

## Original Article

# Outcome of Upper Gastro Intestinal Haemorrhage - a Hospital Based Prospective Study

MT Alam<sup>1</sup>, MMSU Islam<sup>2</sup>, MY Ali<sup>3</sup>, MAR Howlader<sup>4</sup>, SA Fattah<sup>5</sup>,  
AM Hossain<sup>6</sup>, RC Barman<sup>7</sup>, R Saha<sup>8</sup>

### Abstract :

Upper GI bleeding is a common medical emergency with a significant mortality, outcome of which depends upon the cause, appropriate and early intervention in a specialized center. This study was carried out to see the outcome of patient with Upper GI haemorrhage. Fifty cases with episode of upper gastrointestinal haemorrhage, admitted into medicine units of Faridpur Medical College Hospital from January 2011 to December 2011, were studied. Duodenal ulcer was the commonest cause of haematemesis and melaena followed by oesophageal varices, gastric ulcer and erosive gastritis. The peak incidence was among 35 to 45 years of age. Over all male female ratio was 4.55:1 but in case of duodenal ulcer it was 9:1. During hospital stay recurrent bleeding was noted in 10% of patients and during subsequent follow up it was 10% of the total and 50% in case of variceal bleeding group. Over all hospital mortality was 4% .

**Key words:** GI Bleeding, Hematemesis, Melaena, Peptic Ulcer, Oesophageal Varix

### Introduction :

Upper Gastrointestinal (UGI) hemorrhage is a common and serious medical emergency. The most common

presenting features of upper gastrointestinal hemorrhage are haematemesis, melaena and shock<sup>1</sup>. Clinical presentations depends on the site, extent, rate of haemorrhage and the presence of co-morbid diseases. Haematemesis occurring in one half to two third of patients with upper gastrointestinal haemorrhage, allows physicians to come to a conclusion that haemorrhage has occurred above the ligament of treitz, because blood entering the GI tract below the duodenum rarely enters the stomach.

Bleeding sufficient to produce haematemesis usually produces melaena. Less than half of the patients with melaena have haematemesis. Melaena is almost always a sign of upper GI haemorrhage occurring above the ileocaecal valve. Approximately 60 ml blood is required to produce a single black stool.

In U.K. about 50 to 120 patients per 100,000 populations are hospitalized from upper GI haemorrhage each year. About 30 to 50 % cases were associated with peptic ulceration. Mortality is about 10%<sup>2</sup>. In USA approximately 115 patient per 100000 population are hospitalized each year for the episode of upper GI haemorrhage<sup>3,4</sup>.

In a study at Pakistan, among 350 cases with haematemesis shows oesophageal varices in 24% and superficial mucosal lesion in 17% cases and majority are due to peptic ulcer disease<sup>5</sup>.

In Bangladesh, survey conducted by Khan et al, has revealed the point prevalence of DU and GU to be 11.9 & 3.6 % respectively<sup>6</sup>. A good number of patients with

---

1. Dr. Md. Towhid Alam, MBBS, FCPS (Medicine), Associate Professor, Department of Medicine, Faridpur Medical College, Faridpur.

2. Dr. M. M. Shahin-Ul-Islam, MBBS, FCPS (Medicine), MD (Gastroenterology), Assistant Professor, Department of Gastroenterology, Faridpur Medical College, Faridpur.

3. Dr. Md. Yusuf Ali, MBBS, FCPS (Medicine), Professor and Head, Department of Medicine, Faridpur Medical College, Faridpur.

4. Dr. Md. Anisur Rahman Howlader, MBBS, FCPS (Medicine), Assistant Professor, Department of Medicine, Faridpur Medical College, Faridpur.

5. Dr. SK Abdul Fattah, MBBS, DTCD, FCPS (Medicine), Associate Professor, Department of Medicine, Faridpur Medical College, Faridpur.

6. Dr. Ahmed Manadir Hossain, MBBS, D Card, FCPS (Medicine), Assistant Professor, Department of Medicine, Faridpur Medical College, Faridpur.

7. Dr. Rakhil Chandra Barman, MBBS, DTCD, Assistant Professor, Dept. of Respiratory Medicine, FMC, Faridpur.

8. Dr. Radheshyam Saha, MBBS, FCPS (Medicine), MD (Neurology), Associate Professor, Department of Neurology, Faridpur Medical College, Faridpur.

---

### Address of correspondence :

Dr. Md. Towhid Alam, MBBS, FCPS (Medicine), Associate Professor, Department of Medicine, Faridpur Medical College, Faridpur. Mobile Phone: +880171-2130256, Email: alamtoughid48@yahoo.com

haematemesis and melaena get admission into different hospitals in our country. But there is no large scale data about the incidence, aetiology and outcome in the current period. This study has been carried out on 50 patients with upper GI bleeding admitted in the Faridpur Medical College Hospital from January 2011 to December 2011 to see their outcome.

