

Determine the Frequency of Different Causes CF Upper Gastrointestinal Bleed

DAUD GHILZAI¹, SHAH ZAIB², ALI HYDER MUGHERI³, MUHAMMAD IRFAN RASHED⁴, SHAHID MUNEEB⁵, ABRAR SHAIKH⁶

¹Assistant Professor of Gastroenterology, Bolan Medical College Quetta

²Medical Officer, DHQ Hospital, Vehari

³Associate Professor of Gastroenterology, Chandka Medical College @ Shaheed Mohtarma Benazir Bhutto Medical University, Larkana

⁴District Focal Person for Hepatitis & Infection Control, ⁵Consultant Physician, DHQ Hospital, Toba Tek Singh

⁶Dean, Postgraduate & Research, Pir Abdul Qadir Shah Jeelani Institute of Medical Sciences Gambat

Correspondence to: Daud Ghilzai, Email: daudghilzai@gmail.com, Cell: 0321-8019009

ABSTRACT

Objective: To determine the frequency of various causes for upper gastrointestinal bleed.

Study Design: Observational study.

Place and Duration of Study: Department of Gastroenterology, Bolan Medical College Quetta from 1st July 2021 to 31st March 2022.

Methodology: One hundred and thirty five patients in an age limit of >30 years were registered. The inclusion criteria were based on clinical diagnosis of GB of upper tract, blood tests included H-pylori conformational test as well as CBC. The first endoscopy was performed within the 48 hours initiation of bleeding.

Results: The mean was 41.2±4.5 years. There were 68.8% males and 31.1% females. The main cause of gastrointestinal bleeding in cases was observed as varices and gastric ulcers highest within 40-60 years group while erosive gastritis and duodenal ulcers were presented most in males.

Conclusion: The frequency of varices was 65.9% followed by 10.37% gastric ulcers presented in gastrointestinal bleeding of upper tract.

Keywords: Gastrointestinal bleeding, Varices, Melena

INTRODUCTION

Gastrointestinal bleeding (GB) of upper tract is a commonly presented condition in gastroenterological settings all over the globe. The condition is accompanied with various causative agents who are dependent on various geographical regions. There are acute upper GB presentations as well as long term chronic cases. In acute cases melena has been more commonly presented while hematemesis is a more frequent presentation seen in chronic GB cases of upper tract.¹

Melena is more relatively related with the upper gastrointestinal tract bleeding than hematemesis which is proximal and associated with duodenal region. In melena presentation of small lesions in right side colon are observed.² There have been number of complications related with GB and a higher frequency of fetal cases are reported especially in older age groups and hospital patients with co-morbidities.^{3,4} Forty-four percent of lesions are produced as esophageal-varices while 19.7% are result of peptic ulcer which may be a result of h-pylori infections.^{4,6}

There are different protocols for treating GB of upper tract involving medicinal treatment as well as endoscopic procedures. Current advancement in scientific technologies has resulted in reducing the mortality related with GB. Endoscopic procedure is efficient and relatively cost effective with minimizing the surgery requirements.^{7,8} In developing countries like Pakistan hypertension is also related to increasing risk of GB in women and men of young age.^{9,10} The present study was generated for determining the frequency of various causes of GB in Pakistan's hospital settings. The results of this study will be able to aid in understanding those causative agents which are significantly associated with GB of upper tract and focus on their control for better health outcomes.

MATERIALS AND METHODS

This observational study was carried at Department of Gastroenterology, Bolan Medical College Quetta from 1st July 2021 to 31st March 2022 and 135 patients in an age limit of >30 years were enrolled. The inclusion criteria were based on clinical diagnosis of GB of upper tract. This included signs and symptoms, physical examination, clinical history as well as blood and stool examination and endoscopy. Those patients who were in severe conditions of shock or with atlantoaxial-subluxation, perforation of viscera or having upper respiratory infections were kept in exclusion criteria. Patients having severe co morbidities which can

affect on determining the causes of GB were also not included in this study. The study was designed after ethical approval of institution. Each patient informed consent was taken before registering them as participants. The sample size generation was through WHO sample size calculator using 80% power of test and 95% confidence of interval. A well-structured questionnaire was used for entering demographic and clinical data of the patients. Blood tests included H-pylori conformational test as well as CBC. The first endoscopy was performed within the 48 hours initiation of bleeding by applying local analgesic constituting of xylocaine of 4% in spray form. Lesion type and site was documented and confirmed. Data was entered and analyzed through SPSS version 26. Most of the data interpretations were made through frequencies and percentage while Chi square was applied for comparison of ages and various causative agents for upper tract GB. P value <0.05 was taken as significant.

