

Endoscopic Findings in Patients Presenting with Upper Gastrointestinal Bleeding

Salah Mohammad¹, Bashir Chandio¹, Abrar Shaikh¹, Aftab A. Soomro², Amber Rizwan³

1. Internal Medicine, Ghulam Muhammad Meher Medical Hospital, Sukkur, PAK 2. Pathology, Ghulam Muhammad Meher Medical Hospital, Sukkur, PAK 3. Family Medicine, Civil Hospital, Karachi, PAK

Corresponding author: Amber Rizwan, amber_aljazeera109@hotmail.com

Abstract

Introduction: Upper gastrointestinal bleeding (UGIB) is one of the most common and grave emergencies encountered by the emergency medicine doctors. The aim of this study is to assess the endoscopic findings in patients presenting with acute UGIB.

Methods: This is a retrospective study which included all endoscopy records of the Department of Gastroenterology, Ghulam Mohammad Maher Hospital, Sukkur from 1st January 2017 till 30th June 2018.

Results: There were 100 males (49.3%) and 103 females (50.7%) who underwent endoscopy in the study duration. The mean \pm standard deviation (SD) age of the participants was 41.05 ± 14.94 years. Esophageal varices were found in 65% cases. There were more men (68%) with varices than women (32%). Almost 10% patients were with gastric erosions, 9% had antral gastritis, 6.4% had pangastritis, and peptic ulcer disease was found in 5.8% cases.

Conclusion: Variceal bleeding is the most common endoscopic finding in the patients with UGIB. Other lesser common causes include erosions of the gastric and esophageal mucosa.

Categories: Emergency Medicine, Internal Medicine, Gastroenterology

Keywords: upper gastrointestinal bleeding, peptic ulcer disease, variceal bleeding, upper gastrointestinal endoscopy, emergency medicine, esophageal varices

Introduction

Gastrointestinal (GI) bleeding remains one of the most common medical emergencies that require immediate intervention, resuscitation, and hospital admission [1]. Mostly it presents, acutely, as hematemesis (40%-50%)-bleeding site proximal to ligament of treitz; it may also present, chronically, as melena (70%-80%)-bleeding site distal to ligament of treitz; or a less common presentation hematochezia (10%)-fresh lower GI bleeding (LGIB) [2].

One hundred cases of upper GI bleeding (UGIB) per one hundred thousand population, annually have been reported. UGIB is four times more frequent than LGIB. It is associated with high morbidity; and mortality rate of almost 6%-10% [3]. The mortality predictors include advancing age, hemodynamic instability (hypotension, tachycardia), and presence of co-morbidities [4]. UGIBs are caused by erosive esophagitis, Mallory Weiss tears, esophageal varices, peptic ulcer disease (PUD), and gastric/duodenal erosions. Lesser common causes include aorto-enteric fistula, hemobilia, angiodysplasia, uremia, and coagulation disorders [5].

Esophageal varices and PUD remain the two most common etiologies of UGIB with a varying occurrence across the world. In our part of the world, esophageal varices are as common as in 50% cases; however, PUD is the leading cause in the West [6]. Esophageal varices are dilatations of the submucosal veins due to portal hypertension, which is commonly a result of liver cirrhosis. Esophageal varices are a significant risk factor of UGIB and a major cause of cirrhosis-related morbidity and mortality [2].

For determining the etiology of UGIB as well as intervening therapeutically, endoscopy has remained the foremost modality [7]. It is a relatively safer procedure and is commonly used in gastrointestinal settings. The aim of this study is to assess the causes of UGIB in our population based on their endoscopic findings.

Materials And Methods

This is a retrospective study which included all endoscopy records of the Department of Gastroenterology, Ghulam Mohammad Maher Hospital, Sukkur from 1st January 2017 till 30th June 2018. A total of 1,122 records were extracted after approval from the institutional review committee. Out of these, 118 records were excluded due to incomplete data. Remaining 1004 records were scanned for patients with UGIB/hematemesis as their indication to endoscopy. Two hundred and three records with UGIB (20.2%) that

Received 03/11/2019
Review began 03/13/2019
Review ended 03/13/2019
Published 03/19/2019

© Copyright 2019

Mohammad et al. This is an open access article distributed under the terms of the Creative Commons Attribution License CC-BY 3.0., which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

How to cite this article

Mohammad S, Chandio B, Shaikh A, et al. (March 19, 2019) Endoscopic Findings in Patients Presenting with Upper Gastrointestinal Bleeding. Cureus 11(3): e4280. DOI 10.7759/cureus.4280

underwent emergency/elective endoscopy were included. Sixty five of these patients also had melena. Their age, gender, indication, and endoscopic finding were included. Data were entered and analyzed using SPSS v. 21. Frequency was calculated for stratified variables such as age, gender, history of nonsteroidal anti-inflammatory drugs (NSAIDs) and alcohol intake, and endoscopic findings; mean and standard deviation (SD) were calculated for continuous variables such as age.

