



ORIGINAL RESEARCH PAPER

Medicine

EPIDEMIOLOGY AND CLINICAL PROFILE OF PATIENTS WITH UPPER GASTROINTESTINAL BLEEDING IN A TERTIARY LEVEL HOSPITAL

KEY WORDS: Upper GI bleeding, variceal bleed, non variceal bleed

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ABSTRACT

Background: Upper gastrointestinal bleeding is a common medical emergency associated with significant morbidity and mortality.

Aim of study: To determine the epidemiology and clinical profile of patients with upper gastrointestinal bleeding

Methods: A total of 110 patients presenting with upper gastrointestinal bleeding were enrolled in this study. All the patients underwent esophagogastroduodenoscopy within 48 hours of admission. Distribution of patients according to demographic profile, clinical parameters, basic laboratory parameters and imaging were collected prospectively. Data were analysed applying standard statistical techniques. Statistical significance was considered when $p < 0.05$.

Result: Upper gastrointestinal bleeding was most common in 41-50 yrs age group (30%). It was more common in male population and people belonging to Hindu religion. Most common form of presentation is with both hematemesis and melena. Most common cause of UGIB among males was esophageal varices and peptic ulcer disease among females. Rockall score in 60% of patients was 2. The mortality in our study was 6%.

Conclusion: The study showed that males in the age group 41-50 yrs, predominantly Hindus present commonly with upper gastrointestinal bleeding mostly due to esophageal varices.

INTRODUCTION:

Upper gastrointestinal bleeding (UGIB) is a common medical emergency situation resulting in significant morbidity and mortality. Bleeding from upper gastrointestinal tract is approximately five times more common than bleeding from lower gastrointestinal tract [1][2]. It is more common in men and elderly persons [1][2]. Presence of comorbidities such as underlying cardiovascular disease, chronic renal failure increases the risk of UGIB [3][4]. The mortality rate for UGIB has been reported to be as high as 14%, but in most studies it appears to have remained stable at around 8% to 10% [2][5]. Currently, esophagogastroduodenoscopy (EGD) is the standard investigation of choice for UGIB. Therefore, the availability of emergency EGD within 24 hours is most desirable.

Approximately 80% of upper gastrointestinal bleeding episodes are self-limited and require only supportive therapy. [6] The two most important prognostic variables appear to be the cause of bleeding and the presence of a comorbidity. Several scoring systems have been developed to predict the risk of rebleeding or death in patients with UGIB.

Materials and Methods

We prospectively analyzed data of 110 patients who were admitted with GI bleeding. The study was approved by the Institute Ethics Committee. Patients aged ≥ 18 years presenting with hematemesis and/or melena and undergoing endoscopy within 48 hours of admission were included in the study. We prospectively analyzed demographic profile, clinical baseline data, laboratory reports and imaging studies. Rockall scoring was done to identify patients at risk of adverse outcomes. Statistical analysis was done by using SPSS version 13.0. Univariate analysis of the correlation between clinical parameters and causes of UGIB was done using Chi-square test. Statistical significance was considered when $p < 0.05$.

Results:

Out of all patients 56 (51%) had variceal bleed, and 54 (49%) had nonvariceal bleed. The variceal bleed were all due to esophageal

varices and causes of non variceal bleed were duodenal ulcer (25%), gastric ulcer (14%), Mallory- Weiss tear (3%), gastric carcinoma (4%) and others (3%).

In this study maximum patients (30%) were in the 41-50 yrs age group (Table 1). Mean age of patients in variceal group was slightly older (49 yrs) as compared to non variceal group (47 yrs). Out of total patients 83% were male and 17% were females. Among all patients 84 (76.36%) were Hindus while 26 (23.64%) were Muslims. Among males 84% had variceal bleed as compared to females where non variceal bleed were more common 18 (33%). Variceal bleed were also prominent people belonging to Hindu religion (79%) whereas non variceal bleed was more common among Muslim patients 14 (26%). Peptic ulcer disease was the most common cause of non variceal bleed among females (44%) and Muslims (38%).

