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Gastric varices amongst patients with upper gastrointestinal bleeding: A single centre cross sectional study

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Abstract---Background: The term "upper gastrointestinal bleeding" refers to bleeding from the gastrointestinal system that occurs above the Treitz ligament. It is one of the gastroenterological problems that is seen most often in clinical settings by gastroenterologists. Objective: To assess the frequency of gastric Varices amongst patients with

upper gastrointestinal bleeding. Methodology: Our study was descriptive-cross sectional study, carried out at the Gastroenterology Department.....hospital Peshawar for duration of six months from August 2022 to January 2023. A careful upper-gastrointestinal endoscopy was carried out. Endoscopic findings of gastric varices in patients were recorded on a designed proforma for our research. All the documented data was analyzed by using 23. Results: In our current study a total of 120 patients were included. The male were 67 (55.83%) whereas female patients were 53 (44.17%). The mean age (SD) was 36 (9.11) years. The overall frequency of gastric varices amongst patients with gastrointestinal bleeding was 24 (20%). Conclusion: Our study concludes that frequency of gastric varices amongst patients with upper-gastrointestinal bleeding is very high. Multiple centre studies with large sample size should be conducted to get better results.

Keywords---frequency' gastric varices, upper gastrointestinal bleeding.

Introduction

The term "upper gastrointestinal bleeding" refers to bleeding from the gastrointestinal system that occurs above the Treitz ligament. It is one of the gastroenterological problems that is seen most often in clinical settings by gastroenterologists ¹. Acute gastrointestinal bleeding, which may show as hematemesis, melena, or both, as well as the uncommon condition of hematochezia, is one of the frequent occurrences in the accident and emergency department with higher mortality and morbidity ². The fatality rate for upper gastrointestinal bleeding in the US is 5.57%, with a frequency of 102 per 100,000 ^{3, 4}. Co-morbidities, advancing age, and hemodynamic impairment are three clinical indicators for the significant death in these patients that are independent of one another ⁵. Upper gastrointestinal bleeding may be caused by peptic ulcer disease, Gastro duodenal erosions, oesophageal varices, Mallory Weiss tears, neoplasm of the gastrointestinal tract, Erosive oesophagitis and others like "angiodysplasia, aortoenteric fistulas, hemobilia, hereditary hemorrhagic telangiectasia, uremia and various coagulation disorders" ⁶. The factors vary depending on where in the globe you are. Variceal bleeding like esophageal and gastric varices and non-variceal bleeding like peptic ulcer are the two categories into which the causes of upper gastro-intestinal bleeding have been divided.

The need for emergency surgical intervention has diminished with the development of endoscopic treatment techniques for bleeding from the upper gastrointestinal tract. The use of radiographic techniques to treat bleeding from the upper GI tract has become more common. The high rate of death due to gastrointestinal bleeding persists in spite of the accessibility of a variety of medical techniques. Around 10% less mortality is reportedly occurring. Due to high occupancy of beds and the high cost of the therapeutic equipment employed in endoscopic and radiographic procedures, this high fatality has clinical and economical repercussions ⁷. It may be possible to reduce the high death rate by

being aware of the many sources of upper GI bleeding in a community, stratifying and identifying the group at risk, then treating the source of bleeding in the primordial or primary phase ⁸. A safe and minimally invasive procedure called upper GI endoscopy has the potential to be very important in the treatment of those who are at risk for upper GI bleeding. Additionally, it could aid in the better classification of individuals who have upper GI bleeding. For such individuals, a better method of therapy might also be developed ⁹. Therefore, an urgent or emergent upper gastrointestinal endoscopy is advised while keeping the patient's clinical characteristics in mind for practically every patient with GI bleeding ¹⁰. One of the many causes of upper gastro-intestinal bleeding is gastric variceal bleeding, which affects 13% to 21% of people with the condition. Sclerotherapy is the therapeutic method that is used in our clinical setting ^{11, 12}. The goal of the current research is to ascertain gastric varices frequency in individuals who have upper gastrointestinal bleeding. The findings of this study will provide us with the most recent and accurate data on this issue.

Materials and Methods

Our study was descriptive-cross sectional study, carried out at the Gastroenterology Department.....hospital Peshawar. The duration of the current study was six months from August 2022 to January 2023. The study approval was given by the ethical and research committee of our hospital. Based on the WHO sample size calculator the overall sample size of our study was 120 patients. The criteria for inclusion in our study were all the patients of both the gender presenting with upper gastro-intestinal bleeding and having age from 18-60 years. The criteria for exclusion in our study were all the patients with past history of diathesis, patients on antiplatelets/anticoagulants medicine and patients with cancer. Informed consent was signed from all the patients in written. Based on the patient's history of hematemesis or melena, an upper gastrointestinal bleed was diagnosed. The threshold for blood loss was defined at a decrease in hemoglobin of more than 2 gm/dl from the pre-loss level or a full blood count showing hemoglobin < 11 gm/dl. Patients were first given plasma expanders in an attempt to revive them, and after they were deemed stable enough, they were subjected to upper gastrointestinal endoscopy in accordance with the standard operating procedure at the hospital. A careful upper-gastrointestinal endoscopy was carried out. Endoscopic findings of gastric varices in patients were recorded on a designed proforma for our research. All the documented data was analyzed by using 23. version of IBM SPSS. Mean and standard deviation was computed for variable like and percentages and frequencies were computed for variables like gender and gastric varices.

