

A Prospective Study to Evaluate the Possible Etiology of Bleed, Clinical Profile and Probable Hospital Outcome of Patients with Upper Gastrointestinal Bleed

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Abstract

Background: Acute upper gastrointestinal bleeding (UGIB) is a potentially life-threatening abdominal emergency that remains a common cause of hospitalization. The aim of this study to evaluate the possible etiology of bleed & clinical profile of patients and probable hospital outcome of upper gastrointestinal bleed in patients. **Materials & Methods:** A prospective study done on 100 patients presenting with complaints of hematemesis or melena admitted in department of Medicine, RNT Medical College, Udaipur, Rajasthan, India. All patients were interviewed, detailed history taken with respect to risk factors and detailed physical examination was carried out along with appropriate investigations. **Results:** The mean age of male patients was 49.13 yrs and female was 47.04 yrs. The most common cause for upper GI bleed was Varices which comprised of 40% of cases. Majority of patients belonged to the age group of 31-40. Gastric ulcer (N=12) was more common in females and varices (N=32) was more common in males cause for upper GI bleed in our study. **Conclusion:** Endoscopy can be used as diagnostic as well as therapeutic measures. It is therefore recommended that, early endoscopy should be performed preferably within 24 hours of bleeding. Endoscopic treatment was successful in most cases besides conservative treatment.

Keywords: Endoscopy, Varices Bleeding, Ulcers, Upper GI Bleed.

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Introduction

Acute upper gastrointestinal bleeding (UGIB) is a potentially life-threatening abdominal emergency that remains a common cause of hospitalization. Upper gastrointestinal bleeding (UGIB) is defined as bleeding derived from a source proximal to the ligament of Treitz[1]. The incidence of UGIB is approximately 100 cases per 100,000 population per year[2]. Bleeding from the upper GI tract is approximately 4 times as common as bleeding from the lower GI tract and is a major cause of morbidity and mortality[1]. Mortality rates from UGIB are 6-10% overall[2]. *Helicobacter pylori* infection is the most common cause of major bleeding. Gastro-oesophageal varices are less common by effectively managing the underlying chronic liver disease[1].

The diagnosis of and therapy for nonvariceal upper gastrointestinal bleeding (UGIB) has evolved since the late 20th century from passive diagnostic esophagogastroduodenoscopy and medical therapy until surgical intervention was needed for active intervention to endoscopic techniques followed by angiographic and surgical approaches if endoscopic therapy fails[3,4].

The underlying mechanisms of nonvariceal bleeding involve either arterial hemorrhage, such as in ulcer disease and mucosal deep tears, or low-pressure venous hemorrhage, as in telangiectasias and angiectasias[5]. In variceal hemorrhage, the underlying pathophysiology is due to elevated portal pressure transmitted to esophageal and gastric varices and resulting in portal gastropathy[6].

In cases of ulcer-associated UGIB, as the ulcer burrows deeper into the gastro-duodenal mucosa, the process causes weakening and necrosis of the arterial wall, leading to the development of a pseudoaneurysm. The weakened wall ruptures, producing hemorrhage[7]. Age older than 60 years is an independent marker for a poor outcome in upper gastrointestinal bleeding (UGIB), with the mortality rate ranging from 12-25% in this group of patients[8].

Death following admission to hospital for gastrointestinal bleeding is almost invariably a consequence of decompensated comorbidity; it is seldom caused by exsanguination. Sudden blood loss and circulatory collapse may result in fatal cardiac or cerebrovascular events in patients with underlying vascular disease, and postoperative complications following emergency surgery are more likely in those with other conditions.

The Rockall score is a useful risk assessment tool. It was developed from a large audit of patients admitted to hospital in England for acute upper gastrointestinal bleeding. Multivariate analysis identified age, shock, comorbidity and specific endoscopic findings as independent variables predicting rebleeding and death. The score has been validated by other groups; its major drawback in clinical practice is the need to undertake endoscopy before the score can be completed. The Blatchford score predicts a need to intervene (by urgent endoscopy, etc) on the basis of clinical and laboratory factors, without the need for endoscopy. The aim of this study to evaluate the possible

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etiology of bleed & clinical profile of patients and probable hospital outcome of upper gastrointestinal bleed in patients.

Materials & methods

A prospective study done on 100 patients presenting with complains of hematemesis or malena admitted in department of Medicine, RNT Medical College, Udaipur, Rajasthan, India. Information was collected for each patient through proforma especially designed and prepared for this study

Inclusion Criteria

All patients above 18 years of age presenting with complaints of hematemesis or malena will be subjected to upper GI endoscopy.

Exclusion Criteria

- 1) Patients who do not give consent.
- 2) Non co-operative patients.

