Original Article

Clinical and Endoscopic Profile of Patients with Upper Gastro-Intestinal Bleeding (UGIB)

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Abstract

***Background**: Upper gastro-intestinal bleeding (UGIB) is a cause of significant morbidity and mortality. Prevalence as well as mortality is higher in elderly persons above sixty years because of increasing use of nonsteroidal anti-inflammatory drugs and associated comorbidity. Conventionally upper GI bleeding is divided as variceal and nonvariceal sources and the treatment protocol varies accordingly. There are limited data regarding UGIB in our country. **Objective**: This observational study was designed to delineate the clinical and endoscopic profile of patients with UGIB in our country. **Materials and Methods**: This prospective observational study was done in the Department of Gastroenterology in Enam Medical College & Hospital during the period of 2014–2017. Patients with UGIB were followed until discharge or death. Patients were subjected to upper GI endoscopy, preferably within the first 24 hours. Clinical and endoscopic data of 131 patients were compiled and analyzed in this study. The data were analysed using SPSS version 21.0. **Results**: Among the 131 final participants 101 were male and 30 were female. Mean age of the patients was 43.65 ± 18.63 years. Patients mostly presented with both haematemesis and melaena (66, 50.4% patients), 33.6% with haematemesis only, and 16% patients with melaena only. The most common endoscopic finding was duodenal and or gastric ulcer (57); next common lesions were gastric/duodenal erosions (23), oesophageal varices (13), oesophageal erosions/ulcers (10), corrosive burn (10) and carcinoma (7). Forty patients had history of NSAID intake and gastric/duodenal ulcer and/erosions were the most frequent lesions among them (27). One patient with oesophageal varices died due to rebleeding. **Conclusion**: In our study peptic ulcer-related bleeding is the most common cause of UGIB. A significant proportion of UGIB is due to corrosive burn (harpic) emphasizing the need for public awareness. Mortality was due to rebleeding.*

***Key words**: Upper GI bleeding; Endoscopy; Peptic ulcer disease; Oesophageal varices*

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Introduction

Upper gastro-intestinal bleeding (UGIB) is a medical emergency with significant morbidity and mortality. Overall mortality rate is 5–11%.[1] Mortality rate is higher (12–35%) in elderly over 60 years of age compared with <10% for patients younger than 60 years of age.[2,3] The incidence of upper GI bleeding ranges from 50 to 150/100,000 population annually,[4] and as many as 70% of acute upper GI bleeding episodes occur in patients older than 60 years.[5] The incidence of UGIB increases with age[2] probably because of the increased consumption of nonsteroidal anti-inflammatory drugs (NSAIDs) which provoke ulcerogenesis in elderly patients. Conventionally upper GI bleeding is divided into either variceal or nonvariceal sources as the two have different management protocols and prognosis.[6]

The first line investigation for evaluation of upper GI bleeding is endoscopy. Early endoscopy help in diagnosis of certain lesions and to guide care and thereby reduce rebleeding, requirement for

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transfusion, the need for surgery, costs and duration of hospitalization.[7,8] Endoscopy for diagnosis of cause of upper GI bleed has a sensitivity of 92–98% and specificity of 30–100%.[9]

There is paucity of data on clinical and endoscopic profile of patients with upper GI bleeding in our country. Therefore, this study was planned to identify clinical and endoscopic profile of patients with upper GI bleeding presenting to our hospital and to study the mortality rates and patterns in this group of patients.

Materials and Methods

We prospectively followed 145 patients admitted with haematemesis and or melaena in the Gastroenterology Unit of Enam Medical College & Hospital during the period of 2014–2017. Fourteen patients were excluded as subjective evidence of haematemesis and/or melaena were poor and as some patients denied to participate in the study. Clinical and endoscopic data of 131 patients, aged 14–90 years, were compiled and analysed in this study. The data analysed included a history of GI bleeding (haematemesis, melaena), risk factors for liver disease including alcoholism, and history of intake of antiplatelet agents or NSAIDs. A few patients with features of chronic liver disease received octreotide. All patients were given injection omeprazole 80 mg IV stat, followed by 40 mg IV 6 hourly. Patients were subjected to upper GI endoscopy, preferably within the first 24 hours, after taking an informed consent. It was done by two gastroenterologists using Pentax EPK-i5000 Processor gastroscope (EG-2990i)/Pentax (EPK-700 Processor) gastroscope (EG-2970 K). Endoscopy was done mostly without sedation except in six patients (done under conscious sedation using pethidine and midazolam). Endoscopic haemostasis and variceal ligation were done in respective cases if indicated. Patients were referred for surgery if endoscopic therapy failed or surgery was indicated due to other reasons.