### Materials and methods:

This study was performed in medicine units of Faridpur Medical College Hospital. Fifty adult patients, both male and female presenting with haematemesis and/or melaena from January to December 2011, were included in this study. Patients who were not stabilized haemodynamically within 48 hours of resuscitation or to whom endoscopy could not be performed were excluded from the study. Every patients were evaluated through proper history, thorough clinical examination and related investigations. Endoscopic examination was carried out within 48 hours of first presentation. All patients were treated with supportive therapy and pharmacologic measures as well as endoscopic therapy and surgery as required. Outcome at the end of the hospital stay was recorded and patients were followed up at 02 months interval for 06 months.

### Results:

The final diagnosis was made after endoscopy. Out of 50 cases, duodenal ulcer was the commonest cause (40%) (Table I).

**Table-I:** Distribution of patients according to aetiology. (N = 50)

Aetiological Diagnosis	No. of patients (%)
Duodenal Ulcer	20 (40)
Gastric Ulcer	5 (10)
Oesophageal Varices	8 (16)
Gastric Erosions	4 (8)
Miscellaneous	10 (20)
Gastric Cancer	3 (6)
Pre-pyloric Tumour	1 (2)
Reflux Oesophagitis	2 (4)
ITP	2 (4)
AML	1 (2)
Haemophilia	1 (2)
Source Unknown	3 (6)

Maximum hospital stay was in oesophageal varices group (5.3 days) followed by gastric erosion (5 days). Overall mortality was 2(4%), both of them from

oesophageal varices. Two patients with variceal bleeding (25%) were died but bleeding from other causes there were 100% recovery rate. Five (10%) patient had recurrent bleeding of which 3 had oesophageal varices and 2 had duodenal ulcer (Table II).

**Table-II:** Distribution of patients according to mean hospital stay & outcome (N=50)

Aetiology	No. of patient	Recovery	Mortality	Mean hospital stay in days	Recurrent Bleeding
Duodenal ulcer	20	20	0	2.9	2 (10%)
Gastric ulcer	05	5	0	3.1	0
Gastric Erosion	4	4	0	5	0
Eso. Varices	8	5	2	5.3	3 (37.5%)
Miscellaneous	10	10	0	4.4	0
Source unknown	3	2	0	2	0

During subsequent follow up none from peptic ulcer group developed recurrent bleeding. Three (50%) from variceal group and 1 (10%) from both unknown source and miscellaneous group developed recurrent bleeding and all of them got admission into medicine units and were managed conservatively of which 1 from variceal group and 1 from miscellaneous group died (Table III). Two patients with variceal bleeding were treated by endoscopic sclerotherapy after discharge from the hospital at Dhaka. One patient died after 6 months. So the overall mortality from oesophageal variceal bleeding after 6 months was 37.5%.

**Table-III:** Recurrence of bleeding during subsequent follow up & number of death. (N=50)

Aetiology	No. of patient	Drop out	Recurrent Bleeding no (%)	Mortality
Duodenal ulcer	20	2	0	0
Gastric ulcer	5	0	0	0
Gastric Erosion	4	0	0	0
Oesophageal Varices	6	1	3 (50)	1
Miscellaneous	10	2	1 (10)	1
Source unknown	3	0	1 (10)	0

### Discussion:

In this study, the mean age was 34.95±12.11 years for duodenal ulcer and 46 years for gastric ulcer. Mamun et al in his study showed that the mean age of the patients with upper gastrointestinal haemorrhage was 35.65 years and 49.40 years for duodenal ulcer and gastric ulcer respectively<sup>7</sup>. Alam et al in his study showed the mean age incidence for duodenal ulcer & gastric ulcer

was 36.14 years and 41.6 years respectively<sup>8</sup>. Our findings in the current study were very similar to the above studies.

In the current study, male female ratio is 7.33:1 for bleeding peptic ulcer. This ratio was 9:1 & 4:1 for duodenal ulcer and gastric ulcer respectively. This findings are strikingly dissimilar to that obtained from USA<sup>9</sup>. Zimmerman et al also found male preponderance among the bleeders<sup>10</sup>. This increased incidence of the ratio in our country reflects that males are more sufferers and female may receive less medical attention.

The ratio of bleeding duodenal ulcer to gastric ulcer was 4:1 in the present study. Alam et al<sup>8</sup>, Mamun et al<sup>7</sup> and Miah et al<sup>11</sup> found the ratio 5.7:1, 11.66:1 and 3.5:1 respectively. Frequency of ratio of bleeding DU to GU in the western countries vary from 0.8:1 to 1.2:1 only<sup>12,13</sup>. The reason for the higher proportion of the western countries may be due to geographical and racial variation as well as poor health care facilities.

In the present study, peptic ulcer disease is the commonest cause of haematemesis & melaena and comprised 50%, duodenal ulcer was 40% of all cases and gastric ulcer was 10%. In a study of endoscopic review of 5000 patients with upper GI haemorrhage in Thailand, it was found that 51.24% of causes were due to peptic ulcer disease<sup>14</sup>. Zimmerman et al in Jerusalem in a study found 39.5% duodenal ulcer and 16.9% gastric ulcer<sup>10</sup>.

