

Spectrum of Upper Gastrointestinal Bleeding at the Shaikh Zayed Hospital, Lahore

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SUMMARY

361 patients with upper gastrointestinal bleeding (UGIB) admitted from January 1995 till December 1995 in the Shaikh Zayed Hospital, Lahore were included in this retrospective study. Cause of bleeding was confirmed in 340 of 361 (94%) patients. Two hundred and forty (66.5%) were male and 121 (33.5%) were female. The source of bleeding was oesophageal varices in 207 (57.3%), oesophagitis in 33 (9.1%), duodenal ulcer in 32 (8.9%), gastric erosions in 23 (6.4%), Mallory-Weiss tear in 7 (1.9%), Gastric varices in 7 (1.9%), gastric ulcer in 6 (1.7%), duodenitis in 6 (1.7%), carcinoma of the oesophagus in 2 (0.6%), carcinoma of the stomach in 2 (0.6%) and carcinoma of duodenum in 4 (1.1%) patients. Duodenal varices were present in 3 (0.8%) and Dieulafoy syndrome in 1 (0.3%) patient. Source of bleeding was not found in 19 (5.3%) cases. Underlying cause in majority of the bleeders was liver cirrhosis (222 = 61.5%). The combined medical and surgical mortality for confirmed upper gastrointestinal bleeding was 10.8%. Mode of treatment was sclerotherapy in 162 (44.9%), sclerotherapy and balloon tamponade in 18 (5%), variceal band ligation in 8 (2.2%), balloon tamponade alone in 5 (1.4%), emergency devascularization in 2 (0.6%), surgery for duodenal ulcer in 5 (1.4%), shunt surgery in 5 (1.4%) and conservative treatment in 146 (40.4%) cases which did not have significant bleeding.

UGI bleeding is a common problem in our patients. The most common source of UGIB was variceal, with background of liver cirrhosis, having highest mortality rate.

INTRODUCTION

Upper gastrointestinal bleeding (UGIB) is one of the commonest causes of emergency hospital admissions in Pakistan. Despite technical advances over the past three decades, the overall mortality has remained unchanged at around 10%¹. The department of Gastroenterology at the Shaikh Zayed Hospital, Lahore has a specialized set up to manage patients with UGIB. All cases with suspected bleeding are evaluated in the Accident and Emergency department by a senior member of the gastroenterology service. The intra-hospital referrals are also evaluated quickly, thus avoiding unnecessary delay in specialized care. This also helps in excluding those patients wrongly believed to have upper gastrointestinal source of bleeding.

After initial diagnosis and management, the appropriate time for endoscopy is planned, depending upon the haemodynamic status of the patient. Majority of the actively bleeding patients are admitted in the ICU or gastroenterology ward and occasionally admitted transiently to the medical floor.

The endoscopy unit provides a 24 hours emergency service for management of bleeding patients and is staffed by the consultant gastroenterologist the two endoscopy - trained nurses, providing continuous endoscopic coverage. They assess the patient, admit, perform emergency or elective endoscopy and record their findings. We report here the an analysis of demographic features and management of patients with UGIB in this hospital.

MATERIALS AND METHODS

This study is a retrospective analysis of patients who presented with a history of UGIB from January 1995 till December 1995. Majority of the admissions were either from the Accident and Emergency department or admitted directly from the out-patient department to the gastroenterology ward. Intra-hospital referrals and private patients were managed by this team as well. After initial assessment and management, all patients with stable haemodynamic status had endoscopy performed on the same day. Those admitted with unstable haemodynamic status were stabilized first and then subjected to endoscopy. All patients with major bleeding were reviewed by the surgical team on call. On endoscopic examination stigmata noted were visible vessel in an ulcer, clot, active arterial spurting, red spots on oesophageal varices and gastric varices with stigmata of bleeding.

Patients were categorized into severity groups as follows:

- **Minor:** History of bleeding, stable condition, clear nasogastric lavage, haematocrit more than 30%.
- **Moderate:** History of bleeding with no haemodynamic disturbance, blood clots in nasogastric lavage, but no active bleeding. Fall in haematocrit less than 10%.
- **Major:** With one of the following: a history of shock, haemodynamic disturbance, nasogastric lavage showing active bleeding and fall in haematocrit more than 10%

The data were analyzed using SPSS Chicago, IL, USA statistical program.

RESULTS

Three hundred and sixty one cases presented with UGIB, of whom 340 (94%) had an upper gastrointestinal source of bleeding. 240 (66.5%) were male with 121 (33.5%) female. The male to female ratio was 2:1. The mean age was 50.2 ± 16.22 (range 1 to 100 years (Table 1), 140 (38.8%) patients were referred from the Accident and Emergency department, 78 (21.6%) cases from the gastroenterology ward, 52 (14.4%) from private

ward, 16% bled whilst in hospital with another primary pathology and 9.1% from out patient department and private referrals.

Table 1: Age in decades.

Age (Years)	No.	%
1 to 10	9	2.5
11 to 20	9	2.5
21 to 30	23	6.4
31 to 40	49	13.6
41 to 50	89	24.7
51 to 60	103	28.5
61 to 70	78	21.6
More than 70	1	0.3

The data for severity of bleeding was available in give actual number (38.7%) patients, amongst whom 40% had major bleeding, 55.7% had moderate bleeding and 4.2% minor bleeding.

From Table 2, which summarizes the causes of UGIB among 361 patients studied, it is clear that bleeding from oesophageal varices was the commonest cause of UGIB. Liver cirrhosis was the main underlying cause responsible for variceal bleeding (61.5%). Non-cirrhotic portal hypertension was present in 1.9% cases.