Statistical analysis

Categorical variables are presented as numbers and percentages, and the continuous variables are presented as mean ± standard deviation (SD). The data were analysed using SPSS version 21.0. Students' t-test was performed for continuous data and Chi-square test was performed for categorical data and a p value <0.05 was considered significant.

Results

Out of 131 patients 101 were male and 30 were female with a male female ratio of 3.37:1. Mean age of the patients was 43.65 ± 18.63 (range 14–90 years) years. Around 51.9% (n=68) patients were below 40 years of age. Patients were mostly service holders, businessmen and housewives. Most of the patients belonged to average income group (75, 57.3%) (Table I). Altogether 34 (33.7%) male were smokers and seven male gave history of intake of alcohol. Three (3%) patients used to take alcohol sometimes, 3 (3%) regularly and 1 (1%) patient took most of the times. Among the alcoholics two had oesophageal varices, one had oesophageal erosions, one had gastric erosions, one had gastric ulcer and erosions and two had both gastric erosions and duodenal ulcers. A total of 22 patients had co-morbid conditions and five of them were on low dose aspirin (Table II).

The majority (66, 50.4%) of the patients had both haematemesis and melaena, 33.6% of the patients presented with haematemesis only, and 16% patients presented with melaena only. The clinical profile of patients is mentioned in Table III. Fourteen (10.7%) patients gave history of loss of consciousness, but we found altered sensorium in 4 (3.1%) patients. Eleven (8.4%) patients presented with hypotension and one of them died.

Upper GI endoscopy showed that most common lesion is duodenal ulcer (42, 32.1%), next common is gastric erosions (15, 11.45%). Oesophageal varices were found in 13 (9.9%) cases and corrosive burn was found in 10 (7.6%) cases (Table IV). Table V shows the causes of portal hypertension.

NSAIDs were taken by 38 (29%) patients, paracetamol by 13 (9.9%) and both NSAIDs and paracetamol by 2 (1.5%) patients. Among the patients with history of ingestion of NSAIDs and or paracetamol the most common lesion was gastric or duodenal ulcer and erosions (37, 69.8%). One patient with history of alchohol, ganza and heroine intake had gastric erosions. Seventeen (13%) patients took NSAIDs/paracetamol within two days of upper GI bleeding, 17 (13%) patients within past week and 8 (6.1%) patients regularly for last three months.

Twenty seven (20.6%) patients gave past history of haematemesis and or melaena, one episode in 13

Table I: Sociodemographic profile and habit of patients with upper GI bleeding (N=131)

Variables	Male Number (%)	Female Number (%)	Total Number (%)	p values
Sex	101 (77.1)	30 (22.9)	131	
Mean age (years)	42.56±17.82	47.30±21.02	43.65±18.63	0.223
Occupation				
Service	29 (28.7)	6 (20.0)	35 (26.7)	
Business	17 (16.8)	0	17 (13.0)	
House wife	0	20 (66.7)	20 (15.3)	
Student	9 (8.9)	1 (3.3)	10 (7.6)	0.000
Day laborer	8 (7.9)	3 (10)	11 (8.4)	
Professional	16 (15.8)	0	16 (12.2)	
Others	22 (21.8)	0	22 (16.8)	
Socio-economic status				
Quite solvent	1 (1)	1 (3.3)	2 (1.5)	
Solvent	20 (19.8)	6 (20)	26 (19.8)	
Average	59 (58.4)	16 (53.3)	75 (57.3)	0.800
Not good	21 (20.8)	7 (23.7)	28 (21.4)	
Education				
No education	19 (18.8)	12 (40)	31 (23.7)	
Primary	32 (31.7)	12 (40)	44 (33.6)	
SSC	25 (24.8)	3 (10)	28 (21.4)	0.014
HSC	13 (12.9)	1 (3.3)	14 (10.7)	
Graduate & above	12 (11.9)	2 (6.6)	14 (10.7)	
Smoking	34 (33.7)	0	34 (26)	0.000
Alcohol	7 (6.9)	0	7 (5.3)	0.000

