



UPPER GASTROINTESTINAL BLEED; PATTERNS OF ENDOSCOPIC FINDINGS IN PATIENTS IN LAHORE GENERAL HOSPITAL, LAHORE

mimranhkan@hotmail.com

Dr. Salman Shakeel¹, Dr. Muhammad Imran Hasan Khan², Dr. Ghias Un Nabi Tayyab³, Dr. Ehsan Ullah⁴,
Dr. Asif Mehmood⁵, Dr. Maryam Zulfiqar⁶

1. Postgraduate Resident
MD Medicine
2. BSc; MBBS; FCPS (Medicine)
MRCP (UK); MRCPS (Glasgow)
FRCP (Edinburgh); FRCP
(Glasgow)
Associate Professor of Medicine;
Ameer Ud Din Medical College/
Postgraduate Medical Center,
Lahore General Hospital Lahore
3. Professor of Medicine,
4. Assistant Professor Medicine
5. Assistant Professor Medicine
6. Senior Registrar Gynaecology,

Correspondence Address:

Dr. Muhammad Imran Hasan Khan
BSc; MBBS; FCPS (Medicine)
MRCP (UK); MRCPS (Glasgow)
FRCP (Edinburgh); FRCP (Glasgow)
Associate Professor of Medicine;
Ameer Ud Din Medical College/
Postgraduate Medical Center,
Lahore General Hospital Lahore
mimranhkan@hotmail.com

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ABSTRACT: Acute Upper Gastrointestinal Bleed (UGIB) is a globally prevalent medical emergency and is a major cause of mortality. It may manifest as Hematemesis, Melena or Hematochezia. The most common causes of UGIB are Esophageal Varices (EV) and Peptic Ulcer Disease (PUD). Upper GI endoscopy (EGD) is the preferred procedure for investigation.

Objectives: This study was carried out to identify patterns of endoscopic findings in patients with UGIB and its frequency according to age, gender and symptoms in our setup. **Study**

Design: It was a single centered retrospective analysis. **Setting:** Endoscopy floor of Lahore General Hospital, Lahore for evaluation of Upper GI Bleed. **Period:** January 2010 to December 2013. **Material & Methods:** 3910 patients were brought to the GI Endoscopy. Data was collected from the endoscopy records on demographics (age and gender) and history of UGIB.

The endoscopic findings were then evaluated. **Results:** 58.3% were male and 41.7% were female; male to female ratio was (1.4:1). The mean age was 43.4 years for males and 46.9 years for females. (58%) had hematemesis, (21%) had melena, (19%) had both hematemesis and melena. (2%) had hematochezia. EV (69.2%) was the commonest cause of UGIB followed by PUD (20.6%). 4.3% of patients had a normal endoscopy and 2.5 % had Growth in upper GI tract.

Conclusions: EV was the commonest cause of UGIB in our setup, as compared to the western world, where PUD was more common. Probable reason could be the high prevalence of liver cirrhosis in our population. A good number of patients had a normal endoscopy, suggesting physicians to obtain detailed history prior to the procedure.

Key words: Endoscopy, Upper Gastrointestinal Bleed, Variceal Bleed, Peptic Ulcer Disease

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INTRODUCTION

Acute Upper gastrointestinal bleed (UGIB) is the intraluminal bleeding of GI Tract from a source proximal to the ligament of Treitz. It is a globally prevalent problem affecting both the genders and people of all the ethnic groups. Being a medical emergency, it accounts for the hospitalization of almost 0.3 million people per annum¹ with an incidence of approximately 100 cases per 100,000 population per year.² UGIB is approximately 4 times as common as Lower GI bleed and is a major cause of mortality ranging from 6-10% overall² but there is a significant increase in mortality in both genders in older age group especially (>60 years).³

UGIB may manifests as hematemesis, melena

and hematochezia.⁴ The most common causes of UGIB are esophageal varices (EV), peptic ulcer disease (PUD), gastric erosions and mucosal tears.⁵ Other causes are tumors and AV malformations.⁶

The initial evaluation of these patients for hemodynamic stability is very essential. Early aggressive resuscitative measures taken for a hemodynamically unstable patient can reduce mortality in acute UGIB.⁷

The effective treatment depends on proper identification of the source of bleeding and prompt administration of therapy.⁸ Upper GI endoscopy (EGD) is the preferred investigative procedure for UGIB because of its accuracy in bleeding point

identification, low complications rate, and its role as a therapeutic intervention.⁹

Different countries have diverse primary causes identified. Knowing the aetiology can help save life by making correct decision for resuscitative measures, which they have achieved by conducting such studies. Very little is known about the patterns of UGIB in our setup. By identifying, we can formulate standard operating procedure for our patients. It will not only help in saving time, but also encourage practice of evidence based medicine.¹ This study was carried out to evaluate different patterns of endoscopic findings in patients with UGIB in our setup. It also identified most frequent population affected according to age, gender and symptoms.