RESULTS

The mean age was 41.2±4.5 years with highest number of cases as 44.4% within 40-60 years of age. There were 68.8% males and 31.1% females. More males were observed with GB (Table 1).

The main cause of gastrointestinal bleeding in cases was observed as varices and gastric ulcers highest within 40-60 years group while erosive gastritis and duodenal ulcers were presented most in men and women below the age of 40 years with a percentage of 10% in each causative agent. Esophagitis was also highest in cases <40 years. There was no significant variance among any age group GB causes (Table 2). The frequency of different other causes for upper gastrointestinal bleeding were most reported in <40 years of age followed by 40 60 years of patients (Fig. 1).

Table 1: Distribution of age and gender within GB patients (n=135)

Variable	No.	%
Age (years)		
<40	50	37.03
40-60	60	44.44
>60	25	18.51
Gender		
Male	93	68.8
Female	42	31.1

The clinical symptoms of melena were more presented in females as 69.4% than 61.2% men whereas hematemesis

symptom was more common in 21.5% males. Melena in combination with hematemesis was also more highly presented in males (17.2%) than females 16.6%). However most presented clinical symptoms in GB cases was melena (Table 3)

Table 2: Stratification of different causes of upper GB according to age (n=135)

GB causes	Age (years)			P value
	<40 (n=50)	40-60 (n=60)	>60 (n=25)	
Varices	31 (62%)	41 (68.3%)	17 (56%)	0.25
Gastric Ulcers	3 (6%)	8 (13.3%)	3 (12%)	0.12
Erosive-Gastritis	5 (10%)	4 (6.6%)	2 (8%)	0.33
Duodenal ulcers	5 (10%)	3 (5%)	1 (4%)	0.45
Esophagitis	2 (4%)	2 (3.3%)	-	0.65
Mallory-Weiss tear	1 (2%)	-	1 (4%)	0.54

Table 3: Clinical symptoms presentation in GB cases

Clinical symptoms	Males (n= 93)	Females (n=42)	Total
Melena	57 (61.2%)	29 (69.4%)	86 (63.7%)
Hematemesis	20 (21.5%)	6 (14.2%)	26 (19.2%)
Melena with Hematemesis	16 (17.2%)	7 (16.4%)	23 (17.1)

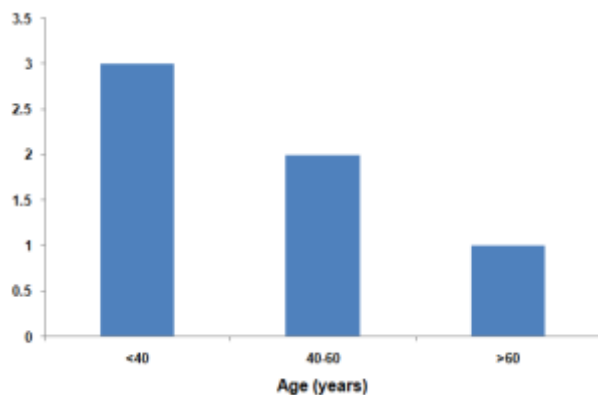


Fig. 1: Age-wise comparison of GB other cases

DISCUSSION

The research data elaborates the fact that acute GB at the upper tract is related with 13 % of mortality cases globally. The cases where cumbersome treatments are related with GB cause a huge economic burden on country health related services.¹¹ The mean age in the present study was 41.2±4.5 years presenting middle age to be most prone to the formation of GB at upper tract. There were also higher number of men developing GB than women inferring to the gender discriminate of this condition which also might attribute to various lifestyle, genetic viability of men than women.¹²⁻¹⁴

The cause of GB showed varices and peptic ulcers as a main cause with high frequency presentation in Pakistani patients. Various research have presented similar data which describes duodenal as well as gastric-ulcer, esophageal-varices and esophagitis in addition to conditions like Mallory Weiss tears responsible for gastrointestinal bleeding.^{15,16} The presentation of varices has been reported in western world as around 15% while in Pakistan it was seen in 65.9% of the cases. This interprets that esophageal varices is a much more common cause of upper GB in developing countries like Pakistan than in western world and in some research from eastern countries as well.^{17,18}

A study from Kenya has however supported the results as found in the current research with varices as a main cause of GB.

