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Case Report

Overt hematochezia : A rare gastrointestinal presentation in patients with corona virus disease 2019



MIAFI

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ABSTRACT

World health care systems are affected by the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) pandemic and its associated disease, coronavirus disease 2019 (COVID-19). This new human pathogen mostly affects the respiratory system, but various extrapulmonary pathologies have been reported in the literature. It seems that the gastrointestinal system is one of the target organs for SARS-CoV- 2. Diarrhea as a long-term bowel symptom is not rare, although its occurrence is not as high as that of fever and cough.

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Introduction

Coronavirus disease 2019 (COVID-19), which is caused by an RNA beta coronavirus (SARS-CoV-2), is a new human pathogen that first started in Asia and rapidly became a pandemic. Currently, the world health care systems have been plagued by a rapidly transmitted virus with no specific treatment. It mostly affects the respiratory system, ranging from mild flu-like symptoms to severe acute respiratory syndrome (SARS). However, extra respiratory multisystemic involvement (such as neurologic, hematologic, cardiac, and gastrointestinal) has also been reported.^{1–5} Efficient personnel is the most important asset of the armed forces. Training experienced military pilots require a lot of resources and hence this manpower needs to be conserved well.⁶

Case report

A 41-year-old male military F-4 pilot who had flu-like syndrome for 2 days as referred to the emergency ward with gastrointestinal (GIT) symptoms (nausea, vomiting, abdominal cramps, and diarrhea) of 24 h duration. He denied any tobacco or drug use, high-risk behaviors, or any other medical history. He had close contact with his teammate, who had a positive reverse transcription polymerase chain reaction (RT-PCR) test for SARS-CoV-2. His vital signs included an oral temperature of 38.5°C, blood pressure of 100/55 mm Hg, heart rate of 121 beats per minute, respiratory rate of 25 breaths per minute, and oxygen saturation of 82%. Significant findings of laboratory assessments for COVID-19 are shown in Table 1. Clinical features, computed tomography (CT) scan findings of

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$ \begin{array}{c} PaO_2 = 82 \mm Hg \\ No \ growth \\ No \ growth \\ No \ growth \\ Serology \\ \\ Serology \\ \\ Serology \\ \\ Serology \\ \\ \\ Serology \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\$			Calcium = 8.4 mg/dL	8.6-10.3
Blood culture (in three times) No growth No growth after 72 h Serology CRP = 18.8 mg/L Up to 8 ESR = 15 mm 2-20 AFP = 3.1 IU/mL 0-4 CEA = 2.2 IU/mL Up to 4.7 Legionella urine antigen was negative Negative Stool examination Macroscopic Color = bloody - Consistency = watery Well formed PH = 4.85 5-8 Mucroscopic Epithelial cells = 3-4/hpf Absent MBC = 30-40/hpf 1-2 RBC = 30-40/hpf 1-2 RBC = 35-45/hpf Absent			$PaO_2 = 82 \text{ mm Hg}$	80-100
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Versinia and Clostridium difficile			Yersinia and Clostridium difficile	
Stool calprotectin $>1000 \text{ µg/g}$ $10-59 \text{ years: up to 5}$	Stool calprotectin		>1000 µg/g	10-59 years: up to 5

the chest, and a positive result for nasopharyngeal swabs RT-PCR test for SARS-CoV-2 was evidence FOR recent COVID-19 pneumonia with CO-RADS SCORE 6 (Fig. 1-A). Bronchoscopic bronchoalveolar lavage did not show a cluster of P.carinii cysts or trophozoites on methenamine silver staining. The patient clinical profile and characteristics of diarrhea are summarized in Table 2. He was admitted to the intensive care unit (ICU) and received standard medication and intensive care based on medications and therapeutic interventions (Table 3). Initially, ceftriaxone, metronidazole, and azithromycin were prescribed for him, but with a negative stool culture response, azithromycin and metronidazole were discontinued. After 9 days from the start of the ICU care, his pneumonia was satisfactorily controlled (based on the progressive improvement evident in serial chest CT scans and oxygen saturation of 90%). However, mild bloody and mucoid



Α



Fig. 1 – (A) Axial chest CT scans represented COVID-19 pneumonia with CO-RADS SCORE 6. (B) Intravenous contrastenhanced CT scan of the abdomen and pelvis. Axial and coronal planes showed severe global colonic inflammation with sigmoid colon involvement which characterized by circumferential wall thickening, mural hyper enhancement, mesenteric hyper vascularity, and pericolic fat stranding (arrows).

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Table 2 — Defecations specification of patient.								
Duration	Frequency	Stool form	Relative volume (for each defecation)	Abdominal cramps				
First day	1–2 times a day	Watery	100–200 mL	Non				
Second and third days	2–3 times a day	Watery, bloody, and mucoid	150–250 mL	Moderate				
Fourth and fifth days	1–2 times a day	Overt hematochezia	50–100 mL	Severe				
Fifth to twentieth days	1—3 times a day	Semi formed, bloody, and mucoid	100–200 mL	Mild				