Table II: Distribution of patients according to co-morbid conditions (n=22)

Co-morbid conditions	Number (%)	Drugs taken
Diabetes	8 (6.1)	Aspirin (n=1)
Ischaemic heart disease	2 (1.5)	Aspirin
Stroke	1 (0.8)	Aspirin
Congenital heart disease	1 (0.8)	None
Hypertension	8 (6.1)	Aspirin (n=1)
CKD	2 (1.5)	None

Table III: Clinical profile of patients with upper GI bleeding

Clinical presentation	Number (%)
Haematemesis	44 (33.6)
Melaena	21 (16.0)
Both haematemesis and melaena	66 (50.4)
Altered sensorium	4 (3.1)
Hypotension	11 (8.4)
Past history of haematemesis and or melaena	27 (20.6)
Transfusion recieved	44 (33.6)

*Some patients had more than one clinical profiles

Table IV: Endoscopic findings in patients with upper GI bleeding

Lesions	Number (%)
Duodenal ulcer (bulb)	42 (32.1)
Gastric ulcer	9 (6.8)
Gastric & duodenal ulcer	6 (4.6)
Jejunal ulcer	1 (0.8)
Gastric erosion	15 (11.45)
Duodenal erosion	2 (1.5)
Gastric and duodenal erosion	6 (4.6)
Oesophageal varices	13 (9.9)
Oesophageal erosions/ulcer (including Mallory Weiss tear)	10 (7.6)
Congestive gastropathy	6 (4.6)
Carcinoma stomach	6 (4.6)
Carcinoma duodenum	1 (0.8)
Corrosive burn	10 (7.6)
Gastrojejunostomy with PUD	4 (3.1)
Gastrojejunostomy with retrograde jejuno-gastric intussuception	1 (0.8)
No lesion, only haemorrhagic fluid	1 (0.8)

Table V: Aetiology of portal HTN related upper GI bleeding (n=13)

Aetiology	Number (%)
Hepatitis B	7(69.23)
Hepatitis B + alcohol	1(7.7)
Hepatitis C	1(7.7)
Alcohol	1(7.7)
Cryptogenic	2(15.4)
Extrahepatic portal venous obstruction	1(7.7)

(9.9%) patients, two episodes in 3 (2.3%) patients, three episodes in 9 (6.9%) patients and four episodes in 2 (1.5%) patients.

A 70-year-old male patient with oesophageal varices died in hospital due to recurrent haemorrhage. One patient of gastric carcinoma improved with conservative management. All the seven patients with carcinoma were referred for surgical or oncologic consultancy. Oesophageal variceal ligation was done in 12 cases. Among them eleven cases improved and one died due to recurrent haemorrhage. Endoscopic haemostasis with adrenaline was done in five cases of duodenal ulcer and one case of gastric ulcer and all of them improved. One patient with jejuno-gastric intussusceptions underwent surgery and recovered. All other patients improved with conservative management. Total 123 patients were discharged from hospital. Table VI shows outcomes of the patients with UGIB. There was no significant difference in outcome in male and female patients (p=0.460) and below and above 60 years age group (p=0.113).

aimed at understanding the clinical and endoscopic profile of patients who present with acute UGIB.

The mean age of the study population was 44 years with a male preponderance. This finding is consistent with previous studies.[10,11,13] Rocall et al[2] also reported male predominance in British population. Around 48% of our patients were over 40 years whereas a study in India showed that 70.95% of their patients were above 40 years.[13]

UGIB was more common in the older age group of 60 years.[5,12,13] Previous studies have shown an increase in mortality with advancing age of the patients with worse outcome noticed in the geriatric population.[2,3] In the present study only one male patient who died of recurrent bleeding was 70 years old. From the present study we cannot comment that mortality is more in elderly and in male as sample size is small with very low fatality rate. In our study there was no significant difference in outcome in male and female patients (p=0.460) and below and above 60 years (p=0.113).

