Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

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Management of upper GI bleeding in patients with COVID-19 pneumonia

To the Editor:

Coronavirus disease 2019 (COVID-19) has become a worldwide pandemic. The typical presentation is a respiratory illness with fever, cough, and shortness of breath. GI symptoms are being increasingly recognized and include abdominal pain, vomiting, diarrhea, and nausea.[1] We present a case series of 6 patients who were admitted to our hospital with COVID-19–associated pneumonia (fever, shortness of breath requiring oxygen, positive COVID-19 polymerase chain reaction test result, and infiltrates showing on chest radiograph), and upper GI bleeding. The patient and clinical characteristics are shown in Table 1. The GI manifestations were hematemesis or melena.

Guidelines advise that patients who present with acute upper GI bleeding undergo endoscopy within 24 hours of presentation.[2] Endoscopy can not only provide therapy but also allow for risk stratification for rebleeding that can dictate management. However, the discussion for endoscopy in patients with COVID-19 pneumonia brings about unique management decisions. Although endoscopy can provide therapy if a discrete visible vessel is seen, the risk of the procedure may outweigh the benefit in patients with COVID-19 pneumonia.

First, 5 of the 6 patients in this series were receiving supplemental oxygen, and 1 patient had an endotracheal tube. Performing upper endoscopy would have likely required general anesthesia with an endotracheal tube in the 5 patients, given their oxygen requirements, the indication for the procedure (hematemesis), or both. Extubation after the procedure becomes challenging in the setting of pneumonia. In addition, a recent study from China demonstrated an increased mortality rate once a patient with COVID-19 pneumonia is intubated.[3] Although the data for this concerned emergent intubation for respiratory failure (not an elective procedure), the data are compelling. Second, there is a real concern for transmission of the virus to the anesthesiologist, staff, and endoscopist, given the aerosolization of respiratory droplets during endoscopy.[4]

Given that the risks of endoscopy might outweigh the benefits, we decided to treat these patients conservatively with a proton pump inhibitor drip, blood transfusion as needed, and frequent monitoring of vital signs, GI symptoms, and hemoglobin value. Endoscopy was reserved if the patient did not respond to conservative management by 24 hours (lack of hemodynamic stability and if the hemoglobin was not stable). Delaying the endoscopy for 24 hours has recently been shown to not affect 30-day mortality in comparison with earlier endoscopy.[5] All 6 of our patients responded to conservative management. Cessation of clinical symptoms of acute upper GI bleeding was seen in all of our patients in combination with stabilization of hemoglobin. None of the patients required upper endoscopy during their clinical course.

The exact cause of GI bleeding in this cohort is unknown because endoscopy was not performed. The most likely cause is ulcer related. Another cause being recognized is COVID-related coagulopathy.[6] Given that the patients responded to conservative management, the former is more likely.

In conclusion, the treatment of patients admitted with COVID-19 pneumonia who experience upper GI bleeding is challenging. It can possibly be managed

TABLE 1. Case series of 6 patients with COVID-19 pneumonia and upper GI bleeding

Patient	Age, y	Gender	Presenting GI symptom	O_2 saturation	Hb g/dL, HCT %, Plts K/uL	Transfusion	CXR finding	GBS	D-dimer, ng/mL*	Ferritin, ng/mL†	LDH, U/L‡	GI outcome
1	77	Male	Hematemesis	94% RA	9.6/30.5/154	No	BI	12	372	860	399	GI bleed resolved
2	65	Male	Melena	86% RA	6.2/17.7/151	Yes 2 U PRBC	BO	18	3042	7987	1142	GI bleed resolved
3	46	Male	Melena	90% RA	6.8/21.2/226	Yes 2 U PRBC	BI	11	285	3970	878	GI bleed resolved
4	70	Female	Melena	92% RA	10.2/31.2/260	No	BO	11	38674	1040	1188	GI bleed resolved
5	67	Female	Hematemesis	88% RA	6.1/20.7/209	Yes 2 U PRBC	BI RUL opacity	15	-	802	563	GI bleed resolved
6	82	Female	Melena	94% $5LO_2$	8.6/29.2/302	Yes 2 U PRBC	BI LLL opacity	14	1198	705	959	GI bleed resolved

RA, Room air; *CXR,* chest x-ray; *GBS,* Glasgow-Blatchford score, *BI,* bilateral interstitial infiltrates; *BO,* bilateral opacities; *RUL,* right upper lobe; *LLL,* left lower lobe; *Hb,* hemoglobin; *HCT,* hematocrit; *LDH,* lactate dehydrogenase; *PRBC,* packed red blood cells; *Plts*, platelets; *5L02*, five liters oxygen.
*D-dimer: upper limit of normal <229 ng/mL.
†Ferritin: upper limit of normal 400 ng/mL.
‡LDH: upper limit of normal 242 U/L.

conservatively without endoscopy because all of our patients responded by 24 hours. Lack of response in 24 hours may indicate a need for endoscopy with personal protective equipment.

DISCLOSURE

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Dose response for argon plasma coagulation in the treatment of weight regain after Roux-en-Y gastric bypass: Is a high dose really necessary?

To the Editor:

We read with interest the recent article by Jirapinyo et al[1] regarding the dose response for argon plasma coagulation (APC) in the treatment of weight regain after Roux-en-Y gastric bypass. Indeed, it is a practical article assessing the outcomes of different electrosurgery settings for ablating the dilatated gastrojejunostomy. The authors report more significant weight loss and a similar safety profile with the high-dose APC setting. However, some concerning methodologic aspects drew our attention, and we would like to share them.

First, the authors report in their description of the demographics that 31% of patients had undergone transoral outlet reduction before the APC procedure. From that, we take it that those patients probably received both ablation and suturing at the anastomosis. However, there is no mention of the distribution of the previous transoral