diarrhea continued. CT scan with intravenous contrast of his abdomen and pelvis showed severe colonic inflammation, which was most pronounced in the ascending, transverse, and descending colon but was also apparent in the sigmoid colon (Fig. 1B). With suspicion of noninfective causes (such as inflammatory bowel disease [IBD]), colonoscopy and biopsy were requested, and only diffused inflammation and patchy erythema of the colonic mucosa were observed with no evidence of pseudomembranous or Cytomegalovirus (CMV) colitis (Fig. 2). Microscopic findings showed infiltration of numerous plasma cells, lymphocytes, interstitial edema, and congestion in the lamina propria indicating viral colitis. Because we did not see morphological features of CMV colitis, we did not request serum CMV IgM and IgG antibodies and CMV DNA test (PCR test; Fig. 3A). Also, his rectal swabs sampling was positive for the RT-PCR test for SARS-CoV-2. With

the clinical judgment of possible COVID-19 GIT complication, he was referred to the COVID-19 ward. Ceftriaxone, levofloxacin, chloroquine, favipiravir, methylprednisolone, and Nacetylcysteine were discontinued. After 11 days of admission to the COVID-19 ward, he was discharged with satisfactory clinical condition with the recommendation for 2 weeks of home rest. On follow-up at Aeromedical Center, his general condition was good, but he complained of weakness, occasional abdominal cramps, and some loose stools. He had negative nasopharyngeal and rectal swab and RT-PCR tests for SARS-CoV-2, significant recovery in the control chest CT scan, and oxygen saturation of 93%. The results of renewed stool examination and colonoscopy were normal. Repeat biopsy revealed only a few infiltrations of lymphocytes in the lamina propria (Fig. 3B). Three months later, his symptoms

Table 3 – Medications and therapeutic interventions.									
Antibacterial therapy	Antiviral therapy	Oxygen therapy	Ventilation support	Mechanical ventilation	ICU care	Conservative and adjunctive treatments			
Ceftriaxone Levofloxacin Chloroquine	Favipiravir	Yes	Reservoir oxygen and non-rebreather face mask	No	Yes	Oral and IV rehydration Electrolytes replacement Methylprednisolone Scopolamine and dimenhydrinate Famotidine and loperamide Promethazine hydrochloride N-acetylcysteine Vitamins C, D, E, and A Zinc and selenium			



Fig. 2 – Diffused inflammation and patchy erythema of the colonic mucosa.

Instead, chronic diarrhea lasting more than 4 weeks is mainly caused by noninfectious reasons (such as malabsorption, IBD, and drugs). Treatments depend on the duration and etiology. Common management for both forms is replacing fluid and electrolytes loss via oral rehydration (with diluted fruit juice, Pedialyte, or Gatorade) or intravenous fluid administration. A low-fiber diet (bananas, toast, oatmeal, white rice, yogurt, and soup) may help make stool firmer. Antidiarrheal therapy (such as antisecretory or antimotility agents) is contraindicated in adults with bloody diarrhea (dysentery) or high fever because they can worsen severe intestinal infections. Orally or intravenously empiric ceftriaxone, azithromycin, and metronidazole in patients with more severe symptoms should not be prescribed before fecal sampling.⁷



Fig. 3 – (A) Microscopic findings showed numerous infiltrating of plasma cells, lymphocytes, interstitial edema, and congestion in the lamina propria indicated viral colitis. (B) Repeat biopsy revealed only a few infiltrations of lymphocytes in the lamina propria.

completely disappeared, and with a satisfactory aeromedical examiner report, the Medical Council released him for duties.

Discussion

Diarrhea is defined as a condition that the patient having at least **three** loose, liquid, or watery bowel movements each day. Diarrhea could be classified into acute or chronic and infectious or noninfectious according to its duration and symptoms. Acute diarrhea lasting less than 2 weeks and viral pathogens are the most common causes and are mostly self-limiting. Although respiratory droplets and aerosols(especially during unprotected close contact) are the main routes of COVID-19 transmission, the fecal-oral routes may also be a potential route. Recent studies reported SARS-COV-2 detection in feces via either rectal swabs or feces sampling. Currently, very limited fecal RT-PCR are performed for COVID-19 only for research purposes⁸. Multiple GIT presentations, such as anorexia, nausea, vomiting, diarrhea, dysentery, hematochezia, bowel cramps, hiccup, belching, and blowing, are well documented in the literature. Dysentery is a possible GIT complication in COVID-19 patients (with or without pneumonia) that may be resistant to common treatments, persist for a long time, and are accompanied by recurrent episodes.⁴ Hemorrhagic colitis with diffuse inflammation and patchy erythema of the colonic mucosa in colonoscopy have been reported in concurrent GIT and COVID-19 pulmonary infection.⁵ New onset or recurrent IBD may be one of the other GIT complications of COVID-19 infection. However, a definitive IBD diagnosis needs colonoscopy and pathological assessment.⁹

From an aeromedical point of view, he will not be allowed to return to flying until he has full recovery with normal tests and a satisfactory report from the aeromedical council. Indeed, his inflight medical sudden incapacitation risk must be less than1% for rejoining.¹⁰

Conclusions

For all practical purposes, this case can be considered as COVID-19 with bloody diarrhea. Because of laboratory limitations and the exposure risk for the health care personnel, more evaluation and research should be done in the future on this topic.

Ethics approval and consent to participate

The ethical approval of this study was issued with registration N# 10167138 by the Ethics Committee of the Medical Faculty in Aja University of Medical Sciences.

Disclosure of competing interest

The authors have none to declare.

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