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Gastrointestinal bleeding in COVID patients

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Abstract---In the present study we report 10 hospitalized patients with COVID-19 infection with gastrointestinal bleeding. The PCR result was 4 positive and the others had negative PCR, but had evidence of COVID-19 and had symptoms of gastrointestinal bleeding. Bleeding of 7 people was controlled.

Keywords--- *Gastrointestinal bleeding, COVID-19, SARS-CoV-2, hospitalized patients.*

Introduction

Coronavirus disease 2019 (COVID-19) is caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). It is currently a pandemic and as of 26 December 2020 there have been > 79 million cases worldwide and >1.7 million deaths (1-3). While initial reports on COVID19 have understandably focused on respiratory illness, more than 10% of patients have been observed to self-report at

least one digestive symptom upon admission, even without or before the onset of respiratory manifestations (4, 5), (6). Although fever and respiratory symptoms predominate in coronavirus infections, gastrointestinal (GI) manifestations were seen in SARS-CoV-1, MERSCoV, and SARS-CoV-2 patients (7, 8). This is not surprising, as the ACE-2 receptor, by which the SARS-CoV-2 invades cells, has been demonstrated to be abundantly expressed in the stomach, small intestine, and rectum with a relatively higher intestinal expression with respect to other tissues (9, 10). Early studies found coronavirus-like particles in intestinal lesions and the stools of infants with necrotizing enterocolitis. The majority of COVID-19-associated GI symptoms are mild and self-limiting and include anorexia, diarrhea, nausea, vomiting, and abdominal pain/discomfort (11, 12). In this study, we report 10 hospitalized patients with COVID-19 infection with gastrointestinal bleeding.

Case 1

A 78-year-old woman with a history of diabetes mellitus type 2, hypertension, and IHD was admitted with shortness of breath (SOB). The patient developed acute respiratory distress (o₂ sat =30%) and needed supplemental oxygen. She was subsequently intubated and required ventilatory support in the intensive care unit (ICU). She was found to have COVID-19 at presentation, confirmed by reverse transcription-polymerase chain reaction (RT-PCR) Test. Vital signs of the patient on admission were as follows : BP=90/60 mmHg , T=36.5 °C, PR=100 bpm, and RR=25 bpm . On The third day the patient complained of melena which was also revealed on rectal examination. Hematocrit initially measured in the emergency department was 31.9 g/dl and the patient received pack cell with an appropriate improvement of hemoglobin level. Rectal examination also revealed melena. The patient had a history of taking aspirin for her IHD. There was no known history of gastrointestinal diseases. She was managed with Enoxaparin. Unfortunately, the patient died due to severe respiratory distress.

Case 2

A 45-year-old man was referred to hospital with vomiting and diarrhea. He did not have any past medical history, and did not require blood transfusion or interventional endoscopy either. No history of taking NSAIDs, antiplatelet agents, or anticoagulants was reported. The patient also tested negative for SARS-CoV-2. His first hematocrit in the emergency department was recorded 44.6. The vital signs were as follows: BP= 120/80 mmHg, HR= 82 bpm, T= 36.8 °C, and RR= 15 bpm. On the second day of admission, he had hematochezia which was immediately managed with supportive care. Colonoscopy was carried out for further investigation; moderate gastritis was reported. The patient, with normal vital signs, was discharged after 4 days of stay in the centre.

Case 3

A 69-year-old man was admitted with cough, shortness of breath, nausea and hematemesis. The patient reported a history of hypertension as well as substance abuse. He tested negative for SARS-CoV-2. The recorded vital signs in the ED are as follows:

BP=150/90 mmHg, T=37.2 °C, PR= 75 bpm, and RR= 21 bpm. His past drug history revealed the following medications; lithium, captopril, sodium valproate, and risperidone. The patient had an episode of hematemesis managed with supportive care, without any further evaluation. Enoxaparin was prescribed to the patient and he was discharged from hospital after 3 days following admission.

Case 4

A 64-year-old senior citizen was referred to the ED with a large volume of blood loss from upper GI tract. Endoscopic exploration of GI tract revealed esophageal varices. Hence, He received 4 units of PRBCs. The patient reported a history of cirrhosis due to hepatitis as well. Because of hemodynamic instability the patient was admitted to ICU. Conservative management effectively improved his situation. Furthermore ,a couple of days before GI bleeding occurred the patient had experienced shortness of breath, diarrhea and vomiting .He also tested negative for SARS-CoV-2. All vital signs were reported normal; BP=120/70 mmHg, PR=120 bpm, T=37°C, and RR=15 bpm. Lab test data provided us with an INR =1.8. His medications at home included omeprazole and indomethacin. Having taken pantoprazole orally for 7 days, the patient was discharged.

Case 5

A 62-year-old man was referred to our hospital, complaining of diarrhea and rectal bleeding. His hemodynamic instability was proved by the vital signs; BP=100/60 mmHg and PR=88 bpm. Therefore, he was admitted to ICU ward. The patient received 4 units of PRBCs. He provided a past medical history containing IHD and hyperlipidemia(HLP) but not any GI diseases. He did not complain of such respiratory symptoms as coughing or shortness of breath. Moreover, the patient tested negative for SARS-CoV-2. His medications at home included aspirin and rivaroxaban/diltiazem/N.C./atorvastatin. Moderate gastritis was revealed on endoscopy. Conservative management was effective and he was discharged after 6 days of stay.