Results

There were 100 males (49.3%) and 103 females (50.7%). The mean \pm SD age of the sample was 41.03 ± 14.94 years with 15 years as the minimum age and 75 years as the maximum age. Most of the patients were of age 41-60 years ($n = 86$; 42.4%), followed by age group 26-40 years ($n = 60$; 29.6%), less than 25 years ($n = 42$; 20.7%), and the least common age group was more than 60 years ($n = 15$; 7.4%) (Table 1). As seen in Table 2, the most frequent endoscopic finding in our study was varices; six of the patients with varices (4.5%) also had evidence of portal hypertensive gastropathy, which is also due to portal hypertension. Almost 10% patients were with gastric erosions which are an evidence of gastro-esophageal reflux disease. Antral gastritis (9%), pangastritis (6.4%), and peptic ulcer disease (5.8%) were also seen. The least common finding was esophagitis.

Patient characteristics	Number (%)
Gender	
Male	100 (49.3)
Female	103 (50.7)
Age in years	
Mean \pm SD	41.03 ± 14.94
Less than 25	42 (20.7)
26-40	60 (29.6)
41-60	86 (42.4)
More than 60	15 (7.4)
First episode of hematemesis	95 (46.7)
History of NSAIDs use	35 (17.2)
Known case of hepatitis B/C	100 (49.3)
History of alcohol intake	59 (29.0)

TABLE 1: Patient characteristics.

SD, standard deviation; NSAIDs, non-steroidal anti-inflammatory drugs.

Endoscopic diagnosis	Number (%)
Varices	132 (65.0)
Gastric erosions	20 (9.9)
Antral gastritis	18 (8.9)
Pangastritis	13 (6.4)
Peptic ulcer disease	12 (5.8)
Esophagitis	8 (3.9)

TABLE 2: Endoscopic findings of the patients with upper gastrointestinal bleeding (UGIB).

There were more males with variceal bleeding. In almost half of them, variceal bleeding was the first presentation of hepatitis B/C and 18% of them had previous episodes of UGIB (Table 3).

Patient characteristics	Number (%)
Gender	
Male	90 (68.1)
Female	42 (31.8)
Viral serology status	
Known case of hepatitis B	32 (24.2)
Known case of hepatitis C	59 (44.6)
First presentation of Hepatitis B/C	72 (54.5)
History of previous episodes of UGIB	24 (18.1)

TABLE 3: Characteristics of patients with esophageal varices.

UGIB, upper gastrointestinal bleeding.

Discussion

Patients presenting with UGIB had a mean age of 41 years. The male to female ratio was 1:1.03. The most common etiology behind UGIB in our study was esophageal varices (65%) which are related to portal hypertension secondary to liver cirrhosis. Other common causes included gastric erosions and gastritis. There were only 12 (5.8%) known cases of peptic ulcer disease.

Similar to our study, other studies have also reported comparable results. In a larger study conducted in Islamabad, 44.4% patients with UGIB had underlying esophageal varices and peptic ulcer was responsible for 19.4% cases only [8]. In another local study, 53% cases with UGIB had varices and 20% had PUD [9]. There is a rising trend of frequency of variceal bleeding with time and more recent studies are reporting higher percentages (72%) [10]. The difference in pattern can be justified by high incidence of viral hepatitis in this region. Esophageal varices not only complicate hepatitis but are also the first presentation of hepatitis in many cases as indicated in this study. Although the statistics are similar in India [11], in Iran PUD still remains a more common cause of UGIB [12].

Although the literature has given evidence of esophageal varices being almost twice as common in men as in women [1], our study showed an almost equal incidence. This discrepancy may be due to small sample size.

In our study, erosive diseases of the mucosa were the second most common cause of UGIB. Gastric erosions were more common as compared to esophageal erosions. In another local study, with esophageal varices being the most common endoscopic finding in UGIB (64%), erosive diseases of the mucosa were second in line with 15% erosive gastritis and 10% PUD [13].

The outcomes of our study indicate that with the causal use of proton pump inhibitors [14], the numbers are decreasing as far as peptic ulcer disease is concerned. However, with the rising trend in incidence of hepatitis B and C [15], more variceal bleeds are being encountered in the emergency departments. This study encourages population-based screening of hepatitis as well as emphasizes the need to take aggressive measures in order to combat the rising incidence of hepatitis in our setup.

Conclusions

Variceal bleeding is a common endoscopic finding in patients with UGIB. Viral serology must be done in patients with UGIB especially those with esophageal varices on endoscopy. UGIB may be the first presentation of viral hepatitis in some patients. Other lesser common causes include erosions of the gastric and esophageal mucosa.

