Upper gastrointestinal bleeding in COVID-19 inpatients

Incidence and management in a multicenter experience from Northern Italy

Abstract

- **COVID-19 patients have an increased susceptibility to develop thrombotic complications, thus thromboprophylaxis is warranted which may increase risk of upper gastrointestinal bleeding (UGIB).**
- **Our aim was to evaluate incidence of UGIB and use of upper GI endoscopy in COVID-19 inpatients.**

Methods

- **The medical and endoscopic management of UGIB in non-ICU COVID-19 patients has been retrospectively evaluated.**
- **Glasgow Blatchford score was calculated at onset of signs of GI bleeding.**
- **Timing between onset of signs of GI bleeding and execution, if performed, of upper GI endoscopy was evaluated.**
- **Endoscopic characteristics and outcome of patients were evaluated overall or according to the execution or not of an upper GI endoscopy before and after 24 h.**

Results

- **Out of 4871 COVID-19 positive patients, 23 presented signs of UGIB and were included in the study (incidence 0.47%).**
- **The majority (78%) were on anticoagulant therapy or thrombo prophylaxis.**
- **In 11 patients (48%) upper GI endoscopy was performed within 24 h, whereas it was not performed in 5.**
- **Peptic ulcer was the most common finding (8/18).**
- **Mortality rate was 21.7% for worsening of COVID-19 infection.**
- **Mortality and re bleeding were not different between patients having upper GI endoscopy before or after 24 h/not performed.**
- **Glasgow Blatchford score was similar between the two groups (13;12—16 vs 12;9—15)**

Conclusion

- **Upper GI bleeding complicated hospital stay in almost 0.5% of COVID-19 patients and peptic ulcer disease is the most common finding.**
- **Conservative management could be an option in patients that are at high risk of respiratory complications.**

Introduction

- **Recent evidence suggests that COVID-19 patients have an increased susceptibility to develop venous thrombo embolism, which may be a poor prognostic factor.**
- **Routinely UGIB is managed by endoscopists after clinical stabilization within 24 h, as suggested by International Guidelines.**
- **The recent ESGE and ESGENA Position Statement on gastrointestinal (GI) endoscopy and the COVID-19 pandemic includes GI endoscopy in the setting of UGIB within the procedures that should be performed.**
- **Aim of our study is to retrospectively evaluate incidence, management and outcome of UGIB in COVID-19 patients in non-ICU of tertiary COVID-19 hospitals from Northern Italy.**

Material and methods

- From March 1st to April 30 th , 2020, COVID-19-positive patients with signs of UGIB were retrospectively included in our study from six academic and two non-academic hospitals in Northern Italy.
- Patients who had overt signs of acute UGIB (i.e. haematemesis, tarry stool or coffee ground vomitus) with a positive diagnosis of COVID-19 infection (positive real-time PCR obtained with nasopharyngeal swab or broncho alveolar lavage) were eligible to be included in the study.
- Glasgow-Blatchford score (GBS) was calculated at onset of signs of GI bleeding.
- Severity of COVID-19 pneumonia was classified according to the type of oxygen support (ambient air, low flow oxygen, high flow oxygen, noninvasive positive pressure ventilation).

Results

- **Among 4871 COVID-19-positive patients, we enrolled 23cases (18 males; 75 years; IQR 64—78) with UGIB in non-ICU Departments (prevalence 0.47%).**
- **In particular 15 out of 23 patients (65%) had two or more comorbidities (78%hypertension or chronic heart disease, 48% diabetes and 9%cirrhosis).**
- **Seven patients (30%) were on antiplatelet therapy, and three of them were also taking at home direct oral anticoagulant.**
- **A total of 18 patients (78%) were on anticoagulant therapy at the moment of gastrointestinal bleeding (35% on prophylactic therapy and 44% in full dose anticoagulant).**

Upper gastrointestinal bleeding

- Signs of UGIB appeared in a median time of 4 days (0.6—7) during hospital stay being presence of tarry stool the most common finding (52%).
- In six out of 23 patients upper GI bleeding was the reason for admission+covide19.
- At onset of GI bleeding all but one patient were treated with intravenous bolus of proton pump inhibitor.
- Upper GI endoscopy was performed in 18 patients.
- Peptic ulcer was the most common finding (44%) followed by erosive or haemorragic gastritis (22%).

Timing between onset of upper GI bleeding and endoscopy execution

- Upper GI endoscopy was performed after a median time of 24h (2—60 h).
- In 11 patients (48%) upper GI endoscopy was performed within 24 h.
- In12 patient (52%)upper GI endoscopy was performed after 24 h or not.
- Rebleeding rate was not different between patients having upper GI endoscopy within or after 24 h.
- Interestingly, C-reactive protein was higher in the group patients where upper GI endoscopy was not performed or after 24 h.
- hemoglobin levels were lower in the group where upper GI endoscopy was performed within 24 h.

