

ORIGINAL ARTICLE

Determine the Frequency of Different Causes of Upper Gastrointestinal Bleed

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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 fatal 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) |

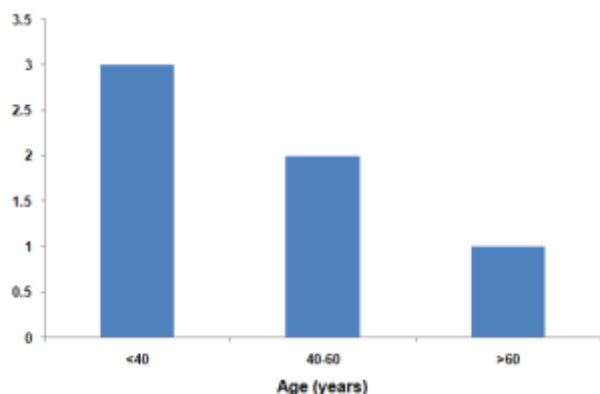


Fig. 1: Age-wise comparison of GB other cases

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.

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