

Clinical and Endoscopic Profile of Upper Gastrointestinal Bleed Patients

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Abstract

Background: Acute upper gastrointestinal (UGI) bleeding is a common medical condition, potentially life-threatening emergency presents with hematemesis and/or melena. The hospitalization rate for UGIB is estimated to be six-fold higher than for lower GI bleeding. The incidence of UGIB is significantly higher in men than in women and increases with age. In the present study, we aim to address the clinical profile and endoscopic profile, in patients with upper gastrointestinal bleeding.

Methods and Results: This was a cross-sectional study conducted for 22 months at a tertiary care center in a rural part of Northern India. Patients admitted with a history of hematemesis and melena, satisfying the inclusion criteria were taken consecutively. Clinical and endoscopic profiles were noted. Statistical analysis was performed using a chi-square test for qualitative variables and an independent t-test for quantitative variables.

A total of 190 patients were studied during this period. The male-to-female ratio in the study was 3.4:1. The mean age was 43.7±15.42 years, ranging between 17 to 82 years.

The most common clinical presentation was Malena in 77 patients (40.5%) followed by haematemesis and melena in 71 patients (37.4%) and 42 patients (22.1%) presented with only hematemesis. The most common cause of endoscopy was portal hypertension-related oesophageal and gastric varices (52.63%) followed by antral gastritis (15.26%). The cause of UGI bleeding could not be identified in 5.26% in which the endoscopy was normal.

Conclusion: The most common causes of UGI bleed are portal hypertension-related gastric and oesophageal varices. The in-hospital mortality in the study was 7.82%.

Keywords: UGIB, comorbidities, hematemesis, melena, Forrest's classification

Introduction

Acute upper gastrointestinal (UGI) bleeding is defined as bleeding proximal to the ligament of Treitz. Upper gastrointestinal bleeding (UGIB)

is a common medical condition that results in substantial morbidity, mortality, and medical care cost. It commonly presents with hematemesis and/or melena. In a small proportion of patients with severe UGIB, it may present as haematochezia. The

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diagnosis is easier when the patient has hematemesis. In the absence of hematemesis, 40% to 50% of patients in the emergency room with GI bleeding have an upper source.¹

The annual incidence of hospitalization for acute upper gastrointestinal bleeding (UGIB) is approximately 48-160 per 100,000 individuals and is more common than lower GI bleeding. The hospitalization rate for UGIB is estimated to be six-fold higher than for lower GI bleeding.²

The incidence of UGIB is higher in men than in women (128 versus 65 per 100,000) and increases with age. The reported frequencies of specific causes of UGIB vary and have changed over time. Depending on its severity, it carries an estimated mortality risk of 11%.³

The most common causes of UGIB include the following (in approximate descending order of frequency) Gastric and/or duodenal ulcers, Esophagogastric varices, Severe or erosive esophagitis, Severe or erosive gastritis/duodenitis, Portal hypertensive gastropathy, Angiodysplasia (also known as vascular ectasia), Mass lesions (polyps/cancers), Mallory-Weiss syndrome, No lesion identified (10 to 15 percent of patients).⁴

Other less common causes of UGIB include Dieulafoy's lesion, Gastric antral vascular ectasia, Hemobilia, Hemosuccus pancreaticus, Aortoenteric fistula, Cameron lesions, Ectopic varices, Iatrogenic bleeding after endoscopic interventions.

Methods

The study was conducted for 22 months from September 2018 to June 2020 in the Department of Gastroenterology at Sharda Hospital Greater Noida, a tertiary care Centre. One hundred and ninety patients who presented with features of acute upper gastrointestinal bleeding i.e. hematemesis, malena, or syncope were hospitalized randomly irrespective of age, sex, or comorbidities after obtaining written consent from the patient and/or their relatives.

In the emergency department, hemodynamic assessment was done with careful measurement

of pulse and blood pressure including orthostatic changes and urine output. Patients were first hemodynamically stabilized; blood transfusion was given when required. Complete hemograms, biochemical tests including blood urea level, liver function tests, chest x-ray, and ultrasonography of the abdomen were done in all the patients.

Once the patient was hemodynamically stable, upper GI endoscopy was performed. All study participants included in the study underwent a relevant clinical history and examination. The interview of all study participants was undertaken by the same research associate.

Demographic data, including age, sex, place of residence, and education; history of associated symptoms such as pain abdomen, nausea, vomiting, retching, jaundice, and syncope were obtained during the baseline interview.

Statistical analysis

The recorded data was compiled and entered in a spreadsheet (Microsoft Excel) and then exported to the data editor of SPSS Version 20.0 (SPSS Inc., Chicago, Illinois, USA). Continuous variables were summarized in the form of means and standard deviations and categorical variables were summarized as percentages. Graphically the data was presented by bar diagrams. Student's independent t-test was employed for comparing continuous variables. The chi-square test or Fisher's exact test, whichever is appropriate, was applied for comparing categorical variables. A P-value of less than 0.05 was considered statistically significant. All P-values were two-tailed.

Results

This is a hospital-based cross-sectional and descriptive study. The present study comprised 190 patients with acute UGI bleeding. The age ranged from 17 to 82 years, the mean age being 43.7 ± 15.42 . 65 patients were between 40-54 years, 53 were 25-39 years, 37 were between 55-69 years, 22 patients were < 25, and 13 were ≥ 70 years.