Sclerotherapy was the primary method of arresting bleeding and was performed in 162 (44.9%) (Table 3), while in 18 (5%) it was combined with balloon tamponade to achieve control of bleeding. In 5 (1.4%) cases balloon tamponade was used as an initial therapeutic measure. Two (0.6%) patients underwent emergency devascularization, 8 (2.2%) patients had variceal band ligation of oesophageal varices. Shunt surgery was performed in 5 (1.4%) cases, mainly because of bleeding duodenal varices and gastric varices. Surgery was performed in 7 (1.9%) owing to bleeding from carcinoma and in 5 (1.4%) duodenal ulcer patients with endoscopic stigmata of high bleeding risk i.e. bleeding vessel or central clot and those who continued to bleed. The remaining 146 (40.4%) patients who did not have significant bleeding were successfully treated with conservative measures.

Table 2: Causes of upper gastrointestinal bleeding on endoscopy (n=361).

Diagnosis	No.	%
Oesophageal Varices	207	57.3
Oesophagitis	33	9.1
Duodenal ulcer	32	8.9
Gastric erosions	23	6.4
Mallory-Weiss tear	7	1.9
Gastric varices	7	1.9
Gastric ulcer	6	1.7
Duodenitis	6	1.7
Carcinoma Oesophagus	2	0.6
Carcinoma Stomach	2	0.6
Carcinoma Duodenum	4	1.1
Duodenal Varices	3	0.8
Dieulafoy syndrome	1	0.3
Source of bleeding not localized	19	5.4

Table 3: Mode of treatment (Total = 100%)

Treatment modality	No.	%
Sclerotherapy	162	44.9
Sclerotherapy and Sengstaken Blackmore (SB.) tube	18	5
Variceal Band ligation	8	2.2
SB. tube (as a first measure)	5	1.4
Surgery for ulcer	5	1.4
Surgery for carcinoma bleeding	7	1.9
Shunt Surgery	5	1.4
Devascularization	2	0.6
Conservative	146	40.4

The combined medical and surgical mortality for confirmed upper gastrointestinal bleeding was 10.8% (39/361). The highest mortality rates were found in those with esophageal varices associated with advanced liver disease (28/39) (Table 4). Other concomitant diseases contributing to mortality were duodenal ulcer in 3, advanced renal failure in 2 and hepatorenal syndrome in 1 patient. One patient died of periampullary carcinoma with metastasis, one patient with duodenitis died due to advanced renal failure. Endoscopy could not be done in 2 patients

because of unstable haemodynamic status and hepatic encephalopathy.

Table 4: Mortality of upper gastrointestinal bleeding by lesions and sex (n=361)

Bleeding lesion	Total* No. (%)	Died (n=39)	Male No.	Female No.
Esophageal Varices	207 (57.3)	28 (71.7)	21	7
Gastric varices	7 (1.9)	1 (2.5)	1	-
Duodenal Ulcer	32 (8.9)	3 (7.6)	2	1
Carcinoma duodenum	4 (1.1)	1 (2.5)	-	1
Mallory-Weiss tear	7 (1.9)	1 (2.5)	1	-
Duodenitis	1 (0.3)	1 (2.5)	1	-
Dieulafoy syndrome	1 (0.3)	1 (2.5)	1	-
Endoscopy not done	2 (0.6)	2 (5)	2	-
Gastric erosions	23 (6.4)	1 (2.5)	-	1

*Figures in parenthesis in column 3 represent No. of patients dying in each disease category out of total number of deaths.

DISCUSSION

Upper gastrointestinal bleeding (UGIB) remains a commonly encountered medical emergency, with a significant morbidity and mortality.

The mean age of presentation and a male preponderance is similar to the other reports in Pakistan^{3,9}. In this study the proportion of patients over 60 years admitted with UGIB was 21.9%. According to reports, this tendency has increased^{1,6}.

The leading cause of UGIB in this study is oesophageal varices, similar to other reports^{3,9}. Studies from southern Saudi Arabia and Kenya also described oesophageal varices as the commonest cause of UGIB^{4,5}. This high frequency of bleeding oesophageal varices as cause of UGIB is explained by the high prevalence of chronic hepatitis B and C in our region as reported⁴. In western studies oesophageal varices accounts for 3.7 to 10% cases of UGIB mainly due to alcoholic cirrhosis^{1,6}.

In this study incidence of bleeding duodenal ulcer and gastric ulcer was 8.9% and 1.7% respectively, while reported incidence in western literature is 25% and 20-25% respectively^{6,10}. High incidence of gastric erosions in Western countries

(20-25%) as compared to our study (6.4%) is perhaps due to increased use of non-steroidal anti-inflammatory drugs in those studies^{6,10}. Incidence of oesophagitis (9.1%) is comparable to that of Western literature (5-12%)^{6,10}. Mallory-Weiss tear was found in 1.9% as compared to those in Western studies (3.7-7%). Duodenal variceal bleeding (0.8%) was noted with interest, and required porto-systemic shunting as the treatment. Reported incidence of gastric cancer bleeding (0.6%) is comparable to one study (0.9%)⁶ from the UK., where as in another study reported incidence was 3%¹⁰.

The overall mortality in our study is 10.8% similar to that reported in most series^{1,2,7}. Low mortality rates in some series are attributed to non-variceal causes of UGIB^{6,7,8}. Mortality rates in patients with oesophageal varices were much higher than that of patients with duodenal ulcer (28 vs. 3), $P < 0.001$.

In summary, bleeding oesophageal varices is the commonest cause of UGIB in Pakistan in adult patient population, due to high prevalence of liver cirrhosis caused by hepatitis B and C. Hepatitis B and C are to a greater extent preventable by effective blood screening, needle precautions, patient education and immunization against hepatitis B. Improved intensive care measures and endoscopic therapy may account for decline in this acute mortality rates, but thus far has not shown impact on long term mortality.

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