In present study the majority (50.4%) of the patients had both haematemesis and melaena, 33.6% presented with haematemesis only, and 16% patients presented with melaena only. In the study of Mahajan & Chandail[13] 68.11% presented with both haematemesis and melaena while 20.95% presented with haematemesis only, and 10.94% had melaena only. In the study of Anand et al[11] 27.19% patients presented with haematemesis, 12.28% patients presented with isolated melaena, 0.87% patient presented with haematochezia and 59.64% patients presented with complaints of haematemesis and melaena.

Table VI: Relationship between age and outcome

Age group	Discharged (%)	Expired (%)	Not improved (%)	Total (%)	p value
<40 years	65 (95.6)	0	3 (4.4)	68 (51.9)	0.052
41–60 years	38 (100)	0	0	38 (29)	
>60 years	21 (84.0)	1 (4.0)	3 (12)	25 (19.1)	

Discussion

The mortality of GI bleeding has remained relatively constant at about 10% during the past 50 years despite advances in diagnosis and therapy. In the modern era with a longer life expectancy, upper GI bleeding is more common in elderly patients. Due to presence of co-morbid conditions in the elderly patients, mortality rate is high from GI bleeding. In the present study we

Aetiological spectrum of UGIB showed that peptic ulcer disease was the most common cause, which is consistent with the study of Rocall et al[2] whereas in Indian studies portal hypertension-related UGIB was the most common cause.[11,13] The cause of portal hypertension is mostly due to alcohol-related liver disease in India[11,13] whereas in our study most common cause of portal hypertension was chronic liver disease

due to hepatitis B. A significant portion of our patients presented with UGIB due to corrosive burn (harpic) which was mostly due to suicidal attempt.

A high proportion of patients with UGIB gave history of NSAID intake (n=40) and 27 of them had gastric/ duodenal ulcers and or erosions. This finding indicates that either the patients had NSAID-related gastric and/ or duodenal ulcers/erosions or these drugs might have potentiated bleeding from preexisting lesions.

The number of units of packed erythrocytes transfused is an important nonendoscopic predictor of persistent and recurrent bleeding. Ginn & Ducharme[6] in their study showed that the outcome of transfused patients was significantly worse than that of nontransfused patients. In the study of Schiller et al[14] it was found that patients given transfusion of not more than four units had a low fatality rate, which was similar to that of non-transfused patients. Patients receiving 5–10 units of blood had double fatality rate.[14] In our study total 44 (33.6%) patients were given transfusion. All of them recovered except one who died due to recurrent variceal bleeding. Only one patient needed more than four units of blood transfusion and he survived.

The initial vital signs are important predictors of severity of bleeding. In our study 11 patients presented with low systolic blood pressure (<100 mm Hg) and one of them died. Four patients presented with altered sensorium, but fortunately none of them died. In a study in India, patients who presented with a systolic blood pressure of <100 mm Hg had a higher mortality (65.71%) in comparison to those whose blood pressure was >100 mm Hg at the time of hospital admission (1.40%).[11]

There is no consistent relationship between the haemoglobin levels and prognosis. The mean haemoglobin of our patients was 8.65 ± 2.9 gm/dL indicating significant haemorrhage. The patient who died had haemoglobin level of 7 gm/dL. In the study of Chaikitamnuaychok & Patumanond[15], mortality is found to increase with low haemoglobin levels. Serial measurement of haemoglobin level over time is a useful indicator of the severity of bleeding.

Studies showed that the mortality of UGIB is higher in patients who had co-morbid illnesses.[7,11] In our study only one patient died but he had no co-morbid illness. This may be due to small sample size and low fatality rate.

We had several limitations. Our sample size was small, we failed to follow-up patients with carcinoma to comment on their ultimate fate and proper investigations to detect the cause of peptic ulcer was not feasible due to resource constrain.

Despite limitations it is a valuable study to attempt to find out the clinical profile of patients with UGIB. The most common cause of UGIB was peptic ulcer-related bleeding. Rebleeding is an important cause of mortality. A significant proportion of bleeding was due to corrosive burn. Corrosive poisoning (harpic) was mostly suicidal. So we should be more careful regarding the use of this cleaning agent and public awareness should be created to minimize its misuse. Further studies with larger sample size and appropriate investigations and longer follow-up period are required to delineate the true clinical profile of patients with upper GI bleeding.

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