Variceal bleeding is an important cause of upper GI haemorrhage. In our present study, 16% cases were due to variceal bleeding. It was similar to the findings of Alam et al<sup>8</sup>, Mamun et al<sup>7</sup> and Miah et al<sup>11</sup>. Saowaros in Thailand<sup>14</sup> and Zimmerman in Jerusalem<sup>10</sup>, but dissimilar to those reported from 3% in north Scotland and 2.4% in Oxford<sup>15</sup>. In USA it is quite high (20%)<sup>9</sup>.

Tomopoulos K et al in Greece in a study of 1534 cases of upper GI haemorrhage tried to show that the incidence of gastroduodenitis is decreasing than the previous decades<sup>16</sup>.

Duodenal ulcer was diagnosed clinically in 24 (48%) patients but at endoscopy it was only 20 (40%). Accuracy rate was 83.3%. In managing the cases with haematemesis and melaena 34 patients (68%) were treated with H2 receptor blocker and 15 patients (30%) were treated with proton pump inhibitor, one patient with duodenal ulcer treated surgically in whom bleeding did not stop in spite of conservative treatment.

Recurrent bleeding during hospital was found in 5 cases (10%), 3 cases of variceal bleeding (37%) and 2 (10%) cases of duodenal ulcer bleeders. Kaniz et al in a retrospective study of 126 cases with upper GI haemorrhage who were admitted during a period from 1994 to 1996 showed recurrent bleeding in 19.04% cases<sup>17</sup>.

The mortality of patients admitted to hospital following a diagnosis of acute upper GI bleeding is about 10%<sup>2</sup>. Mortality from first bleeding from oesophageal varices is

around 50% & most survivors rebleed with a mortality of 30%<sup>18</sup>. Secondary bleeders have got higher mortality. In our present series 2(4%) patients died, both of them were from oesophageal varices group. It may be due to the advanced stage of cirrhosis.

### Conclusion:

UGI bleeding is a common medical emergency with a significant mortality. Early diagnosis by UGI endoscopy and appropriate therapy reduces rebleeding rate as well as mortality.

### References :

1. Epstein A, Isselbacher KJ. Gastrointestinal bleeding. In: Fauci AS, Martin JB, Braunwald E et al, editors. Harrison's Principle of Internal medicine. 14th Edn. USA: Mc Graw Hill ; 1998 .p. 246-9.
2. Palmer KP, Penman ID. Disease of the alimentary system and pancreas. In: Haslett C, Chilvers ER, Hunter JAA, Boon NA Editors. Davidson's Principle and Practice of Medicine. UK: Churchill Livingstone, 18th Edn. 1999.p. 614-6.
3. Elashof JD, Grossman MI. Trends in hospital admission, death rate for peptic ulcer in the United States from 1970 to 1978. *Gastroenterology* 1980;78:280-5.
4. Roth PH. What is its role in upper GIT bleeding. *Dig Dis Sci.* 1981;26(7suppl): 15-55.
5. Ali L , Zulfikar M, Shah MA. Etiology of haematemesis: A study of 350 cases. *Pakistan's journal of medical sciences* 1999; 15(4): 301-6.
6. Khan AKA, Hassan M, Roy PK et al. Peptic ulcer in Bangladesh. *Bangladesh Med Res Counc Bull.* 1987; XIII(1):29-42.
7. Mamun AA. Clinical presentation of upper GIT bleeding. FCPS Dissertation 1990.
8. Alam MR. Clinical evaluation of upper gastrointestinal bleeding. FCPS Dissertation 1988.
9. Culter JA, Mandeloff AL. Upper gastrointestinal bleeding: Nature and magnitude of the problem in US. *Dig Dis Sci.* 1981;26:90-6.
10. Zimmer J, Meroj Y, Signencia J, Signencia J, Isvang E. Upper gastrointestinal haemorrhage, comparison of the causes and prognosis in primary and secondary bleeders. *Scand J of Gastroenterol.* 1994;29(9):795-8.
11. Miah MT. Aetiological pattern of haematemesis and melaena. FCPS Dissertation 1996.
12. Ohman C, Thon K, Hengles KJ, Imhof M. Incidence and pattern of peptic ulcer bleeding in a defined geographical area. *Scand J Gastroenterol.* 1992;27:71-81.
13. Tilvas RS, Vuoristom M, Varis K. Changing profile of peptic ulcer disease in hospital patients during 1964-1984 in Finland. *Scand J Gastroenterol.* 1987;22:1238-1244
14. Saowaros V, Udayachalem S, Wee SB. Upper gastrointestinal bleeding in Thai patients, Review 5000 upper GIT endoscopy. *J Med Assoc Tai.* 1995;77(4):561-5
15. Schiller KFR, Truelove SC, Willums DG. Haematemesis and melaena, with special reference to factors influencing the outcome. *Br J Med.* 1970;2:7-14
16. Thomopoulos K, Katsakoulis E, Vagianos C, Mimidis K, Margariti V, Nikolopoulou V. Causes and clinical outcome of acute upper gastrointestinal bleeding : a prospective analysis of 1534 cases. *Int J Clin Pract.* 1998;52(8):547-50.
17. Moula K, Jahiruddin MR. Experienced with upper gastrointestinal bleeding in relation to endoscopy. *Annals* 2000;1:12-14.