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Study of Clinical and Endoscopic Profile of Patients with Acute Upper Gastrointestinal Bleed

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Abstract

Background: *Acute upper gastrointestinal bleeding is a common medical emergency with an estimated incidence of 50-150 cases per one lakh annually and it has been noted as a major cause of hospital admission and deaths worldwide ranging from 0.9% to 26.5%.Hence, this study was aimed to know the clinical and endoscopic profile of patients presenting with acute upper GI bleed to our hospital and their possible etiologies.*

Methods: *This hospital based observational and cross-sectional study included sixty patients aged 18 years and above admitted in Department of General Medicine during the study period who presented with hematemesis or melena or both within 7 days.*

Results: *Among 60 patients, males were predominant (86.7%). Mean age of presentation was 41.93 ± 15.16 years. Most patients presented with both hematemesis and melena (51.7 %), 41.7 % patients had hematemesis only and 6.7 % patients had melena only. In our study, oesophageal varices were seen in 51.6 % patients, portal hypertensive gastropathy in 33.3 % patients, gastric ulcers in 11.7 % patients and duodenal ulcers in 5 % patients.*

Conclusion: *The majority of patients belonged to age group of 31-40 years with a male predilection and variceal bleed was the most common cause of Upper GI bleeding.*

Keywords: *Upper GI bleeding, oesophageal varices.*

Introduction

Upper gastrointestinal bleeding (UGIB) is referred as the loss of blood occuring within intraluminal gastrointestinal tract from any location between upper oesophagus to duodenum proximal to the ligament of Treitz.[1] UGIB has an estimated incidence of 50-150 cases per one lakh annually [2] and it has been noted as a major cause of hospital admission and deaths worldwide ranging from 0.9% to 26.5%.[3] Upper GI tract bleed is 5 times more common as compared to lower GI bleed. There are many causes of UGIB with peptic ulcer being the most common cause accounting for 50% to 70%[4] followed by oesophageal varices which attributes approximately 6 %. However in some Indian studies[5,6], variceal bleed is found to be the most common cause of upper GI bleeding followed by peptic ulcer. Other etiologies include Mallory-Weiss tear, gastritis and duodenitis, a arteriovenous malformations and malignancy. The

primary test which is used for diagnosis of upper GI bleed is endoscopy, which has a sensitivity of 92-98% and specificity of 30-100%.[7] The analysis of clinical and endoscopic factors helps in assessment of risk factors, rational treatment planning and improved outcome. This study aimed to know the clinical profile and endoscopic profile of patients presenting with acute upper GI bleed to our hospital and their possible etiologies.

Methods

This hospital based observational and cross sectional study comprised of 60 patients admitted in Department of Medicine during study period. They were assessed according to clinical proforma. Laboratory investigations were done, including complete haemogram, Liver function tests, Renal function tests, Prothrombin time, Stool for occult blood, USG-abdomen. They underwent upper GI endoscopy, to detect changes in oesophagus, stomach and duodenum (1st and 2nd part) and multiple biopsy samples obtained from suspected or involved areas which includes fundus, antrum, greater and lesser curvature and duodenum (1st and 2nd part) and were also subjected to rapid urease test. Biopsy specimen were subjected to histopathological study. All patients were assessed by complete Rockall score irrespective of etiology.

Inclusion Criteria

All the patients aged 18 years and above who presented with hematemesis or melena or both within 7 days were included in the study.

Exclusion Criteria

1. Pregnant women.
2. Patients who did not give consent for endoscopic procedure.

Procedure

Approval was obtained from the Institutional Ethics Committee before commencing the study. A voluntary informed and written consent was taken from the participants and only those who gave consent were included in the study. All participants / relatives were explained regarding possible benefits as well as risk of study in detail. Consent form was available in English, Hindi and Marathi. In case of illiterate participants/relatives, consent was taken in presence of witness. The witness was considered to be anyone not directly attached to the study. The personal details of participants and information related to study was strictly kept confidential during study period at all levels. All patients were selected by a detailed history and physical examination. Patients with signs and symptoms suggestive of UGIB such as hematemesis, melena or both were included in the study. Endoscopy was performed in all patients and findings were noted.

Data Analysis

After collection of data, the forms of all patients were revised. Incomprehensible data was matched again with respective participant profile. Data was entered in MS Excel sheet for preparation of 'Master Chart'.

Statistical Analysis

Data was entered into computer Microsoft Excel and exported to SPSS version 20 for analysis. Continuous variables were expressed as mean ± standard deviation or median and range. Categorical variables were expressed as frequency and percentage. Chi square or Fisher exact test was used for association between exposure(Age, sex and risk factors) and outcome (Severity of bleeding and Rockall scale outcome) variable in case of categorical variables . P value was considered statistically significant when it was less than 0.05

Results

A total of 60 patients of UGIB were included in the study.

