

RESEARCH ARTICLE

Common Causes, Various Spectrum of Clinical Profile and Outcome of Patients with Upper Gastrointestinal Bleeding

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Abstract

Introduction: The upper gastrointestinal bleeding (UGIB) is defined as bleeding within the intraluminal gastrointestinal tract from any location between the upper oesophagus to the duodenum proximal to the ligament of Treitz. It refers to intraluminal gastrointestinal tract bleeding (as Haematemesis, Malena, Haematochezia, Occult gastrointestinal bleeding, Risk factors that are associated with acute upper gastrointestinal bleeding are helicobacter pylori infection, non-steroidal anti-inflammatory drugs (NSAIDs) and liver disease, Peptic ulcer diseases, esophageal varices etc. Upper GI endoscopy is the gold standard investigation of choice in the diagnosis and treatment of upper gastrointestinal bleeding and can be lifesaving.

Objectives: To evaluate the common causes, various spectrum, clinical severity and outcomes of the patients presented with upper gastrointestinal bleeding.

Methods: Randomly selected 100 discharged file of UGI bleed patients from emergency ward were retrospectively studied thoroughly of previous 12 months to detect clinico-demography profile, different causes, spectrum of disease, clinical severity, and outcome of the patients and its application of UGI endoscopy.

Results: Out of 100 patients, most vulnerable age group for upper gastrointestinal bleeding is between 40-60 years. Sixty-four (64%) were Male and thirty-six (36%) were female with M: F=1.77:1. Regarding personal habit, smoker 73 % (73) and chronic alcohol user especially homemade alcohol 50% (50) were most common person to have UGI bleed. Out of 100 patients, 69% (69) had anaemia prior to procedure. 87% (87) referred from Emergency ward and most of them had presented as 40% (40) haematemesis, 28% (28) Melaena, 15% (15) haematemesis and melaena both. Duodenal ulcer 33 (33%) was the most common endoscopic finding, followed by duodenal ulcer 32 (32%), esophageal varices 12 (12%), acute erosive/ haemorrhagic gastropathy 12 (12%), Relation between gender and outcome, among male 88% improved and discharged, 12% not improved while among female, 90% improved and discharged 10% not improved. Among age group, Age less than 60 years 88% improved and discharged, 12% not improved while more than 60 years among age group, 94% improved and discharged 6% not improved. Among smokers/ past smoker 91% improved and discharged, 9% not improved while among non- smokers, 90% improved and discharged 10% not improved.

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Among Alcohol users, 93% improved and discharged, 7% not improved while among non-alcohol users, 84% improved and discharged 16% not improved. Ninety patients (90%) recovered and discharged from the hospital, one (1%) advised for surgery or intervention, 4 (4.0%) went on LAMA, 5 (5%) went on DOPR. 76 (76%) had no mortality recorded whereas one patient (1%) had mortality.

Conclusion: It is a common and potentially life-threatening medico-surgical emergency that remains a common cause of morbidity and mortality worldwide. Thus, Upper GI endoscopy is the gold standard investigation of choice in the diagnosis and treatment of upper gastrointestinal bleeding and can be lifesaving tool.

Keywords: Various Spectrum, Clinical Profile, Upper Gastrointestinal Bleeding.