Results

In our current study a total of 120 patients presenting with upper-gastrointestinal bleeding were enrolled based on inclusion criteria. The male patients in our study were 67 (55.83%) whereas female patients were 53 (44.17%). (Figure 1) The mean age (SD) was 36 (9.11) years. The maximum age was 58 years while the minimum age was 18 years. Based on age, the frequency of patients in age group 18-30 years was 24 (20%), 42 (35%) patients were in age group 31-40 years, 34 (28.33%) patients were age range 41-50 years while 20 (16.67%) patients were 51-60 years

old. (Figure 2) The mean BMI (SD) of enrolled patients was 25 (3.12) kg/m². The BMI of ≤ 25 kg/m² was observed in 90 (75%) while BMI of >25 kg/m² was observed in 30 (25%) patients. The overall frequency of gastric varices amongst patients with gastrointestinal bleeding was 24 (20%). (Figure 3)

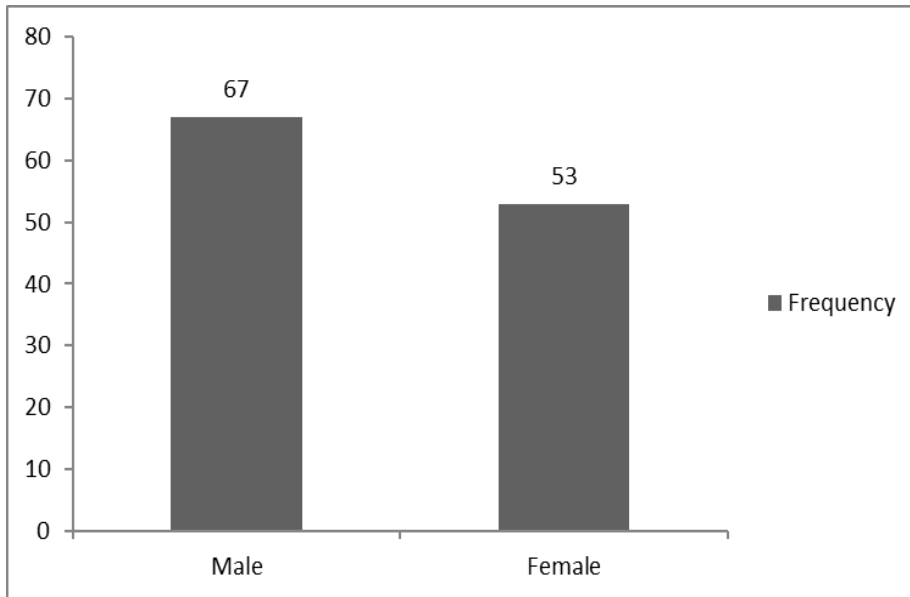


Figure 1: Frequency of male and female patients in our study

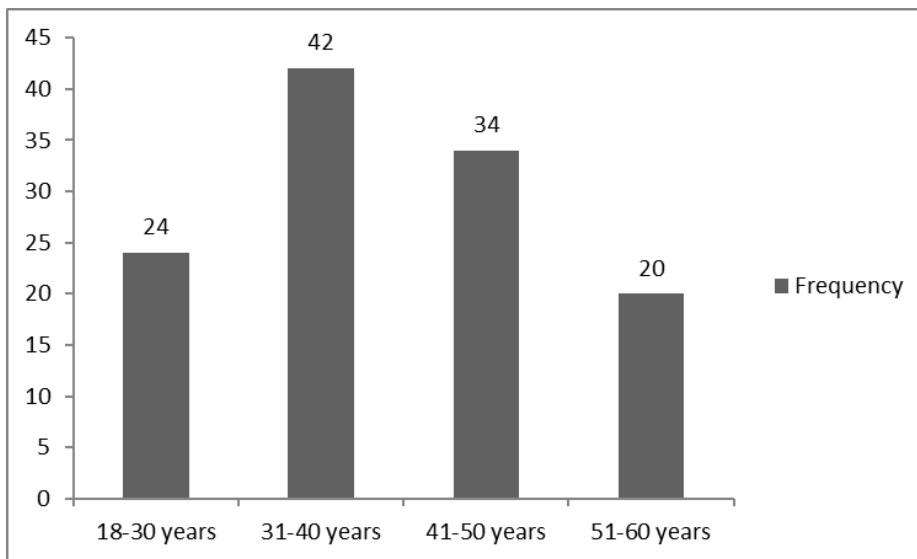


Figure 2: Frequency of patients on the basis of age

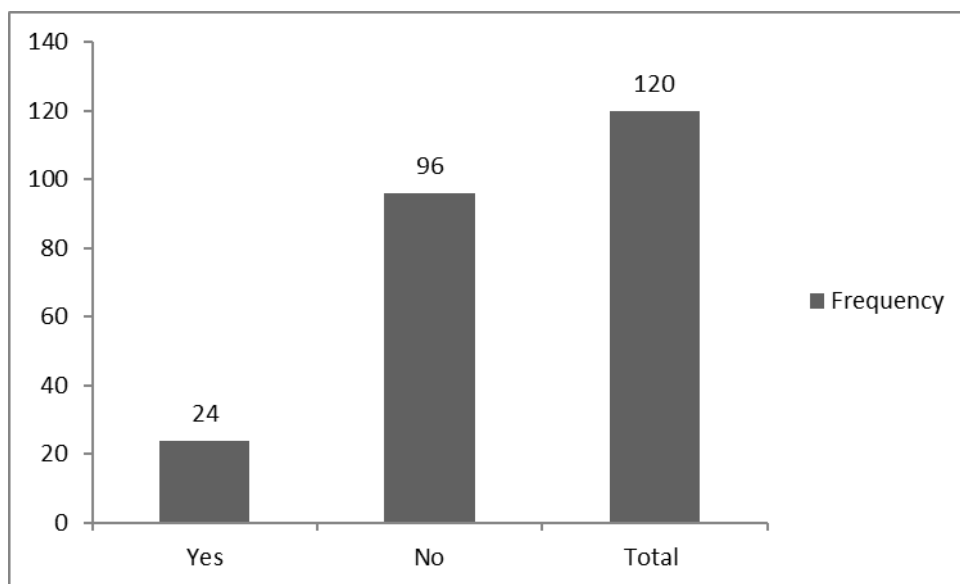


Figure 3: Frequency of gastric varices amongst patients with gastrointestinal bleeding

Discussion

Acute gastrointestinal bleeding, which may show as hematemesis, melena, or both, as well as the uncommon condition of hematochezia, is one of the frequent occurrences in the accident and emergency department with higher mortality and morbidity². If management is delayed, the condition has a significant chance of becoming hazardous and deadly^{12, 13}. Hematemesis or melena are the clinical signs of upper gastrointestinal bleeding, which is characterized as bleeding from the gastrointestinal tract beyond the level of the Treitz ligament¹⁴. UGIB is more common and has a worse prognosis than bleeding from the lower-gastrointestinal tract (under the level of the ligament of Treitz), with a total mortality rate of 6% to 10%. Upper gastrointestinal bleeding occurs in around 100 instances for every 100,000 people each year¹⁵.