Table 1: Age distribution of study subjects

Age group (years)	Frequency	Percent
15-20	2	3.4
21-30	14	23.3
31-40	19	31.7
41-50	10	16.7
51-60	8	13.3
61-70	5	8.5
>70	2	3.4
Total	60	100.0

This table shows age wise distribution of study subjects. Maximum (31.7%) study subjects were in age group of 31-40 years with mean age of 41.96 ± 15.16 years and range of 18-82years.
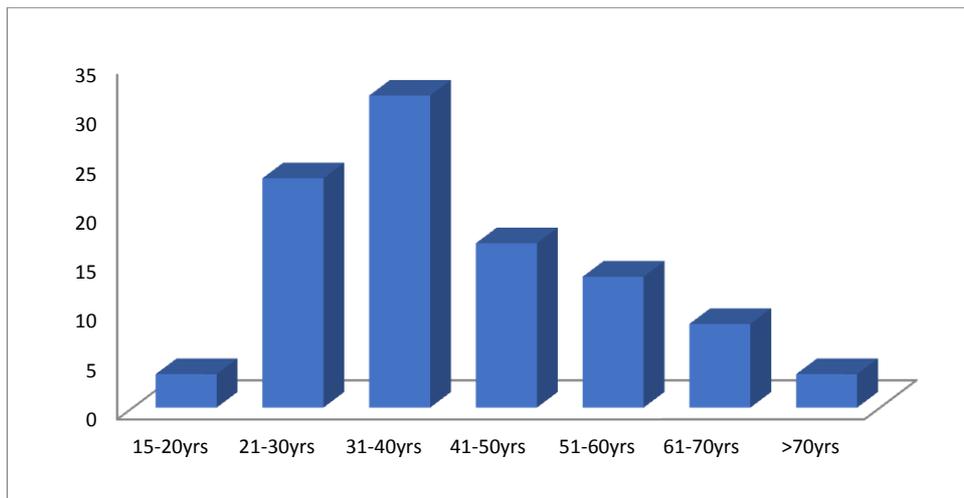

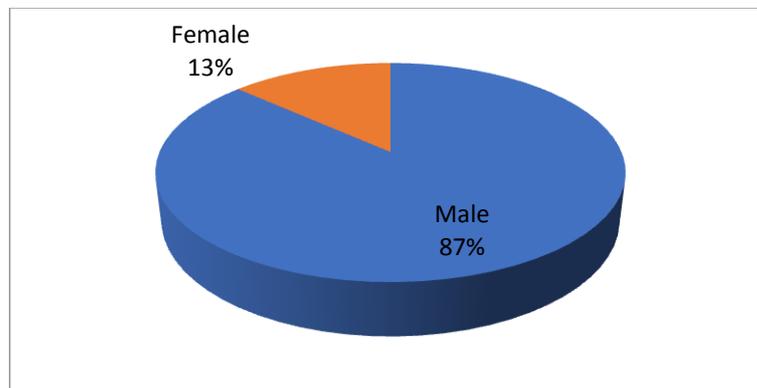**Figure 1:** Age distribution of study subjects

Figure 2: Gender distribution of study subjects

Table 2: Clinical presentation among study subjects

Clinical presentation	Frequency	Percent
Hematemesis + Melena	31	51.7
Hematemesis	25	41.7
Melena	4	6.7

Table 3: Risk factors among study subjects

Risk factors	Frequency	Percent
Alcoholism	39	65.0
Smoking	9	15.0
NSAIDs	5	8.3
Hepatitis B Surface antigen	1	1.7
Hepatitis C	1	1.7
No risk factors	5	8.3