Table 1: Age distribution of study patients

Age (years)	Frequency	Percentage
< 25	22	11.6
25-39	53	27.9
40-54	65	34.2
55-69	37	19.5
≥ 70	13	6.8
Total	190	100
Mean±SD (Range)=43.7±15.42 (17-82)		

Table 2: Gender distribution of study patients

Gender	Frequency	Percentage
Male	147	77.4
Female	43	22.6
Total	190	100
Male: Female= 3.4:1		

147 patients (77.4%) were male and 43 patients (22.6%) were female with M: F = 3.4:1

Seventy-one patients (37.4%) presented with both hematemesis and malena, while 77 patients (40.5%) presented with only malena, and 42 patients (22.1%) presented with only hematemesis.

Table 3: Showing various symptoms at presentation in study patients

Symptoms	Frequency	Percentage
Malena	77	40.5
Hematemesis	42	22.1
Both hametemesis and malena	71	37.4
Total	190	100

Upper GI Endoscopy was done in all the patients to identify the cause of bleeding. They were classified according to Forrest's classification. Ten patients (5.3%), 4 patients (2.1%), 32 patients (16.8%), 16 patients (8.4%), 8 patients (4.2%), and 120 patients (63.2%) were classified as Forrest IA, IB, IIA, IIB, IIC, and III respectively.

Table 4: showing the patient distribution of Forrest classification with Malena

Forrest classification	Number of pt with Malena (in %)
IA	10(5.3%)
IB	4(2.1)
IIA	32(16.8%)
IIB	16(8.4%)
IIC	8(4.2%)
III	120(63.2%)

The most common cause of endoscopy was portal hypertension-related oesophageal and gastric varices (52.63%) followed by antral gastritis (15.26%). The cause of UGI bleeding could not be identified in 7 (5.26%) in which the endoscopy was normal.

Table 5: Showing aetiological factors for upper GI bleed.

Endoscopy findings	Total number	Percentage
Portal hypertension-related gastric and oesophageal varices	100	52.63%
Antral gastritis	29	15.26%
Gastric erosion	13	6.84%
Duodenal ulcer	10	5.26%
Gastric ulcer	7	3.68%
Oesophagitis	5	2.63%
Mallory Weiss tear	5	2.63%
Duodenal growth	4	2.11%
Post banding ulcer	3	1.58%
Oesophageal growth	1	0.53%
Gastric growth	1	0.53%
Gastric antral vascular ectasia	1	0.53%
Dieulafoy lesion	1	0.53%
Normal study	10	5.26%
Total	190	

Discussion

In the present study, we aimed at understanding the clinical and endoscopic profiles of patients who present with acute UGIB.

The mean age is variably reported in different studies. In the present study, the mean age was

43.7±15.42. Our results are comparable to numerous studies conducted in the past, which is similar to studies reported by Nepal Gurung et al⁵ and Hussein et al⁶ that showed mean ages 45.32±18.47 years and 44.6 years respectively. From India, Anand et al⁷ reported mean age being 41 years and Rao et al⁸ reported a mean age of 43 years, from West Indies, Kaliamurthy et al⁹ reported higher mean age of 55 years. A recently published UK audit showed an even higher mean age of 64.4¹⁰.

In our study, male patients were 77.4% and females 22.6%. Male predominance was reported by Bhattarai et al¹¹ 71% and Gurung et al⁵ 64.4%. Similarly in other studies also male to female ratios 3:1 and 3.2:1, 70.1% male in the Jamaican study⁹, 79% male in the Sudan study, 78.4% male reported by Kashyap et al¹², and 59% in the UK audit¹⁰.

Greater number of patients in our study presented with malena i.e. 148 patients (77.9%) of whom 71 patients (37.4%) presented with both hematemesis and malena both. Rocall et al also reported male predominance in the British population.

In the present study, the most common cause of UGI bleeding was portal hypertension-related gastric and oesophageal varices (51.4%). This was followed by antral gastritis (15.2%), gastric erosions, ulcer disease, and malignancy.

Our patients were further classified according to Forrest's classification for the prediction of rebleed. A maximum number of patients (63.2%) with Forrest III classification.

The mortality rate of patients was 7.82 %, in this study. The mortality rate depends on multiple factors like age, associated co-morbidities, severity of bleed, and availability of endoscopic/surgical/interventional radiological expertise in some cases.

In a study by Zaltman C et al., the mortality was as high as 15.34%. This signifies the importance of UGI bleeding as an emergency. Early management and endoscopic treatment shall reduce this high mortality. Understanding the demographic picture and the importance of differentiating variceal

vs non-variceal bleeding and triage of patients accordingly will have a great impact on overall management.

Conclusion

Acute upper gastrointestinal (UGI) bleeding is a common medical condition common potentially life-threatening emergency presents with hematemesis and/or melena. The hospitalization rate for UGIB is estimated to be six-fold higher than for lower GI bleeding. incidence of UGIB is significantly higher in men than in women and increases with age. Portal hypertension-related bleeding is the common cause of UGI bleeding with significant mortality.

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