In our current study a total of 120 patients presenting with upper-gastrointestinal bleeding were enrolled based on inclusion criteria. The male patients in our study were 67 (55.83%) whereas female patients were 53 (44.17%). The mean age (SD) was 36 (9.11) years. The maximum age was 58 years while the minimum age was 18 years. Based on age, the frequency of patients in age group 18-30 years was 24 (20%), 42 (35%) patients were in age group 31-40 years, 34 (28.33%) patients were age range 41-50 years while 20 (16.67%) patients were 51-60 years old. The mean BMI (SD) of enrolled patients was 25 (3.12) kg/m². The BMI of ≤ 25 kg/m² was observed in 90 (75%) while BMI of >25 kg/m² was observed in 30 (25%) patients. The overall frequency of gastric varices amongst patients with gastrointestinal bleeding was 24 (20%). The results of our study are almost similar with the previous study done by M Iltaf et al. and reported gastric varices in 22% of the patients presenting with gastro-intestinal bleeding. They reported male predominance. The mean age in their study was 37 years¹⁶. A previous

study carried out by Bhutta et al. reported contrasting results in comparison to our findings. They reported the mean age of 52 years. They reported that majority of their patients were male. They reported 1.4% frequency of gastric varices amongst patients with upper-gastrointestinal bleeding which is much less than our reported frequency (20%)¹⁷. Another study reported by Farhan et al. reported comparable results with our findings. They reported male predominance with 13.7% frequency of gastric varices amongst patients with upper-gastrointestinal bleeding¹⁸. Another study carried out in Abbottabad by Hadayat et al. reported contrasting findings with our study. They reported that the gastric varices frequency was 33.3% which is high than our reported frequency¹⁹. In accordance with our study, another study carried out by Mumtaz et al. reported 15% frequency of gastric varices among upper-gastrointestinal bleeding patients²⁰.

Conclusion

Our study concludes that frequency of gastric varices amongst patients with upper-gastrointestinal bleeding is very high. Multiple centre studies with large sample size should be conducted to get better results.

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