This table shows that more than half of patients had alcoholism (65%) as a risk factor for upper GI bleeding and 8.3% were NSAIDs users.
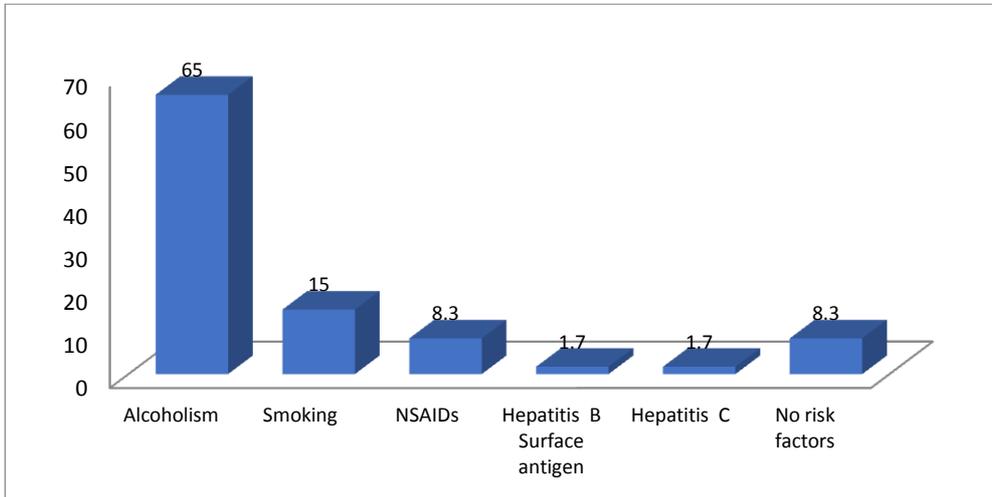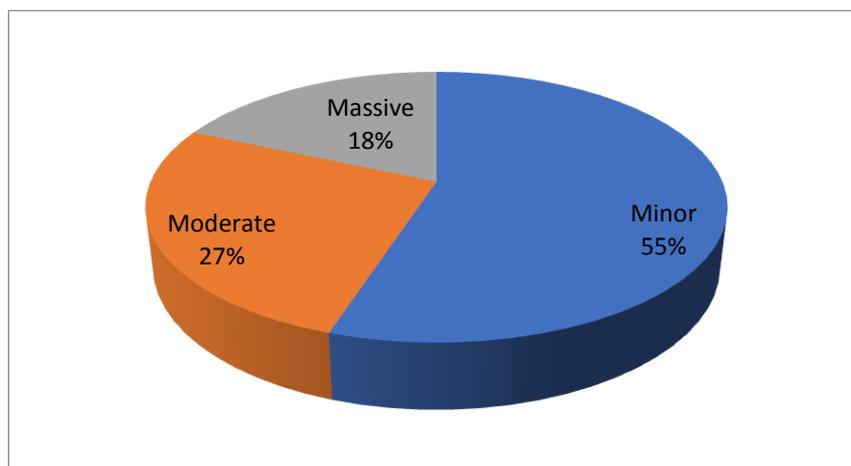
Figure 3: Risk factors among study subjects

Figure 4: Severity of bleeding among study subjects

Table 4: USG findings among study subjects

USG Findings	Frequency	Percent
Portal vein collaterals	30	50.0
Ascites	26	43.3
Spleen enlargement	24	40.0
Shrunken liver	21	35.0
Coarse echo texture of liver	16	26.6
Liver enlargement	13	21.7
Hepato-splenomegaly	7	11.6

Table 5: OGDscopy findings among study subjects

OGDscopy Findings	Frequency	Percent
Oesophageal Varices	31	51.6
Portal hypertensive gastropathy	20	33.3
Hemorrhagic gastritis	8	13.3
Gastric ulcer	7	11.7
Erosive Oesophagitis	6	10.0
Duodenitis	6	10.0
Antral gastritis	5	8.3
Pan gastritis	5	8.3
Duodenal ulcer	3	5.0
Mallory Weiss Tear	3	5.0
GAVE(Gastric Antral Vascular Ectasia)	1	1.7
Carcinoma oesophagus	1	1.7
Gastro-oesophageal Varices type-I (GOV Type-I)	1	1.7
Normal	2	3.4

This table shows OGDscopy findings among study subjects. Most commonly observed were oesophageal varices (51.6%), Portal hypertensive gastropathy (33.3%), hemorrhagic gastritis

(13.3%) and among less frequent findings were GAVE, carcinoma oesophagus 1.7% each. only 3.4% had normal findings on OGDscopy.
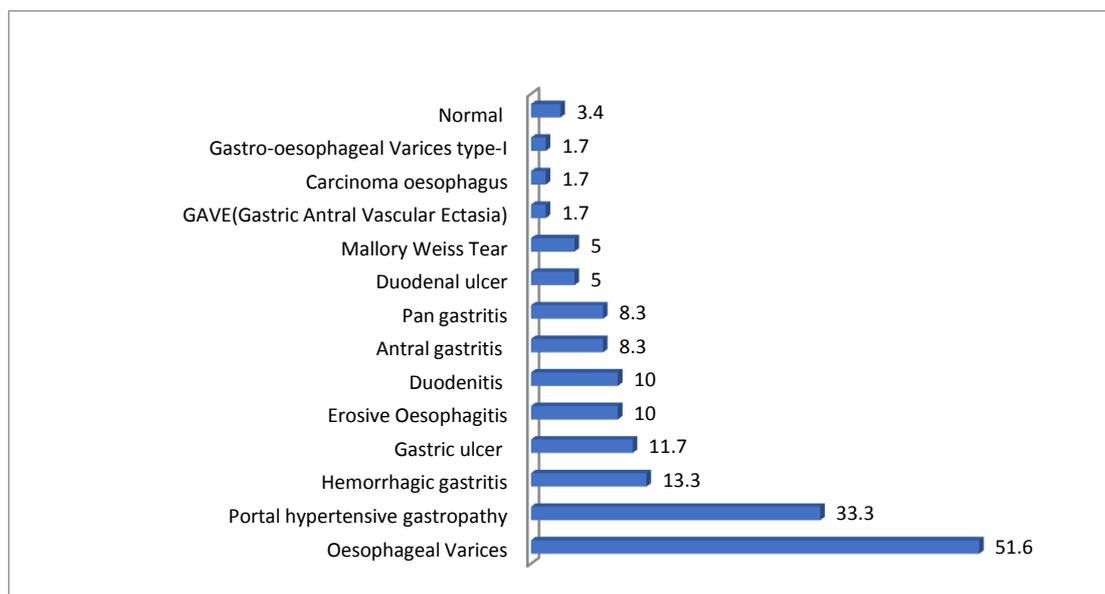

