

Original Research Article

Spectrum and risk factors for upper gastrointestinal bleed: an experience from multilevel teaching hospital of North India

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ABSTRACT

Background: The aetiology of upper gastrointestinal bleed is variable in different geographical regions. Epidemiological data are helpful in knowing the burden of the problem. This study was conducted to know the etiological spectrum, mortality, morbidity, and predictors of outcome in patients with acute UGIB.

Methods: Cross-sectional observational study to be carried out in indoor patients presenting with upper GI bleed and to study the spectrum and risk factors associated with it at LLR and associated hospitals, GSVM Medical College, Kanpur during 2020-2022 and noted the clinical presentation, aetiology of bleed, and outcome.

Results: Out of 120 patients, 60(50%) had history of chronic alcohol intake, use of NSAIDs 12(10%), smoking 7 (5.83%), intake of spicy food 7 (5.83%), use of steroids 3 (2.5%), stressor present 3 (2.5%), not identified 10 (8.33%). Maximum no. of cases presenting with upper GI bleed had oesophageal varices 55 (45.83%), esophagitis/gastritis/duodenitis 36 (30%), carcinoma upper GI 12 (10%) normal 11 (9.16%) GAVE 2 (1.66%) Mallory Weiss tear 4 (3.33%).

Conclusions: In our study it was found that the most common risk factor for upper GI bleed is chronic alcohol intake and the most common endoscopic finding in these patients were variceal bleed.

Key words Clinical presentation, Aetiology, Outcome, Upper gastrointestinal bleed

INTRODUCTION

UGIB accounts for 75% of all acute gastrointestinal (GI) bleeding cases. Upper gastrointestinal bleeding (UGIB) is a common problem with an annual incidence of approximately 80 to 150 per 100,000 population, with estimated mortality rates between 2% to 15%. UGIB is classified as any blood loss from a gastrointestinal source above the ligament of Treitz. It can manifest as hematemesis (bright red emesis or coffee-ground emesis), haematochezia, or melena. Patients can also present with symptoms secondary to blood loss, such as syncopal episodes, fatigue, and weakness. UGIB can be acute, occult, or obscure.¹ From the possible aetiologies of UGIB,

Peptic Ulcer disease (PUD) accounts for 40% to 50% of the cases. Of those, the majority is secondary to duodenal ulcers (30%). PUD can be associated with NSAIDs, *Helicobacter pylori*, and stress-related mucosal disease.² *Helicobacter pylori* infection is associated with increased peptic ulcer disease and upper GI bleed risk.³ *Helicobacter pylori* infection can be diagnosed easily by rapid urease test (RUT) with almost 95% sensitivity and 100% specificity.⁴ Comorbid diseases are associated with increased incidence with non-variceal upper GI bleed.⁵ Patients on long-term, low-dose aspirin have a higher risk of overt UGIB compared to placebo. When aspirin is combined with P2Y12 inhibitors such as clopidogrel, there is a two-fold to three-fold increase in the number of UGIB

cases. When a patient requires triple therapy (i.e., aspirin, P2Y12 inhibitor and vitamin K antagonist), the risk of UGIB is even higher.⁶ Endoscopy is the primary diagnostic and therapeutic technique for patients with acute gastrointestinal haemorrhage. Although gastrointestinal bleeding stops spontaneously in most cases, some patients will have persistent or recurrent haemorrhage that may be life-threatening. Clinical predictors of rebleeding help identify patients most likely to benefit from urgent endoscopy and endoscopic, angiographic, or surgical hemostasis.⁷ Upper gastrointestinal bleeding (UGIB) is a gastrointestinal emergency that can result in significant morbidity, mortality, and use of health-care resources. Population-based epidemiology data are important to get insight into the actual health-care problem. The etiology of UGIB may vary in different geographical regions. Epidemiological data are helpful in knowing the burden of the problem, the etiology, and severity of the disorder which ultimately helps in making strategies to combat morbidity and mortality. The advances in medical practice in recent decades have influenced the etiology and management of UGIB. There are only a few recent epidemiological surveys regarding acute UGIB in India. In studies done in the Western population, peptic ulcer disease still constitutes the most common cause of UGIB. Few studies have shown a decrease in rates of mortality and rebleeding. However, other studies have failed to reproduce the same results. The mortality due to this condition has largely remained unchanged.