1. Introduction

Causes of upper GI bleeding can include: Peptic ulcer. This is the most common cause of upper GI bleeding. Peptic ulcers are open sores that develop on the inside lining of your stomach and the upper part of your small intestine. The upper gastrointestinal bleeding (UGIB) is defined as bleeding within the intraluminal gastrointestinal tract from any location between the upper oesophagus to the duodenum proximal to the ligament of Treitz.¹ Upper gastrointestinal (GI) bleeding is a severe acute disease associated with four main causes, namely, esophageal variceal bleeding, peptic ulcer (PU) bleeding, gastric cancer bleeding and acute erosive hemorrhagic gastritis, and prompt diagnosis and treatment are mandatory.² Bleeding from the gastrointestinal tract may present in five ways: 1) passage of fresh blood/coffee coloured vomitus (haematemesis), 2) black tarry stools malena, 3) bright red coloured stools (haematochezia), 4) occult gastrointestinal bleeding, and 5) features of blood loss or anaemia such as light headedness, syncope, angina, or dyspnoea.³ It is one of the common medical emergencies worldwide, accounting for high morbidity and mortality.² Peptic ulcer diseases account for majority of acute upper gastrointestinal bleeding (AUGIB) followed by varices.³ It is estimated that 1-2% of all acute admissions are due to gastrointestinal bleed (GI).⁴ More than 350,000 hospital admissions are attributable to upper gastrointestinal bleeding, which has an overall mortality rate of 10%. Despite the fact that more than 75% of cases of bleeding ceases spontaneously and require only supportive measures, however, few of the patients require further intervention, which often involves the combined efforts of gastroenterologists, surgeons, and interventional radiologists.⁵ Specific Risk Factors and Management Considerations. Causes of upper GI bleeding include peptic ulcer bleeding, gastritis, esophagitis, variceal bleeding, Mallory-Weiss syndrome, and cancer. Risk factors that are associated with acute upper gastrointestinal bleeding are helicobacter pylori infection, drugs like non-steroidal anti-inflammatory

drugs (NSAIDs), anticoagulants, Mallory Weiss tears and various Liver diseases.⁶ Upper GI endoscopy is the most valuable initial procedure of choice for the evaluation of acute upper gastrointestinal bleeding. Early endoscopy allows not only the detection of cause and source of bleeding but also gives estimation of the risk of recurrent bleeding and potentially enables various therapeutic options. Different studies have shown that early endoscopy is associated with lower healthcare costs and improved medical outcomes. However, upper gastrointestinal bleeding endoscopic findings are nondiagnostic in about 10% of cases.^{7,8,9}

2. Materials and Methods

This study was conducted in the patients Department of Gastroenterology BSM Medical University Dhaka, Bangladesh from February 2022 to March 2024. This is a retrospective study of upper gastrointestinal bleeding patients who underwent esophagogastroduod endoscopy. One hundred patients who presented with features of acute upper gastrointestinal bleeding i.e. hematemesis, malena or syncope were enrolled randomly irrespective of age, sex or co morbidities to detect clinico-demography profile (different causes, spectrum of disease, clinical severity) and outcome of the patients with application of UGI endoscopy tool.

All clinico-epidemiological data was reviewed and analyzed. The inclusion criteria for the study were the presence of any one of the following: 1) haematemesis 2) malena or both 3) nasogastric aspirate of blood; and 4) recent onset anaemia with positive occult blood were taken as the clinical definition of upper GI bleeding. The patients with upper gastrointestinal bleeding but inadequate information on registry were excluded. Data management and statistical work up was performed by using software SPSS 23 version.

3. Results

Out of 100 patients, most vulnerable age group for upper gastrointestinal bleeding is between 40-60 years. Sixty-four (64%) were Male and thirty-six (36%) were female with M: F=1.77:1 (Table 1).

Regarding personal habit, smoker seventy-three (73 %) and chronic alcohol user especially homemade alcohol fifty (50%) were most common person to have upper gastrointestinal bleeding (UGI) bleed. Out of 100 patients, sixty nine (69%) had anaemia prior to procedure. Mostly eighty-seven (87%) were referred from Emergency ward. Forty (40%) presented as haematemesis, twenty-eight patients (28%) presented as Melaena and while Fifteen patients (15%) presented as haematemesis and melaena both shown in (Table 2). Upper GI Endoscopy was done in all the patients to identify the cause of bleeding shown in (Table 3). Majority of the patients had Duodenal ulcer thirty-three (33%), followed by gastric ulcer thirty-two (32%), oesophageal varices twelve (12%), acute erosive/hemorrhagic gastropathy twelve (12%) etc. Relation between gender and outcome, among male 88%