MATERIAL & METHODS

It was a single centered retrospective analysis of patients who were brought to the GI Endoscopy Department of Medical Unit-1 of Lahore General Hospital, Lahore for endoscopic evaluation of Upper GI Bleed from January 2010 to December 2013. An informed written consent was obtained from every patient before the procedure. Fujinon EPX-4400 HD Electronic Video Endoscope was used and all procedures were done by the experienced endoscopists. Gargles of 4 % xylocaine solution were used as a local anesthetic agent before the procedure. Non-cirrhotic anxious patients were also given IV midazolam, when needed. The upper GI Endoscopy was performed on all hemodynamically stable patients, who were conscious. Biopsy was taken from suspicious lesions where necessary. Data was collected from

the endoscopy records on demographics (age and gender) and history of UGIB and endoscopic findings were recorded.

STATISTICAL ANALYSIS

Statistical package for social sciences (SPSS) version 19 was used. Information obtained from these patients was then analyzed. The quantitative data were recorded as mean and standard deviation and qualitative data as percentages presented in the form of tables. The study was approved by the Ethical Research Committee of Lahore General Hospital, Lahore.

RESULTS

Between January 2010 and December 2013, a total of 3910 patients with UGIB were endoscopically evaluated. There were 2282 males and 1628 females. Male: Female ratio was 1.4:1. The mean age was 42.4 years for males (95% CI: 40.0–43.9), 46.9 years for females (95% CI: 45.2–48.1). 83% of patients were between 15-60 years of age. The age distribution by gender is shown in Figure-1.

The endoscopic findings with their frequency, percentages in relation to gender distribution and respective mean ages are given in Table-I. 58% had hematemesis, 21% had melena, 19% had both hematemesis and melena and 2% had hematochezia. EV (69.2%) was the commonest cause of UGIB followed by PUD (20.6%). 4.3% of patients had a normal endoscopy and 2.5 % had Growth in upper GI tract. The clinical presentation of the patients is given in Figure-2.

No	Endoscopic Finding	No.	%age	Mean Age (years)	Male: Female ratio
1	Esophageal varices (EV)	2702	69.1	46	1.95:1
2	Peptic ulcer disease (PUD)	806	20.6	40	1:1
3	Normal EGD	165	4.2	35	1:1.4
4	NSAIDs induced gastritis	84	2.1	39	1:1.3
5	Gastric Neoplasm	49	1.3	45	1.4:1
6	Esophageal Neoplasm	44	1.2	49	1.8:1
7	Fundal Varices	22	0.6	42	1.3:1
8	Portal Gastropathy	21	0.5	34	1:1
9	Mallory Weiss	17	0.4	32	1:1.3

Table-I

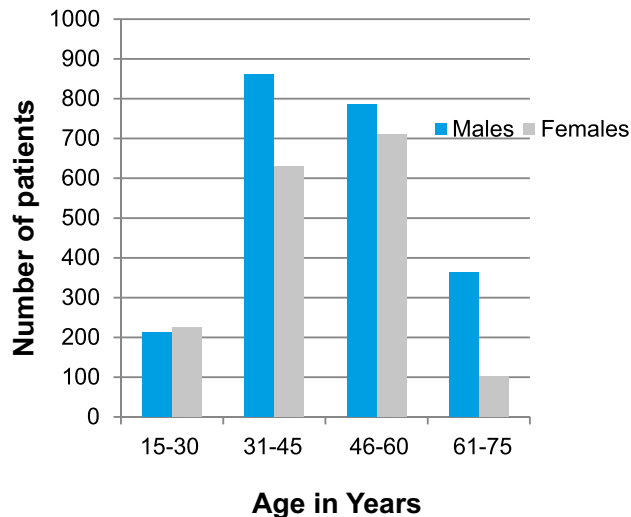


Figure-1

DISCUSSION

Acute Upper Gastrointestinal Bleed (UGIB) is a serious gastrointestinal / medical emergency associated with considerably higher morbidity and mortality along with an enormous financial burden on health services. The upper GI endoscopy in UGIB is not only a reliable tool in identifying the cause of bleeding, but it has a potential role for therapeutic intervention immediately and with subsequent future prognostic assessment of the patients.