Figure 5: OGDscopy findings among study subjects

Table 6: Relation between Rockall outcome and Risk factors among study subjects

Risk factors	Rockall Outcome		Total	P value
	Good	Poor		
Alcohol	9(31.1%)	30(76.9%	39	0.0002
Smoking	5(55.5%)	4(44.5%)	9	0.470
NSAIDs use	5(100%)	0	5	NA
HBsAg	0	1(100%)	1	NA
Hep C	0	1(100%)	1	NA

This table shows relation between severity of bleeding and risk factors among study subjects. There was significant difference in severity of bleeding and alcoholism with statistically significant value (p=0.001). Among smokers, 77.8 % had minor bleeding, among NSAIDs users, 100% found with minor bleeding.

Discussion

UGIB is a significant and potentially life threatening problem worldwide. Despite various advances in diagnosis and treatment, mortality and morbidity has remained more or less constant.

Minimum age of presentation in our study was 18 years and maximum age was 82 years and mean age was 41.93 ± 15.16 years and most of the patients were in age between 31-40 years (31.7

%).In a study conducted by Anand D et al [8] , mean age of presentation was 49 ± 14.26 years. In another study by Shah H et al[6], mean age of presentation was 45.56 years.

In the present study, the ratio of male and female was 6.5: 1 showing male predilection which was comparable to the study conducted by Singh S P et al[9] where the ratio of male and female was 6 : 1.In our study, most common mode of presentation of UGIB is hematemesis and melena which was seen in 31 patients (51.7 %). In a similar study done by Anand D et al[8], clinical presentation were both hematemesis as well as melena in 68 (59.64 %) patients, only hematemesis occurred in 31 (27.19 %) patients and only melena in 14 (12.28 %) patients. Alcohol consumption, smoking and use of NSAIDs are

well known risk factors associated with UGIB. In our study, 65% of patients were alcohol consumer and incidence of UGIB was seen more in them showing a positive correlation between them (p=0.001) which coincides well with the study done by Chaudhary S et al[10]. Upper GI bleed was categorized into minor, moderate or massive, depending on hemodynamic assessment[11]. Based on this, it was found majority of patients presented with minor bleeding (55%). In the present study, 50% study subjects had portal vein collaterals, 43.3% had ascites, 40% had splenomegaly. In a study done by Shangavi Y et al[12], the commonest abnormality detected was altered echotexture of liver followed by splenomegaly in 19.04 % patients and dilated portal vein in 11.11 % patients. Sarwar et al.[13] found that patients having portal vein diameter of more than 11 mm are more likely to develop oesophageal varices. Etiological causes of UGIB are variable in various studies done in India with some of them showing variceal bleed while others showing peptic ulcer disease as the most common cause for UGIB. In our study, oesophageal varices were seen in 51.6 % patients. In a similar study done by Shah H et al[6], oesophageal varices (46.3 %) was the commonest cause of UGIB followed by Mallory Weiss tear in 18.3 % patients. In a study conducted by Anand D et al[8] oesophageal and gastric varices (56.14%) was found to be the commonest cause of UGIB followed by peptic ulcer. Rockall scoring system helps in predicting the deaths and patients who are at high risk for re-bleeding[14]. In present study, mean Rockall score was 3.58 ± 2.22 indicating that most patients belonged to the high risk category. There was a statistically significant difference (p=0.001) showing poor Rockall outcome in alcoholics.

Conclusion

The majority of patients belonged to the age group of 31-40 years, with a male predilection. Most cases presented with minor or moderate upper GI bleed, with massive bleeds occurring only in minority. This study showed that variceal bleed was the commonest cause of upper GI bleeding in our patients.

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Abbreviations

GI- Gastrointestinal

UGIB- Upper Gastrointestinal bleeding

OGD- Oesophagogastroduodenoscopy

NSAIDS- Non steroidal anti-inflammatory drugs

GAVE- Gastric Antral vascular ectasia