Methods

All patients were interviewed, detailed history taken with respect to risk factors and detailed physical examination was carried out along with appropriate investigations.

Data Collection Tool

The data needed for the study was collected with the help of a semi-structured questionnaire. The data collection of the study was started only after getting the clearance from the ethical committee.

The privacy of the patient and confidentiality of the clinical data was maintained throughout the study. The information collected were used only for the purpose of this study.

A written consent was taken from the patient prior to his inclusion in the study. For patients who were not in a position to give consent, it was obtained from the nearest kin. Those patients whose consent

couldn't be obtained were excluded from the study. The study was done at no added cost to the patients.

Data Analysis

The following results were found out for all patients enrolled in the study. To study the association between different parameters, Chi square (χ^2) test for proportions and Fishers Exact test were used. For all statistical evaluations, a two-tailed probability (P value) value <0.05 was considered significant.

Results

Out of the total 100 patients who were enrolled in the study, 68 were males & 32 were females. The mean age of male patients was 49.13 yrs and female was 47.04 yrs. The comparison of mean age was insignificant in between male & female (table 1).

A total of 51 patients presented with hematemesis. The maximum number i.e 19 were in the age group of 31-40 yrs. In case of malena there were 54 patients, and the maximum no. i.e 17 belonged to the age group of 41-50 yrs. 15% of patients presented with both hematemesis and malena (table 2).

48 patients in the study had normal findings in the USG. 36 of them had cirrhosis and 16 patients had nonspecific findings. The most common cause for upper GI bleed was Varices which comprised of 40% of cases. Majority of patients belonged to the age group of 31-40. The next common cause was gastric ulcer with 20% of patients in the study group. Duodenal ulcer and tumour both were found in 15% of study population each. Erosive gastritis was the cause for upper GI bleed in only 10% of the population (table 3).

Gastric ulcer (N=12) was more common in females and varices (N=32) was more common in males cause for upper GI bleed in our study (figure 1).

Out of the 100 patients admitted with upper GI bleed, 59 of them required some intervention. 39 of them improved with conservative management and 2 of them expired (table 4).

Table 1: Age distribution across sex

	Mean Age	Total Patients	Minimum Age	Maximum Age	Inter-Quartile Range
Male	49.13	68	22	72	39.75 to 60.00
Female	47.04	32	30	68	35.00 to 60.00

Table 2: Presenting Complaints across age group

Presenting Complaints	Age Group (yrs)						Total (%)
	21-30	31-40	41-50	51-60	61-70	71-80	
Hematemesis	4	19	14	13	10	1	51 (51%)
Malena	3	12	17	8	12	2	54 (54%)
Both	1	2	6	4	2	0	15 (15%)

Table 3: USG Findings

	Age Group						Total (%)
	USG Findings						
	21-30	31-40	41-50	51-60	61-70	71-80	
Cirrhosis	3	12	7	10	3	1	36 (36%)
Other	2	6	2	0	4	2	16 (16%)
Normal	1	11	16	7	13	0	48 (48%)
ENDOSCOPY FINDINGS							
Gastric Ulcer	0	5	5	5	5	0	20 (20%)
Duodenal Ulcer	0	3	8	1	3	0	15 (15%)
Varices	4	15	7	10	3	1	40 (40%)
Erosive Gastritis	1	1	2	1	5	0	10 (10%)
Tumour	1	5	3	0	4	2	15 (15%)

Table 4: Outcome at discharge vs Age Group

Outcome	Age Group						Total (%)
	21-30	31-40	41-50	51-60	61-70	71-80	
Improved	1	9	13	5	11	0	39 (39%)
Intervention Required	4	20	12	11	9	3	59 (59%)
Expired	1	0	0	1	0	0	2 (2%)