improved and discharged, 12% not improved while among female, 90% improved and discharged 10% not improved. Among age group, Age less than 60 years 88% improved and discharged, 12% not improved while more than 60 years among age group, 94% improved and discharged 6% not improved. Among smokers/ past smoker 91% improved and discharged, 9% not improved while among non- smokers, 90% improved and discharged 10% not improved. Among Alcohol users, 93% improved and discharged, 7% not improved while among non- alcohol users, 84% improved and discharged 16% not improved. Ninety patients (90%) recovered and discharged from the hospital, one (1%) advised for surgery or intervention, 4 (4.0%) went on LAMA, 5 (5%) went on DOPR. 76 (76%) had no mortality recorded whereas one patient (1%) had mortality shown in (Table 4).

Table 1. Age/age group and Sex composition of the patients

	Male	Female	Total
Male/Female	66 (66%)	34 (34%)	100
>40 Years	16 (24.2%)	6 (17.6%)	22
40-60 years	26 (39.4%)	15 (44.1%)	41
<60 years	24 (36.3%)	13 (38.2%)	37

Table 2. Clinical presentation of patients with Upper GI bleeding

Clinical presentation	Number	Percent
Haematemesis	40	40%
Melaena	28	25%
Haematemesis and melaena	15	15%
feature of blood loss (Anaemia)	5	5%
Abdominal discomfort	5	5%
Change in bowel habit,	3	3%
Reflux symptoms	1	1%
weight loss/lump	3	3%
Total	100	100

Table 3. Causes of upper GI bleeding

Endoscopy findings	Number	Percent
Normal findings	7	7%
Duodenal ulcer	33	33%
Gastric ulcer	32	32%
Oesophageal varices	2	2%
Acute erosive/haemorrhagic gastropathy	12	12%
growth	8	8%
Vascular lesion	4	4%
Mallori's weis tear	1	1%
Fundal varices	1	1%
Total	100	100%

Table 4. Outcome of bleed

	Number	Percent
Improved and discharge	90	90%
Need for surgery or Any intervention	1	1%
LAMA	4	4%
DOPR	5	5%
Total	100	100%
Mortality	7	7%

4. Discussion

Upper gastrointestinal bleeding (UGIB) is a common clinically important condition with a significant impact on global healthcare costs. These are also associated with different customs and cultural practices, as well as different lifestyles and health-related behaviors, which may influence the development of certain diseases or even lead to gastrointestinal bleeding. Despite the introduction of endoscopy and endoscopic treatment, patients' access to medical centers with experienced medical staff and appropriate equipment remains limited in developing countries such as Bangladesh. Moreover, many patients are admitted only after the onset of bleeding, while some may never reach the hospital. Acute upper gastrointestinal bleeding is often viewed as a life-threatening emergency, resulting in a large number of hospital admissions. With the prescription of proton pump inhibitors (PPIs) and efforts to eradicate *Helicobacter pylori* infection, the incidence of upper gastrointestinal bleeding appears to be decreasing, but in Southeast Asian countries, the incidence appears to be increasing in certain patient groups, such as those with a history of heavy alcohol intake and unhealthy lifestyle habits. The incidence of upper gastrointestinal bleeding is estimated to range from 50 to 160 cases per 100 000 populations in developed countries like United States. In the United Kingdom and west of Scotland, the overall incidence of acute upper GI haemorrhage is 103 and 172 cases per 100,000 adults per year respectively^{2, 10-15} whereas the incidence in Denmark and Netherlands is 37 and 48/100 000 adults respectively^{3, 16} Although upper GI bleeding has been reported to be around 44 (44 %) this was more common in elderly population which is consistent with abroad study. A previous study from Bangladesh which looked into the endoscopic findings in patients with upper gastrointestinal bleeding showed that the mean age of patients was around 50 years.^{9, 15} Our study showed that male patients were more likely to have acute upper gastrointestinal bleeding (AUGIB) as compared to females (Males 66% and female 34%.) Similar study