History of ulcerogenic drug use was present only in 13% of non variceal group. Alcohol addiction was associated more with variceal bleed (59%) than non variceal bleed (20%). Patients who presented with UGIB due to varices were also associated more with history of previous similar episodes (21%) and previously diagnosed cirrhosis (21%) as compared to non variceal group (9% and 0% respectively).

Clinical parameters (Table 2)

Presence of dyspepsia or abdominal pain (57%) and epigastric tenderness (46%) were more commonly associated with non variceal group than variceal group (11% and 4% respectively). Among variceal group signs of chronic liver disease (71%), splenomegaly (48%), ascites (39%) and hepatic encephalopathy (9%) were more commonly associated than that of non variceal group.

Laboratory findings (Table 3)

In patients with UGIB due to varices were found to have lower mean hemoglobin, WBC count and platelet count as compared to non variceal group. Patients in variceal group were found to have higher mean urea and signs of more hepatic dysfunction in form of

higher mean of total bilirubin SGOT, SGPT and alkaline phosphatase as compared to non variceal group. According to variables assessed in Rockall score 60% of patients were given score 2, while only 4.5% of patients were given score 4. None of the patients got score >8 which signifies high risk of mortality.

DISCUSSION:

Considering the significant morbidity and mortality associated with UGIB, after analyzing the results we matched them with studies conducted in India and other countries.

In our study we found that history of dyspepsia or abdominal pain was associated with 57% of patients presenting as non variceal bleed, all of them due to ulcer diseases. In various literature we found that 75% of patients with a history of dyspepsia would have duodenal or gastric ulcer but ulcer disease is also found in approximately 35% of patients who give no such history.[7]

In our study, greater than 50% of patients were in 21-50 yrs age group and overall male to female ratio was 3:1 which was comparable to study conducted among Indian population.[8]

Our study showed that patients belonging to Hindu religion (76%) presented more with bleeding episodes than Muslims (24%). This finding may be due to more widespread use of alcohol and smoking in Hindus. It was also noted that esophageal varices were the most common cause of UGIB among both Hindus and Muslims, probably because esophageal bleed patients sought admission more often.

The causes of UGIB certainly differ from one place to another. Our study showed that esophageal varices (51%) were the main cause of bleeding followed by peptic ulcer disease (39%), and the rest from other causes which included Mallory-weiss tear, carcinoma and few rare causes such as gastric telangiectasia, GIST, and Dieulafoy's lesion. This result was comparable with results shown in other Indian studies. [9][10] The comparative studies in most western series have peptic ulcer as the prime cause of bleeding (40-60%) followed by varices (2.1- 20%) and erosive mucosal disease (6.8-20%).[11] which was also supported by three population based studies performed in US, UK and Amsterdam[2][12][13] where peptic ulcer diseases accounted for 34-52% of total patients and varices accounted for 4-20% of patients.

History of alcohol intake, history of previously diagnosed cirrhosis, presence of tachycardia, signs of chronic liver disease, splenomegaly, ascites and hepatic encephalopathy were found to be more commonly associated with variceal bleed and this association was found to be statistically significant (p value < 0.05). History of previous UGIB, presence of associated comorbid illness and hypotension were not found to be significantly associated with either variceal or non variceal bleed (p > 0.05).

Analysis of various laboratory parameters revealed that decreased platelet count, decreased albumin, reversal of albumin globulin ratio, increase in total bilirubin, SGOT, SGPT, alkaline phosphatase and prothrombin time were found to be more commonly associated with variceal bleed (p value < 0.05).

In our study 60% of patients were given a score of 2 by Rockall criteria and none of the patients scored >8.

Conclusion:

Upper gastrointestinal bleeding is most common in 41-50 yrs age group followed by patients in 31-40 yrs (23.65%) of age. It is more common in male population and people belonging to Hindu religion. Overall most common cause is variceal bleeding due to esophageal varices followed by peptic ulcer disease. Most common cause of UGIB among males is esophageal varices and peptic ulcer disease among females. Rockall score in 60% of patients is score 2, and none of the patients got score >8 which signifies high risk of mortality. The mortality rate in our study was 6%.