Figures of male preponderance in our study (2282(58.3%) male and 1682(41.7%) female, with male to female ratio of (1.4:1)) were similar to other studies. This male predominance was similar to the study carried out by Singh et al showing that males were six times more common to suffer from upper GI bleed. They also documented that peptic ulcer was most common in their patient cohort. They admitted that it was different from what was documented elsewhere from India, where variceal bleed was more common. It was noticeably different from our study, suggesting that gender patterns even within our country can be different and there is requirement for local data research to formulate standard operating procedures. Another reason for this difference could be the reputation of tertiary care center, leading to presentation of one aetiology patients presenting or referred here commonly.¹⁰

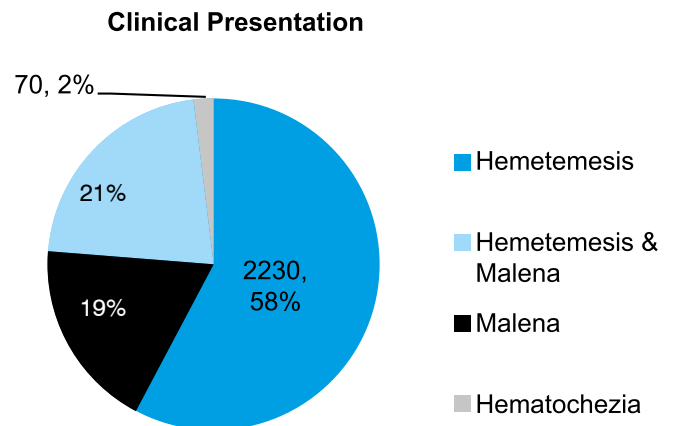


Figure-2

Relative age was more older in our study. Gupta et al documented in their study that there was no significant variation with age. Most common age group with them was between 40-60 years, followed by 20-40 and least common was greater than 60. It was different from our study in many aspects. First, our sample size was much higher. Secondly, there very few patients in age below 30, as was the case with age above 60. Most common group was between 30-45, with more male patients in it, followed by group between 46-60, where females were increasing in number but still less than males. The reasons for this difference can be that younger people tend not to attend to their symptoms early. It can also be a geographical difference. Also prevalence of disease can be a factor, resulting in more referrals.¹¹

Esophageal varices (EV) was the commonest cause of UGIB accounting for 69.1% of all patients in this study. It was followed by Peptic Ulcer Disease, with both of them contributing as major causes. Out of the rest seven more causes, Mallory Weiss tear was least frequent. It was comparable with studies previously conducted in other countries.^{12,13} Jaka et al documented in their patient cohort that there were similar patterns as a cause. Esophageal varices were present in 51.3%, followed by duodenal and gastric ulcers. 3.3% of patient in their cohort were having normal

findings. They were similar with our study in most of the respects, however, the study sample was smaller with them. Also prevalence of varices was higher in our population, suggesting that cause in our setup is different from them. Most interesting finding was 4.3% of patients having normal endoscopy which was consistent with the results of this study.¹⁴ To minimize the number of negative endoscopies it is essential that a detailed history must be obtained to distinguish epistaxis, hemoptysis and gum bleeds from hematemesis. It also indicates lack of such initial measures in our setup and need for steps to improve them.

In our study, 58% had hematemesis, 21% had melena, 19% had both hematemesis and melena and 2% had hematochezia. Van Leerdam et al have documented that upper GI bleed was still a major cause of mortality. Mortality was high in elderly people and in-hospital patients, and peptic ulcer and variceal bleed were common causes. Patients can present with any symptoms depending on the severity of bleeding.¹⁵ The reason for difference in our study regarding presentation is not clear. It is a possibility that due to degree of severity of bleed, underlying pathology and stage of the primary pathology, this pattern exists. We know that heavy bleeds present with hematemesis and hematochezia.

CONCLUSIONS

Esophageal Varices (EV) are the commonest cause of UGI bleeding in our setup and is probably due to the high prevalence of liver cirrhosis among Pakistani population as compared to the western world where literature documents peptic ulcer disease (PUD) also as a major contributor. The main presenting symptom was hematemesis noted in our population followed by melena, which indicates severity of bleed with male preponderance. A good number of negative endoscopies in our patients, indicates the need to obtain detailed history and physical examination prior to referring them for the procedure.

LIMITATIONS

This study had limitations. It was retrospective in nature, and there was lack of reliable electronic

record keeping of serological and radiological data that culminated in un-intentional loss of substantial proportions of some information such as vital signs and initial laboratory results upon presentation, history of blood transfusions, hepatitis profile, abdominal USG findings, treatments offered to the patients, segregation of first time bleeders & re-bleeders after initial endoscopy and post-discharge follow-ups. This loss also hindered meaningful analysis of data, particularly for bleeding severity assessment. Such incomplete data had to be excluded. This prompted us to start systematically and prospectively collecting data, to ensure more informative reporting in future.