Case 6

A 72-year-old man was admitted with cough, shortness of breath as well as hematemesis. He had a history of IHD and substance abuse. He was also on aspirin at home. The vital signs were normal on admission; BP=120/70 mmHg,PR=99 bpm, T=37.5 °C. He did not require PRBCs and tested negative for SARS-CoV-2. Lab tests showed an elevated level of D-Dimer(=385). GI bleeding stopped without any need for further management or assessment. The patient received symptomatic therapy and was initially on enoxaparin and was discharged on the fifth day of stay in hospital.

Case 7

A 60-year-old man was admitted with vomiting, diarrhea, hematemesis,melena and cough. The vital signs measured initially were as follows: BP= 130/80 mmHg, T=36.7 °C, and PR=88 bpm.

The patient reported hypertension in his past medical history. However, his medications at home did not include antiplatelet, anticoagulants, or NSAIDs. He tested positive for SARS-CoV-2. He also received 2 units of PRBCs and the GI bleeding was resolved with symptomatic therapy without further evaluation. His condition was so good on the 4th day that he was discharged from hospital.

Case 8

An 84-year-old man with a history of diabetes mellitus type 2 and hypertension was presented with vomiting and hematemesis. His medications at home were losartan and metformin. He received heparin intravenously and on the 4th day he experienced an episode of ischemic stroke for which he was admitted to ICU. The patient tested positive for SARS-CoV-2. His vital signs were as follows: BP=110/70 mmHg, T=36.6 °C, PR= 104 bpm. His GI bleeding stopped and thus he did not need further management for it. The patient was discharged after 9 days of stay in the centre.

Case 9

A 67-year-old man with a history of hypertension and substance abuse was admitted with SOB and hematochezia. He stated that he was diagnosed with a cecal mass on the previous endoscopy. He was tested positive for SARS-CoV-2. The patient's Home medications did not include anti-platelets, anticoagulants, and NSAIDs. His vital signs were as follows: BP=105/65 mmHg, T=36 °C, PR=110 bpm, and O₂ sat =86%. He was transferred to ICU due to hemodynamic instability and received 6 units of PRBCs. Colonoscopy was performed and reported cecal polyps. The patient died despite conservative management.

Case 10

A 42-year-old man with a history of IBS was presented with vomiting, diarrhea, and hematochezia. The patient's home medications did not include anti-platelets, anticoagulants, or NSAIDs. His vital signs were normal on admission as follows: (BP=120/80 mmHg, PR=75 bpm, O₂ sat =94%). He was tested negative for SARS-CoV-2. Lab tests showed elevated D-dimer (418), therefore the patient began to receive enoxaparin. The GI bleeding stopped spontaneously.

Discussion

Guidelines advise that patients who present with acute upper GI bleeding undergo endoscopy within 24 hours of presentation (13). However, the discussion for endoscopy in patients with COVID-19 pneumonia brings about unique management decisions. Although endoscopy can be therapeutic providing a discrete visible vessel is seen, the risk of the procedure may outweigh the benefit in patients with COVID-19 pneumonia. We decided to treat our patients with conservative management with careful monitoring of hemodynamic parameters and PRBCs transfusion as needed. 3 out of 10 patients underwent endoscopy due to not responding to conservative management. One out of 10 patients underwent colonoscopy that revealed cecal polypoid mass (case 9). 7 out of 10 patients responded well to conservative management. 2 patients died due to

respiratory distress although GI bleeding had stopped .More studies are needed to provide more information on GI bleeding management in COVID-19 patients.

Authors contribution

Conflict of interest None.

Fund

None.

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Table 1. Patient demographics and clinical and laboratory parameters

	Case 1	Case 2	Case 3	Case 4	Case 5	Case 6	Case 7	Case 8	Case 9	Case 10
Age (year)	78	45	69	64	62	72	60	84	67	42
Gender	female	male	male	male	male	male	male	male	male	male
Epidemiologic history										
NSAIDS	No	No	No	Yes	No	No	No	No	No	No
<u>Anti platelets</u>	Yes	No	No	No	Yes	Yes	No	Yes	No	No
Anticoagulants	Yes	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes
History of opioid use	No	No	Yes	No	No	Yes	No	No	Yes	No
History of digestive disease	No	No	No	Liver cirrhosis	No	No	No	No	No	IBS
GIB symptoms	melen a	hematochezia	hematemesis	hematemesis	melen a	hematemesis	melen a	hematemesis	hematochezia	hematochezia
Oxygen saturation (%)	30	93	95	94	99	88	95	94	86	94
Laboratory results										
Blood Group	O+	A+	O+	O+	O+	O+	A+	O+	B+	O+
HCT	31.9	44.6	34.4	27.6	36.9	37.7	35.4	38.8	28.6	36.8

RBC	3.23	5.16	3.97	3.8	4.3	3.91	6.9	4.67	3.42	4.75
WBC	7400	7700	7100	9600	5900	11400	11300	13600	7000	7600
Neutrophils %	90	87	75	78	56	73	82	83	95	62
Lymphocytes %	7	8	18	17	26	21	13	11	3	33
INR	1.3	1	1	1.8	1.4	1.6	1	1.2	1.1	1
D-DIMER	-	-	-	-	-	385	-	-	-	418
Outcome of GIB	resolved	M-Gastritis	resolved	resolved	M-Gastritis	resolved	resolved	resolved	Polypoid	resolved
PCR	Positive	Negative	Negative	Negative	Negative	Negative	Positive	Positive	Positive	Negative