Other studies from Pakistan have reported varices a major cause of GB in upper tract with a frequent variation within 44-72%. The results of these studies are in support with the present study findings.^{4,7,19,20}

CONCLUSION

The frequency of varices was 65.9% followed by 10.37% gastric ulcers presented in gastrointestinal bleeding of upper tract. Melena has been the main clinical symptom in gastrointestinal bleeding of upper tract. Males were more prone to gastrointestinal bleeding condition.

REFERENCES

- McQuaid RK. Gastrointestinal disorders. In: McPhee JS, Papadakis AM eds. Current medical diagnosis and treatment. 48th ed. San Francisco, California: McGraw Hill Companies 2009; 487-581.
- Talley JN, O'Connor S. Clinical examination: a systemic guide to physical diagnosis. 5th ed. India: Elsevier 2006.
- VanLeerdam ME. Epidemiology of acute upper gastrointestinal bleeding. Best Pract Res Clin Gastroenterol 2008; 22:209-24.
- Adam T, Javid F, Khan S. Upper gastrointestinal bleeding: an etiological study of 552 cases. J Pak Inst Med Sci 2004; 15:845-8.
- Seo YS, Kim YH, Ahn SH, Yu SK, Baik SK, Choi SK, et al. Clinical features and treatment outcomes of upper gastrointestinal bleeding in patients with cirrhosis. J Korean Med Sci 2008; 23:635-43.
- Baradaran R, Ramdhaney S, Chapalamadugu R, Skoczylas L, Wang K, Rivillis S, et al. Early intensive resuscitation of patients with upper gastrointestinal bleeding decreases mortality. Am J Gastroenterol 2004; 99:619-22.
- Khan A, Ali M, Khan MI, Khan GA. Causes of severe upper gastrointestinal bleeding on the basis of endoscopic findings. J Postgrad Med Inst 2006; 20:154-8.
- Tsesmeli NE. Incidence and etiology of acute non-malignant upper gastrointestinal bleeding in northern Greece. J Gastroenterol Hepatol 2007; 22:1009-13.
- Nadal E, Burra P, Senzolo M. Cyanoacrylate injection to treat recurrent bleeding from Dieulafoy's lesion. Gastrointest Endosc 2013; 78:964.
- Barkun A, Sabbah S, Enns R. The Canadian Registry on Non-variceal Upper Gastrointestinal Bleeding and Endoscopy (RUGBE): endoscopic hemostasis and proton pump inhibition are associated with improved outcomes in a real-life setting. Am J Gastroenterol 2004; 99:1238-46.
- Laine L. Upper gastrointestinal tract hemorrhage. West J Med 1991; 155:274-9.
- Wuerth BA, Rockey DC. Changing epidemiology of upper gastrointestinal hemorrhage in the last decade: a nationwide analysis. Dig Dis Sci 2018; 63:1286.
- Balderas V, Bhore R, Lara LF, et al. The hematocrit level in upper gastrointestinal hemorrhage: safety of endoscopy and outcomes. Am J Med 2011; 124:970.
- Loperfido S, Baldo V, Piovesana E, et al. Changing trends in acute upper-GI bleeding: a population-based study. Gastrointest Endosc 2009; 70:212.
- Acosta RD, Wong RK. Differential diagnosis of upper gastrointestinal bleeding proximal to the ligament of Trietz. Gastrointest Endosc Clin N Am 2011; 21:555.
- Wollenman CS, Chason R, Reisch JS, Rockey DC. Impact of ethnicity in upper gastrointestinal hemorrhage. J Clin Gastroenterol 2014; 48:343.
- Thomas SE, Mwaungulu GS, Wankya BM, De Cock KM. Acute upper gastrointestinal hemorrhage at Kenya National Hospital, Kenya. A prospective endoscopic study East Afr Med J 1983; 60(6): 428-31.
- de Melo SW Jr, Bhore R, Rockey DC. Clinical judgment does not circumvent the need for diagnostic endoscopy in upper gastrointestinal hemorrhage. J Investig Med 2013; 61:1146.
- Rockey DC, Hafemeister AC, Reisch JS. Acute on chronic gastrointestinal bleeding: a unique clinical entity. J Investig Med 2017; 65:892.
- Broussard KA, Rockey DC. Bleeding ectopic varices: clinical presentation, natural history, and outcomes. J Investig Med 2022; 70:1280.