METHODS

This hospital based observational study was conducted from December 2020 to September 2022 in K. P. S. Post Graduate Institute of Medicine, GSVM Medical College Kanpur, Uttar Pradesh.

Inclusion and exclusion criteria

All the patients of age more than 18 years of either sex presenting with complaints of upper GI Bleed (hematemesis, melena) who gave informed consent were assessed to be part of this study. Any patient with clinical condition that precludes UGI endoscopic examination (e.g., Uncooperative patient, hemodynamically instability, altered sensorium, neck injury, cervical spondylosis etc.) were excluded from our study.

After assessment of eligible patients as per inclusion and exclusion criteria, we had sample size of 120 patients, who underwent detailed history and thorough clinical examination after written informed consent. A diagnosis of acute UGIB was based on the presence of hematemesis and/or melena. We collected baseline clinical data, laboratory reports, records of transfused blood units (if any) and endoscopic records. We also subsequently followed up patients till their discharge from the hospital or death.

Statistical analysis

Analysis of data was performed using SPSS Version 20.0. Continuous variables were expressed as means and standard deviation. Categorical variables were expressed as percentages.

RESULTS

A total of 120 patients of UGIB were included in the study. Majority of 91 (75.83%) were males and 29 (24.16%) were female.

Table 1: Distribution of cases according to sex of the patient (n=120).

Sex of the patient	N (%)
Male	91 (75.83)
Female	29 (24.16)

Table 2: Distribution of cases according to age.

Age of the patient (years)	N (%)
30-39	16 (13.33)
40-49	30 (25)
50-59	25 (20.83)
60-69	30 (25)
70 and above	19 (15.83)
Mean age in years (SD)	55.62 (13.03)

The mean (SD) age (years) 55.62 (13.03). The Age range from 40 and above with number of patients between 30-39 years 16 (13.33%), 40-49 years 30 (25%), 50-59 years 25 (20.83%), 60-69 years 30 (25%), 70 years and above 19 (15.83%) Hematemesis as presentation was seen in 47 (39.16%) of patients and melena in 73 (60.83%) patients.

Table 3: Distribution of cases according to presenting symptoms.

Presenting symptoms	N (%)
Hematemesis	47 (39.16)
Malena	73 (60.83)

Table 4: Distribution of cases according to findings on endoscopy.

Endoscopic findings	N (%)
Carcinoma upper GI	12 (10)
Esophagitis/gastritis/duodenitis	36 (30)
Esophageal varices	55 (45.83)
GAVE	2 (1.66)
Mallory Weiss tear	4 (3.33)
Normal	11 (9.16)

The most common etiology of UGIB was Esophageal varices seen in 55 (45.83%), 36 (30%) had Esophagitis/Gastritis/Duodenitis, 12 (10%) had Carcinoma upper GI, 11 (9.16%) had normal Endoscopic

findings, 4 (3.33%) had Mallory Weiss tear, 2 (1.66%) had GAVE. Of the total cases, 60 (50%) had history of chronic alcohol intake, 12 (10%) had history of chronic Use of NSAIDs, 7 (5.83%) were smokers, 7 (5.83%) had history of chronic Intake of spicy food, 8 (6.66%) were purely on Vegetarian diet, 3 (2.5%) had history of Use of steroids, 3 (2.5%) gave history of chronic stress, 12 (10%) no cause was identified.

Table 5: Distribution of cases according to risk factors.