done in Bangladesh showed that male predominance was reported by Bhattarai et al as 71% and Gurung et al as 64% respectively^{9,15} Similarly in other studies also male to female ratio 3:1 and 3.2:1 which are consistent with various international findings (70% male in Jamaican study, 79% male in Sudan study, 78% males reported by Kashyap et al and 59% in UK audit.)^{18,19,20} Alcohol and smoking in association with *Helicobacter pylori* infection have been found as the risk factors for causing peptic ulcer disease.¹¹ Alcohol can be a contributory risk factor in almost one third of patients with acute upper gastrointestinal bleeding (AUGIB).¹² In our study also observed that alcohol and smoking has been associated with acute upper gastrointestinal bleeding which is consistent with other international studies. Our study showed that non variceal (Peptic ulcer) causes of acute upper gastrointestinal bleeding were more common than variceal bleeding which constitutes of about 65% of all cases, which is consistent with findings in other countries abroad which reports vary from (19% to as high as 50%)^{4, 5,11} Anand et al., reported that the incidence of peptic ulcer disease 38.5% and Rao et al reported 28%.^{21,22} This was followed by variceal bleeding which occurred in 23 (23%) patients. This observation is similar to various recently published studies.^{13, 14, 15} Whereas our study showed that Duodenal ulcer 33(33%) was the most common endoscopic finding followed by Gastric ulcer, 32 (32%), oesophageal varices 12 (12%). In our study showed that duodenal ulcers were more common than gastric ulcer and still account for the majority of patients with acute upper gastrointestinal bleeding (AUGIB). The various surveys showed that the most common bleeding lesion identified at upper GI endoscopy was peptic ulcer disease, duodenal ulcer being more common than gastric ulcer^{16, 17} which is consistent with our study too. The incidence of bleeding from peptic ulcer disease in US is 60%.²³ Other less common causes as esophagitis, erosive mucosal diseases, esophageal varices Mallory-Weiss tears etc were also observed in this study. From Bangladesh, 33% esophageal varices have been

reported by Bhattarai et al and 16% % by Gurung et al in their respective studies.^{9,15} This may be attributed to adaptation of modern life style and unhealthy food practices. Regarding clinical presentation, our study showed that higher proportions of patients with ulcer disease are likely to present with haematemesis alone (31%) as compared to Melaena (25%), or both haematemesis and melaena (15%), whereas another study showed that higher proportions of patients with ulcer disease are likely to present with melena alone (45%) as compared to presenting with hematemesis with or without melena.⁸ Our study showed that ninety patients (90%) recovered and discharged from the hospital, one (1%) advised for surgery or intervention, 4 (4.0%) went on LAMA, 5 (5%) went on DOPR. 76 (76%) had no mortality recorded whereas one patient (1%) had mortality. Despite advances in therapy, the case-fatality rate has remained unchanged. In the different population-based surveys regarding mortality related to acute upper gastrointestinal bleeding (AUGIB), mortality ranges between 3% to 14%. Kashyap et al and Kaliyamurthy et al., showed an overall mortality rate range from 4% to 6%¹⁹ Mortality is increasing with increasing age and is significantly higher in patients with co-morbidities. Regarding endoscopic findings, our study showed that 7% had normal endoscopy whereas in other study aboard showed that 11% of upper gastrointestinal bleed had normal endoscopic finding.^{9, 16} Our study has a few limitations. It was retrospective descriptive type. The sample size was small and done in a single centre. The larger prospective study would help to verify or refute the findings of our study results.

5. Conclusion

Upper gastrointestinal bleeding is a common clinical problem and found commonly at middle age group people. Peptic ulcer disease is still the most common cause of upper gastrointestinal bleeding. Upper gastrointestinal (UGI) Endoscopy tool helps in diagnosis and treatment of most of the upper gastrointestinal bleed.

Conflict of Interest: None.

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