 of hospitalization, and showed circumferential edematous erythematous mucosa followed by diffuse circumferential log segment of ulcerated mucosa with a thick layer of mucous up to 33cm in the recto-sigmoïd region. Multiple biopsies were taken; the left colon was normal with right colon full of hard stool. (Figure 2 and video).

Figure 1: Showing the shape of the stools

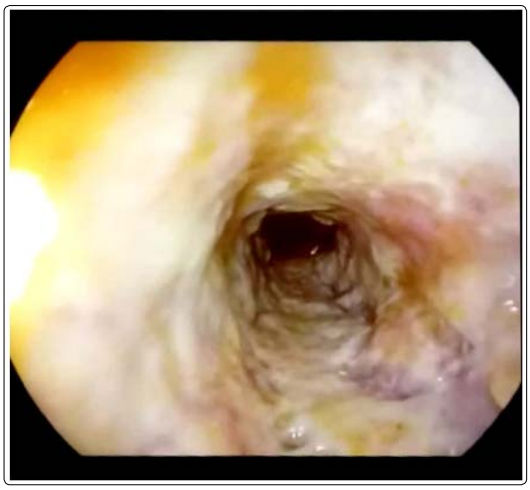

Figure 2: showing findings of the colonoscopy

Medical Number: 560345 | Age: 32 Year and 66 Day
Patient Name: [redacted] | Gender: Female
Date of Exam: 08/01/2021 | Consultant In Charge: Hassan Mohamad Akouche
Confirmation Date: 09/01/2021 | Visit Number: 2
N/S/Room/Bed: VIP- Floor/341/1 | Pathology Number: --
Ordering Doctor: Hassan Mohamad Akouche | Order Number: 5150910
Examination : Colon, biopsy | Status: Not Confirmed

Lab-F07/PA Edition 1 Last Revised : 25/03/2002 PATHOLOGY NUMBER: 21-49
Received date: 8.1.2021 Report date: 13.1.2021

SPECIMENS: Sigmoid colon biopsy
History: Pseudomonases colitis

GROSS :
- Received mutiple fragments of tissue fixed in formalin submitted in toto. AB 1A

MICROSCOPIC DESCRIPTION :
- Some fragments of colonic mucosa showing preserved surface epithelium with moderate inflammatory infiltrate with isolated fibrino-leucocystic exsudate.
- Rare cryptic microabcess are seen.
- No granulomas are seen.

CONCLUSION : Sigmoid colon biopsy
- May consistent with an ischemic colitis.
- Clinical and biological correlations are needed.
- No evidence of malignancy.

Pathologist
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Printed: 14/04/2021 Page 1

Based on these findings, IV methylprednison 40mg daily with vancomycin at a dose of 125mg po q6h started along with stool softner, but the improvement was mild over the next few days, so anticoagulation by lovenox sc daily added for the suspitious finding on colonoscopy. At that time, the patient improve dramatically with increase of her desire to eat and drink, disparition of her abdominal pain and improving of her stool consistency with decrease of the mucoïdal features.

The patient was discharged on vancomycin po 125mg q6h + flagyl 500mg po TID for a total of 14 days course of antibiotics, with xarelto 15mg 1 tab daily for possible ischemic versus infectious colitis. Upon discharge, she did ct scan angio of abdomen/pelvis that showed severe diffuse edematous recto-sigmoïd wall thickening surrounded by significant fat stranding and engorged venin with no frank thrombosis in the draining vein suggesting venous ischemia (may be segmental venous branch obscured by the surrounding engorged vein) or infectious colitis. The biopsies results confirmed an ischemic etiology in this previously healthy young lady due to the COVID19 infection.

Follow up in clinic after 3 months with repeating colonoscopy showed a massive improvement in the colonic mucosa with very minimal ulcerative lesions left.

Discussion

It has been proven that one of the port of entry of coronavirus 2 (SARS-CoV-2), to cause infection, is via an angiotensin-converting enzyme 2 (ACE2). View that these ACE 2 receptors are highly expressed at the level of the respiratory mucosa, myocardial and gastrointestinal tract, a variety of symptoms will

occur at these sites. The majority of COVID-19-associated GI symptoms are mild and self-limiting and include mainly abdominal pain, nausea, vomiting and diarrhea [3]. Recently, coagulopathy due to COVID-19 has emerged as a major component of the disease, responsible of high mortality and morbidity. The resultant ischemia has been reported to be associated with a hypercoagulable state [4]. Ischemic colitis is a condition due to a nonocclusive disease secondary to changes in systemic circulation resulting in decrease of the blood supply to the colon, leading to mucosal injury and ischemia. Lately, few cases were described worldwide of intestinal ischemia as a consequence of COVID-19 infection, mainly occuring in patients presenting with severe respiratory illness probably related to the hemodynamic instability and shock commonly seen in patients with severe COVID-19, in addition to the use of vasopressors in such patients, all of which may result in a decrease in blood supply to the colon leading to an ischemic state [5]. Our patient did not complain of severe covid 19 infection in the context of dyspnea or respiratory distress and did not have any features of shock requiring a vasopressor therapy.

In addition, studies have shown that a medical history of diabetis or an increase in D-dimer levels, predispose the patients to higher risk of thrombosis [5]. Our patient did not meet these criteria.

Treatment for ischemic colitis mainly involves supportive care with bowel rest. Anticoagulation is rarely indicated. Our patient's condition responded weakly to the supportive measurement, that included hydration with IV antibiotics, and improved dramatically after the administration of enoxaparin.

Conclusion

No doubt the mechanism by which COVID-19 infects the human body and its repercussions at the level of several organs is still not fully identified. Everyday new datas concerning COVID-19 infection are discovered, of which ischemic colitis. The latter is a new aspect of manifestation of the infection, which can take place without necessarily being linked to a severe infection with COVID-19 as in our case.

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Ethical Approval

The study type is exempt from ethical approval.

Consent

Written informed consent was obtained from the patient for publication of this case report and accompanying images.

A copy of the written consent is available for review by the Editor-in-Chief of this journal on request.

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