Risk factors present	N (%)
Alcoholism	60 (50)
Smoking	7 (5.83)
Old age	8 (6.66)
Use of NSAIDs	12 (10)
Intake of spicy food	7 (5.83)
Vegetarian diet	8 (6.66)
Use of steroids	3 (2.5)
Stressor present	3 (2.5)
Not identified	12 (10)

DISCUSSION

Several have been done to study the spectrum and risk factors for upper gastrointestinal bleed in India. Rath et al found that the commonest cause of UGIB was duodenal ulcer (DU) which accounted for 57.57% cases. Portal hypertension was responsible for bleed in only 12.83%.⁸ Krishnakumar et al found the most common causes of upper GI bleed in these patients were portal hypertension-related (esophageal, gastric, and duodenal varices, portal hypertensive gastropathy, and gastric antral vascular ectasia GAVE), seen in 53.62% of patients, followed by peptic ulcer disease seen in 17.56% of patients.⁹

Lakhani et al found the peptic ulcer being the leading cause of upper GI bleed against our study. Parvez et al found esophageal varices 50 (45.45%) was the most common diagnosis and the most common past history was alcohol intake 48 (43.63%) similar to our study.¹⁰ Dewan et al revealed esophageal varices (47.5%), peptic ulcer disease (33.3%) like our study.¹¹ In our study 120 cases were studied, with male: female 3:1. A proper through history of patients was taken and examination were done. The mean age of patients was found to be 55.62 (13.03) with maximum number of cases were between 40-49 and 60-69. Patients were broadly classified in two categories one those having melena - 73 (60.83%) as their chief complaint and others presenting with hematemesis - 47 (39.16%). Cases were classified according to their co morbidities like hypertension - 51 (42.5%), type 2 diabetes mellitus - 34 (28.33%) and no co morbidity - 35 (29.16%). On admission Hb of the patients were measured and accordingly patients were categorized as having Hb <7 - 10 (8.33%), 7-9 - 40 (33.33%), 9 -11- 40 (33.33%) and > 11 30 (25%) respectively. On admission PT/INR of the patients were also measured and grouped in three categories as having value <1.7- 22 (18.33%), 1.7-2.2- 51

(42.5%), >2.2 47 (39.16%). Mean INR value of patients were found to be 2.11 (0.44). Mean prothrombin time in seconds (SD) 21.19 (4.35). Out of 120 cases, 49 (40.83%) cases blood transfusion during their hospital stay compared to 71 (59.16%) cases not requiring blood transfusion. Patients were grouped according to their risk factors associated with upper Gi bleed after taking through history. Out of 120 patients, 60 (50%) had history of chronic alcohol intake, use of NSAIDS 12 (10%), smoking 7 (5.83%), Intake of spicy food 7 (5.83%), Use of steroids 3 (2.5%) Stressor present 3 (2.5%) Not identified 12 (10%). Maximum no. of cases presenting with upper Gi bleed had Oesophageal varices 55 (45.83%), 36 (30%) had esophagitis/gastritis/ duodenitis, carcinoma upper GI in 12 (10%), Normal 11 (9.16%), GAVE in 2 (1.66%) and Mallory Weiss tear in 4 (3.33%).

Limitations

Limitations of current study were; Sample should be large. It should be multicentric study.

CONCLUSION

In our study we found that the most common presenting complaint of the patients presenting with upper GI bleed was melena followed by hematemesis. The most common associated co-morbidity was found to be hypertension followed by diabetes mellitus. The most common risk factor of upper Gi bleed was found to be chronic alcohol intake followed by chronic use of NSAIDS while intake of spicy foods, vegetarian diet and smoking were minor risk factors for upper GI bleed. the most common etiology was Esophageal varices 55(45.83%), Esophagitis/Gastritis/Duodenitis 36 (30%), Carcinoma upper GI 12 (10%) Normal 11 (9.16%) GAVE 2 (1.66%) Mallory Weiss tear 4 (3.33%).

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