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CLINICAL CASES

# Gastrointestinal bleeding and COVID-19: Report of two cases

## *Hemorragia digestiva e COVID-19: Relato de dois casos*

## *Sangrado gastrointestinal y COVID-19: Informe de dos casos*

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## INTRODUCTION

In March of 2020, the World Health Organization (WHO) declared COVID-19, the disease caused by the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), a pandemic (1). According to the latest literature, respiratory symptoms (coughing, fever and dyspnea) represent the infection's most common clinical presentations, but gastrointestinal symptoms (abdominal pain, nausea, vomiting and diarrhea) and the presence of SARS-CoV-2 in stool samples have also been reported (2–5). In addition, reports of the concomitance of upper gastrointestinal bleedings (UGIB) with SARS-CoV-2 infection have been published, but it still remains unclear if there exists a causal relationship between the viral infection and the physiopathogenesis of such UGIBs (6–8). In order to contribute to the growing scientific body of knowledge on COVID-19, this study aims to present two case studies on patients that presented with concomitant UGIB and SARS--CoV-2 infection between March and April of 2020.

## CASE STUDIES

**Case 1:**

CMTC, female, 87 years old, history of systemic arterial hypertension, dyslipidemia, hypothyroidism and dementia. Admitted on 03/16/2020 to another institution for surgical management of a femoral fracture due to a fall from standing height, being subsequently discharged with prophylactic rivaroxaban. Admitted on 03/23/2020 to our hospital due to four episodes of hematemesis. After stabilization, patient was submitted to upper gastrointestinal endoscopic evaluation, which revealed lacerations of the distal esophageal mucosa consistent with Mallory-Weiss Syndrome. During this hospital stay, CMTC neither developed nor presented other symptoms, including those of a respiratory nature. Once clinical stability was ascertained, the patient was discharged and, on the date of such occurrence, we discovered from her family members that the orthopedic surgeon was positive for COVID-19 on the date of her surgical procedure.

On 03/30/2020 CMTC was readmitted presenting with respiratory symptoms, progressing towards severe acute respiratory syndrome (SARS) and a significant reduction in level of consciousness, therefore requiring transfer to an intensive care unit (ICU). With a nasopharyngeal sample collected at admission, the patient's real-time polymerase chain reaction (RT-PCR) test for SARS-CoV-2 was positive. CMTC received treatment with piperacillin/tazobactam, azithromycin, hydroxychloroquine and oseltamivir. Additionally, multi-susceptible

*Klebsiella pneumoniae* (36,000 CFU) were isolated from a urine culture, while one of two blood cultures grew oxacillin-resistant *Staphylococcus epidermidis*, which was deemed as a contaminant. A chest computed tomography (CT) scan showed extensive ground-glass opacifications in a crazy-paving pattern. On 03/31/2020, the patient progressed with tachypnea and oxygen desaturation, needing orotracheal intubation and invasive mechanical ventilation. On 04/01/2020, CTMC developed refractory hypotension, which was managed with vasopressor agents. Furthermore, renal function worsened along with no improvement in her ventilation/perfusion ratio, therefore necessitating prone positioning. CTMC steadily progressed to multi-organ failure and died on 04/06/2020.

**Case 2:**

EBM, male, 76 years old, history of depression, Parkinson's disease, chronic obstructive pulmonary disease (COPD). Admitted on 03/20/2020 with complaints of melena and hematemesis. On 03/21/2020, the patient was submitted to upper gastrointestinal endoscopic investigation, which revealed Los Angeles Grade A erosive esophagitis, an ulcerative lesion in the gastric antrum and body along with discrete antral enanthematous gastritis. On 03/22/2020 he developed a dry cough. EBM was discharged to outpatient care on 24/03/2020 and was promptly readmitted to the ICU on 03/26/2020 due to hemodynamic instability secondary to hematemesis. On 03/27/2020 the patient was again submitted to upper gastrointestinal endoscopic investigation, which showed no active bleeding sites, receiving conservative treatment.

On 03/28/2020, EBM developed a dry cough, fever (38ºC, 100,4ºF) and an oxygen saturation on room air of 78% with no signs of respiratory distress, which improved to 94% on 3L/min nasal oxygen. Chest CT scan revealed areas of centrilobular and paraseptal emphysema, diffuse bronchial wall thickening and traction bronchiectasis in the inferior lobes and lingula. Chest x-ray showed a diffuse interstitial lung pattern. A nasopharyngeal sample was collected and tested positive for SARS-CoV-2 via RT-PCR. The patient was initially treated with ceftriaxone and azithromycin and, after confirmation of COVID-19, also received hydroxychloroquine, along with supplemental oxygen during his entire hospital stay. On 04/03/2020, EBM was transferred to inpatient care, being discharged on 04/11/2020 with domiciliary oxygen therapy.

## CONCLUSION

We described two cases of laboratory confirmed COVID-19 preceded by episodes of upper gastrointestinal bleeding (UGIB). Even though the patients had risk factors favoring the development of UGIBs, the diagnoses of the two pathologies were notable due to being effectively concomitant to each other.

Few cases of simultaneous UGIB and COVID-19 have been reported in the literature (6–9). Cavaliere et al outlined 6 cases of UGIB associated with COVID-19, all successfully managed with intravenous proton-pump inhibitors, which suggested to the authors gastric ulcerative lesions as the etiologies of such bleedings, but no endoscopic investigation was undertaken to confirm. A lesion of such nature was observed by endoscopy in EBM, but CTMC presented lacerations suggestive of Mallory-Weiss Syndrome, of which there were no similar reports in the literature by time of publication.

Current evidence has demonstrated that SARS-CoV-2 presents tropism to the gastrointestinal tract (GIT), due both to the presence of gastrointestinal symptoms (5) and the isolation of viral RNA and nucleocapsid protein in the GIT of COVID-19 patients (7,10). In view of this situation, deeper investigations of the roles SARS-CoV-2 and inflammatory activity play in face of pre-existing conditions or risk factors towards the development of COVID-19 concomitant with UGIB are necessary. On the whole, these case reports are relevant especially in the clinical setting, alerting physicians to the possibility of a correlation between UGIBs and COVID-19.

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