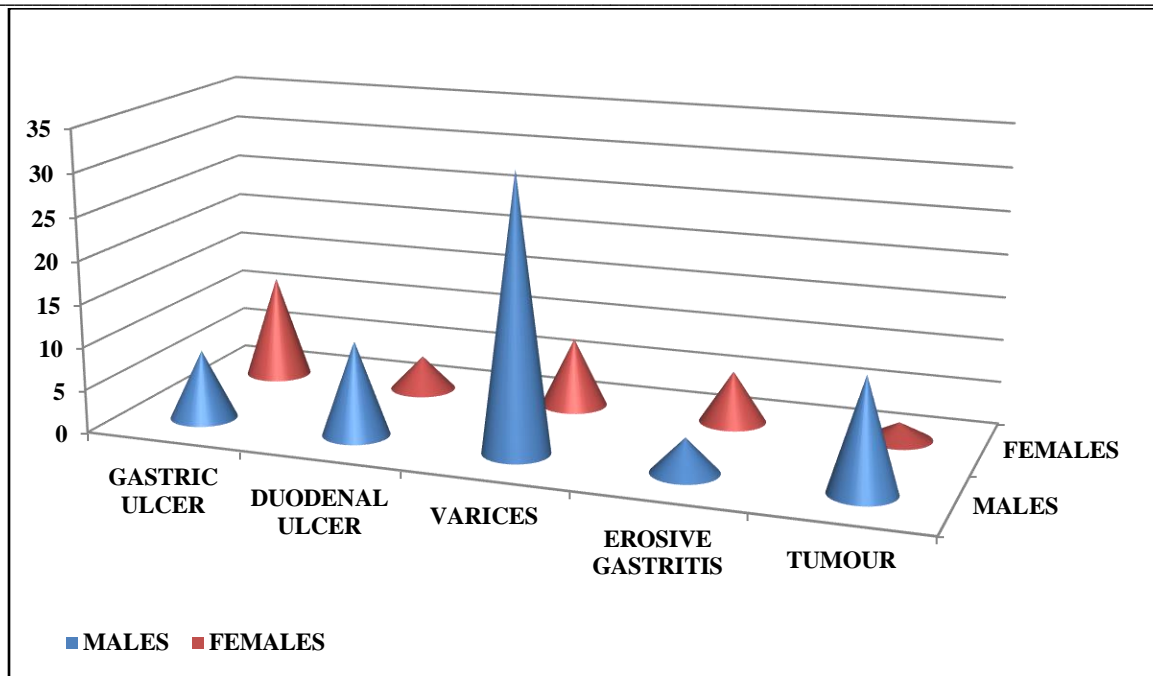


Fig 1: Endoscopic findings according to gender

Discussion

Acute gastrointestinal bleeding is one of the serious gastrointestinal medical emergency. Acute upper gastrointestinal bleeding is associated with considerable morbidity and mortality rates, as well as the enormous financial burden on health services[9]. Patients with severe acute gastrointestinal bleeding are seriously ill and require proper assessment and intensive monitoring of their vitals and clinical progress[10]. Urgent endoscopy is an essential part of a medical care. It is not only reliable in identifying the cause of bleeding, but it enables to start therapeutic intervention immediately and assessing the prognosis of a patients[11].

The majority of patients with UGIB were in the age group of 41-50 years. The mean age in our study subjects was 48.05 years. In the studies conducted by Thomson A B R et al[12], Ziauddin[13] & Choomsri p et al[14] found mean age was 45.9 yrs 42.2 yrs and 41 yrs respectively, which was consistent with our study.

The male to female ratio in the studies conducted by Khan N et al[15] and Ziauddin[13] was 2.3:1, 1.6:1 respectively. In this study also the majority of patients were male with ratio of 2.12:1.

In the study conducted by Brintha K. Enestvedt et al[16], the most common presenting complaint was melena (43.15%) followed by hematemesis. In our study the most common presenting complaints were melena in 54 (54%), hematemesis in 51(51%) patients. This difference may be because the former study included patients with only non variceal bleed. In our study most common gastrointestinal findings were varices accounting for 40%, followed by gastric ulcer (20%), duodenal ulcer and tumours 15% and erosive gastritis 10%. In similar study conducted by Nowshad khan et al[15], in Khyber teaching hospital Peshawar from 1st June to 31st December 2006. The endoscopic findings included variceal bleed in 16 (32%) patients, gastric ulcer in 7(14%) patients, duodenal ulcer in 6(12%) patients and gastritis in 6(12%) patients. In our study the incidence of gastritis was 10% which is comparable to other studies done by Sarwar et al[17] & Ziauddin[13] found 13% & 18% respectively. The majority of cases were due to variceal bleed (40%) which may be due to alcohol intake and liver disease in the study group. Incidences of gastric malignancies was 15% in this study, which was comparable with other studies done by Khan N et al[15], Ziauddin[13] & Choomsri p et al[14] found 3%, 4% & 1% respectively. Our study found that incidence of gastric malignancies was higher as compared

to the others studies, which may be due to major risk factors in the study population such as smoking and alcohol.

Conclusion

Endoscopy can be used as diagnostic as well as therapeutic measures. It is therefore recommended that, early endoscopy should be performed preferably within 24 hours of bleeding. Endoscopic treatment was successful in most cases besides conservative treatment. The high prevalence of variceal bleeding and underlying chronic liver disease might explain the increased length of hospital stay and mortality. Further identification of subsets of patients with a high-risk, based on a standardized protocol, may contribute to an improved management of upper gastrointestinal bleeding, including early definition of the most appropriate therapeutic intervention according to local conditions.

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