TABLE 1: AGE AND CAUSE WISE DISTRIBUTION

AGE	VARICEAL EV(%)	DU	NON VARICEAL GU	MWT	TUM	OTH	TOTAL
≤ 20	1(1)	2(2)	2(2)	-	-	-	5
21-30	3(3)	1(1)	2(2)	-	-	-	6
31-40	11(10)	10(9)	1(1)	2(2)	-	2(2)	26
41-50	21(19)	8(7)	1(1)	1(1)	2(2)	-	33
51-60	13(12)	-	5(5)	-	3(3)	-	21
61-70	5(5)	5(5)	3(3)	-	-	-	13
≥71	2(2)	2(2)	1(1)	-	-	-	6
TOTAL	56	28	15	3	5	1	110(100)

EV- Esophageal varices, DU- Duodenal ulcer ,GU- Gastric ulcer, MWT- Mallory Weiss tear, TUM- Tumors, OTH- other

TABLE 2: Univariate analysis of clinical parameters

CLINICAL PARAMETERS	VARICEAL (n= 56)	NON VARICEAL (n= 54)	P Value
Dyspepsia or abdominal pain n (%)	6 (11)	31 (57)	< 0.0001
NSAID, ASA, anticoagulant use n(%)	0 (0)	7 (13)	< 0.0054
Previously diagnosed cirrhosis n (%)	8(14)	0 (0)	< 0.0039
History of previous UGIB n (%)	12 (21)	5 (9)	> 0.0775
Comorbid illness n (%)	2 (4)	6 (11)	> 0.1279
Alcohol drinking n (%)	33 (59)	11 (20)	< 0.0001
Hypotension (BP <90/60 mmHg) n(%)	6 (11)	6 (11)	> 0.9468
Tachycardia (HR >100/min) n (%)	28 (50)	11 (20)	< 0.0012
Epigastric tenderness n (%)	2 (4)	25 (46)	< 0.0001
Signs of chronic liver disease n (%)	40 (71)	0 (0)	< 0.0001
Splenomegaly n (%)	27 (48)	4 (7)	< 0.0001
Ascites n (%)	22 (39)	3 (6)	< 0.0001
Hepatic encephalopathy n (%)	5 (9)	0 (0)	0.0246

TABLE 3: Univariate analysis of laboratory parameters

LABORATORY FINDINGS	VARICEAL (N=56)	NON VARICEAL (N=54)	P Value
Hemoglobin (gm/dl)	8.7 ± 2.03	9.13 ± 2.17	0.2854
White blood count (X 103mm3)	7.5 ± 2.63	7.11 ± 1.89	0.3753
Platelet count (X 103mm3)	144 ± 33.21	293 ± 52.9	< 0.0001
Urea (mg/dl)	51.68 ± 21.5	48.52 ± 15.5	0.3800
Creatinine (mg/dl)	1.0 ± 0.31	1.0 ± 0.26	> 0.9999
Albumin (gm/dl)	3.14 ± 0.77	3.7 ± 0.62	< 0.0001
Globulin (gm/dl)	3.18 ± 0.63	3.02 ± 0.5	0.1439
Albumin/Globulin ratio <1 n (%)	37 (66)	3(6)	< 0.0001

Total bilirubin (mg/dl)	1.7 ± 1.02	0.81 ± 0.15	< 0.0001
SGOT (IU/L)	96.6 ± 53.3	48.44 ± 25.33	< 0.0001
SGOT > 2x ULN n (%)	35(63)	5 (9)	< 0.0001
SGPT (IU/L)	78.5 ± 46.4	42.26 ± 16.8	< 0.0001
SGPT > 2x ULN n (%)	21 (38)	3(6)	< 0.0001
Alkaline phosphatase (IU/L)	213 ± 86.19	143 ± 33.8	< 0.0001
Prothrombin time (sec)	17.14 ± 2.11	12.14 ± 0.88	< 0.0001

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