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REFERENCE






1. Committee AS of P, Adler DG, Leighton JA, Davila RE, Hambrick RD, Hirota WK, et al. **ASGE guideline: the role of endoscopy in acute non-variceal upper-GI hemorrhage.** *Gastrointest Endosc.* 2004 Oct 1; 60(4):497–504.
2. Fallah MA, Prakash C, Edmundowicz S. **Acute gastrointestinal bleeding.** *Med Clin North Am.* 2000 Sep 1; 84(5):1183–208.
3. Pilotto A, Maggi S, Noale M, Franceschi M, Parisi G, Crepaldi G, et al. **Development and Validation of a New Questionnaire for the Evaluation of Upper Gastrointestinal Symptoms in the Elderly Population: A Multicenter Study.** *J Gerontol A Biol Sci Med Sci.* 2010 Feb 1; 65A(2):174–8.
4. Chapter 41. **Gastrointestinal Bleeding | Harrison's Principles of Internal Medicine, 18e | Access Medicine | McGraw-Hill Medical [Internet].** [cited 2016 Jul 23]. Available from: <https://accessmedicine.mhmedical.com/content.aspx?bookid=331§ionid=40726761>.
5. **Upper GI Endoscopy - A review of [Internet].** [cited 2016 Jul 23]. Available from: http://www.pjmhsnline.com/upper_gi_endoscopy__a_review_of.htm.
6. Jutabha R, Jensen DM. **Management of upper gastrointestinal bleeding in the patient with chronic liver disease.** *Med Clin North Am.* 1996 Sep;80(5):1035–68.
7. Baradarian R, Ramdhaney S, Chapalamadugu R, Skoczylas L, Wang K, Rivilis S, et al. **Early intensive resuscitation of patients with upper gastrointestinal bleeding decreases mortality.** *Am J Gastroenterol.* 2004 Apr; 99(4):619–22.

8. Yachimski PS, Friedman LS. **Gastrointestinal bleeding in the elderly.** *Nat Clin Pract Gastroenterol Hepatol.* 2008 Feb; 5(2):80–93.
9. Alema O, Martin D, Okello T. **Endoscopic findings in upper gastrointestinal bleeding patients at Lacor hospital, northern Uganda.** *Afr Health Sci.* 2012 Dec; 12(4):518–21.
10. Singh SP, Panigrahi MK. **Spectrum of Upper Gastrointestinal Hemorrhage in Coastal Odisha.** *Trop Gastrology.* 2013 Mar 1; 34(1):14–7.
11. Gupta R, Ahuja V, Anand D, Dhar M. **Clinical and endoscopic profile of patients with upper gastrointestinal bleeding at tertiary care center of North India.** *J Dig Endosc.* 2014; 5(4):139.
12. Hearnshaw SA, Logan RFA, Lowe D, Travis SPL, Murphy MF, Palmer KR. **Acute upper gastrointestinal bleeding in the UK: patient characteristics, diagnoses and outcomes in the 2007 UK audit.** *Gut.* 2011 Oct 1; 60(10):1327–35.
13. Rockey DC, Elliott A, Lyles T. **Prediction of esophageal varices and variceal hemorrhage in patients with acute upper gastrointestinal bleeding.** *J Investig Med.* 2016 Mar 1; 64(3):745–51.
14. Jaka H, Koy M, Liwa A, Kabangila R, Mirambo M, Scheppach W, et al. **A Fiberoptic endoscopic study of upper gastrointestinal bleeding at Bugando Medical Centre in northwestern Tanzania: A retrospective review of 240 cases.** *BMC Res Notes.* 2012 Jul 3; 5:200.
15. Van Leerdam ME. **Epidemiology of acute upper gastrointestinal bleeding.** *Best Pract Res Clin Gastroenterol.* 2008 Apr; 22(2):209–24.

PREVIOUS RELATED STUDY

Javed Iqbal. UPPER GASTROINTESTINAL BLEEDING; ASSESSMENT OF CAUSES AND COMPARISON WITH OTHER RELEVANT STUDIES (Original) *Prof Med Jour* 11(4) 406-410 Oct, Nov, Dec, 2004.

AUTHORSHIP AND CONTRIBUTION DECLARATION

Sr. #	Author-s Full Name	Contribution to the paper	Author=s Signature
1	Dr. Salman Shakeel	Research idea, Review of Literature and Initial write up of the manuscript	
2	Dr. M. Imran Hasan Khan	Supervision, Review of Literature and Final review of the manuscript	
3	Dr. Ghias Un Nabi Tayyab	Supervision, Data Access	
4	Dr. Ehsan Ullah	Data collection and Entry in the SPSS	
5	Dr. Asif Mehmood	Data collection and Entry in the SPSS	
6	Dr. Maryam Zulfiqar	Data collection and Entry in the SPSS	