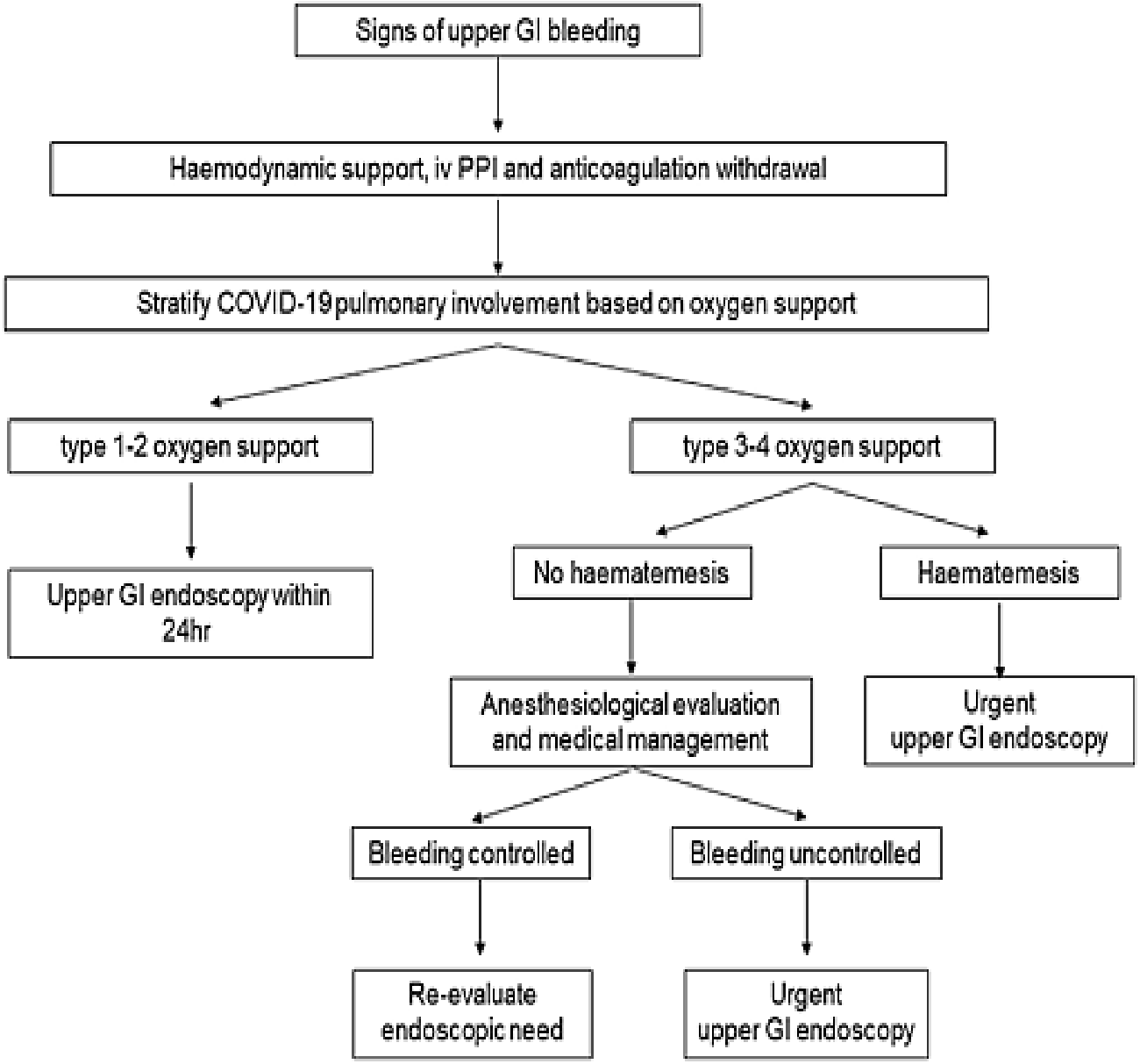
Outcome

- **Eighteen patients were discharged.**
- **Mortality rate was 21.7% (five patients).**
- **Patients who underwent to upper GI endoscopy before24 h or after 24 h/not performed have similar mortality rate(2 vs 3 patients.**

Discussion

- We reported an incidence of 0.47% (UGIB) in COVID-19 patients who were admitted in non-ICU Department.
- in our cohort the majority had at least two comorbidities (78%) and the majority of them had a significant respiratory involvement (69%).
- Median age in our cohort was 75 years, confirming previously published data showing that UGIB predominantly afflicts elderly patients with comorbidities in a hospital setting.
- Anticoagulant therapy and thromboprophylaxis are recognized risk factors for upper GI bleeding in hospitalized patient.
- Italian agency of drugs inserted on 11th of April enoxaparin as a recommended off-label therapy in patients with acute respiratory failure and/or reduced mobility.

- About endoscopic findings, peptic alterations were the most common finding (44% active ulcers and 22% diffuse erosive or hemorrhagic gastritis).
- We interestingly found that almost half of the enrolled patients (52%) performed the endoscopy after 24 h and five of them were managed conservatively with resolution of bleeding and stabilization of hemoglobin values.
- c-reactive protein values were higher in patients where endoscopy was performed after 24 h.
- Patients with haematemesis were managed earlier than patients presenting other symp-toms (i.e. tarry stool or coffee ground vomitus).


Signs of upper GI bleeding
Haemodynamic support, iv PPI and anticoagulation withdrawal
Stratify COVID-19 pulmonary involvement based on oxygen support
type 1-2 oxygen support
type 3-4 oxygen support
Upper GI endoscopy within 24hr
No haematemesis
Haematemesis
Anesthesiological evaluation and medical management
Urgent upper GI endoscopy
Bleeding controlled
Bleeding uncontrolled
Re-evaluate endoscopic need
Urgent upper GI endoscopy