Additional Information

Disclosures

Human subjects: Consent was obtained by all participants in this study. Ghulam Mohammad Mahar

Medical College issued approval 18-036. Research Project Title: Endoscopic Findings in Patients Presenting with Upper Gastrointestinal Bleeding The GMMC ethics committee has approved ethical clearance for the research project titled "Endoscopic Findings in Patients Presenting with Upper Gastrointestinal Bleeding" and has allowed the investigators to access relevant hospital records from 1st January 2017 till 30th June 2018 only. Dated: 3rd September 2018 . **Animal subjects:** All authors have confirmed that this study did not involve animal subjects or tissue. **Conflicts of interest:** In compliance with the ICMJE uniform disclosure form, all authors declare the following: **Payment/services info:** All authors have declared that no financial support was received from any organization for the submitted work. **Financial relationships:** All authors have declared that they have no financial relationships at present or within the previous three years with any organizations that might have an interest in the submitted work. **Other relationships:** All authors have declared that there are no other relationships or activities that could appear to have influenced the submitted work.

References

1. Alema ON, Martin DO, Okello TR: Endoscopic findings in upper gastrointestinal bleeding patients at Lacor hospital, northern Uganda. *Afr Health Sci.* 2012, 12:518-521.
2. Hadayat R, Gul R, Khan AN, Said K, Gandapur A: Endoscopic findings of upper gastrointestinal bleeding in patients with liver cirrhosis. *J Ayub Med Coll Abbottabad.* 2015, 27:391-394.
3. Fallah MA, Prakash C, Edmundowicz S: Acute gastrointestinal bleeding. *Med Clin North Am.* 2000, 84:1183-1208. [10.1016/S0025-7125\(05\)70282-0](https://doi.org/10.1016/S0025-7125(05)70282-0)
4. Sarwar S, Dilshad A, Khan AA, et al.: Predictive value of Rockall score for rebleeding and mortality in patients with variceal bleeding. *J Coll Physicians Surg Pak.* 2007, 17:253-256.
5. McQuaid KR: Alimentary tract. *Current Medical Diagnosis Treatment.* Tierney LM, McPhee SJ, Papadakis MA (ed): McGraw Hill, San Francisco; 2004. 531:622.
6. Ahmed A, Ali L, Shehbaz L, et al.: The prevalence of acute upper gastrointestinal bleeding and the factors causing hemorrhage as observed at a tertiary health care centre in Karachi, Pakistan. *Pak J Surg.* 2017, 33:36-40.
7. Quine MA, Bell GD, McCloy RF, Charlton JE, Devlin HB, Hopkins A: Prospective audit of upper gastrointestinal endoscopy in two regions of England: safety, staffing, and sedation methods. *Gut.* 1995, 36:462-467. [10.1136/gut.36.3.462](https://doi.org/10.1136/gut.36.3.462)
8. Adam T, Javaid F, Khan S: Upper gastrointestinal bleeding: an etiological study of 552 cases . *J Pak Inst Med Sci.* 2004, 15:845-848.
9. Pasha MB, Hashir MM, Pasha AK, Pasha MB, Raza AA, Fatima M: Frequency of esophageal varices patients with upper gastrointestinal bleeding. *Pak J Med Sci.* 2011, 27:277-281.
10. Sher F, Ullah RS, Khan J, Mansoor SN, Ahmed N: Frequency of different causes of upper gastrointestinal bleeding using endoscopic procedure at a tertiary care hospital. *Pak Armed Forces Med J.* 2014, 1:410-413.
11. Anand D, Gupta R, Dhar M, Ahuja V: Clinical and endoscopic profile of patients with upper gastrointestinal bleeding at tertiary care center of North India. *J Dig Endosc.* 2014, 1:139-143. [10.4103/0976-5042.150660](https://doi.org/10.4103/0976-5042.150660)
12. Sharifian A, Tavakoli E, Ashtari S, Zali MR: Endoscopic findings in patients with upper gastrointestinal bleeding referred to Taleghani Hospital, Tehran, Iran. *Govaresh.* 2016, 21:260-265.
13. Shah MA, Butt Z, Younis I, Afzal M, Atta H, Nadir A: Etiology of upper gastrointestinal bleed at Aziz Bhatti Shaheed Teaching Hospital, Gujarat. *Ann Pak Inst Med Sci.* 2016, 12:80-84.
14. Shaf i S, Soomro R, Abbas SZ: Proton pump inhibitors-overprescribed in a rural community . *Pak J Med Sci.* 2011, 27:300-302.
15. Riaz H, Yasmin S, Kawish AB: Cataract surgery; frequency of hepatitis b & c virus infections in patients in Rawalpindi, Pakistan. *Professional Med J.* 2016, 23:991-995.