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CAUSES, MORBIDITY AND MORTALITY OF UPPER GASTROINTESTINAL BLEEDING (UGIB) AMONGST HOSPITALIZED PATIENTS

Abdul Malik[*1], Syed Ehsanullah[2], Daud Ghilzai[3], Samreen Bugti[4], Taqdees Zahra[5]

[*1]*Senior Registrar, Gastroenterology Department, Bolan Medical Complex Hospital, Quetta Balochistan*
[2]*Associate Professor Medicine Department, BMC Quetta Balochistan*
[3]*Assistant Professor, Gastroenterology Department, Bolan Medical Complex Hospital Quetta, Balochistan*
[4,5]*Assistant Professor, Bolan Medical Complex Hospital Quetta Balochistan*

[*1]drmalikkhan7@gmail.com

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Corresponding Author: *

Abstract

Background: *Upper gastrointestinal bleeding is the term used to describe hemorrhage that develops in between the esophagus and the ligament of Treitz.*

Objective: *The aim of the study was to determine Causes, Mortality and Morbidity of Upper GIT Bleeding amongst Hospitalized individuals*

Materials and method: *The present research was conducted from September 2023 to march 2024 at the Gastroenterology department, Bolan Medical Complex hospital, Quetta Balochistan after taking permission from the ethics review committee of the institute. A total of 224 participants were selected in this study. To identify the risk variables responsible for an increase in patient mortality and morbidity, all patients were observed for a maximum of two weeks. All of the participants were transferred to their major ward for further assessment following endoscopy. The gathered data was analyzed using SPSS 24.0.*

Results: *A total of 224 individuals were included in this study out of which 145(64.7%) were male and 79(35.26%) were female. According to the clinical profile, 35 participants (15·6%) experienced non-specific symptoms, whereas 187 participants (83.4%) had both melena and hematemesis. According to endoscopy findings, Oesophageal varices were the most prevalent cause of upper gastrointestinal bleeding, accounting for 132 cases (58.92%), followed by peptic ulcer in 33 cases (14.7%), gastritis in 22 cases (9.82%), and esophagitis in 20 cases (8.9%),. 40 patients (17.85%) had low risk, 128 patients (57.14%) had moderate risk, and 56 patients (25%) had high risk based on the Rockall score. Our research had a total death rate of 15 (6.69%). Mortality and Rockall score were shown to be significantly correlated (p=0.001). In the high-risk group of Rockall score, a high mortality rate of 10 (4.46. %) was noted.*

Conclusion: *Our study concludes that the most frequent cause for upper gastrointestinal bleeding was variceal bleeding. The second most frequent etiology for upper gastrointestinal bleeds was peptic ulcer. Additionally, our research demonstrates that the Rockall score is a reliable indicator of outcome for individuals with upper gastrointestinal bleeding.*

INTRODUCTION

Upper gastrointestinal bleeding (UGIB) is the term used to describe hemorrhage that develops in between the esophagus and the ligament of Treitz.[1] it is the most prevalent and perhaps fatal emergency that gets patients to the hospital. It has a greater risk of individual mortality morbidity rate.[2] Both non-variceal and variceal bleeding are the two main types of upper GIT bleeding, and their prognoses and therapies differ. About 30% of individuals with cirrhosis have acute variceal hemorrhage (AVH), a serious side effect of portal hypertension that accounts for 80–90% of their bleeding episodes. Hepatitis is one of the main causes of cirrhosis, according to research. Particularly hepatitis B virus causes thirty percent of cases[4] and has an 11–50% fatality rate, whereas hepatitis C virus causes 41–52% of cases.[2] The most common symptoms of people with iron-deficiency anemia are melena, altered blackish clots, hematemesis, hematochezia, and very small fecal bleed loss.[5-6] At that stage of the patient's care, doing an endoscopy as soon as is possible is the optimum course of action. This is a primary therapy and testing approach that makes it possible to assess the cause of UGIB and apply various endoscopic techniques to stop the bleeding.[7] According to current international guidelines, an upper GI endoscopy must be performed within twenty-four hours of an individual's presentation as it seems to be more helpful in guiding future therapy and reducing the need for a prolonged hospital stay.[8] In the context for patient's emergency treatment, endoscopy has proved crucial. Despite the fact that the treatment of upper gastrointestinal bleeding has advanced significantly over the last 2 years, including the taking of acid suppressive treatment and endoscopic hemostasis, which have lowered the demand for surgical involvements, the majority of studies report that the death rate is still between 6 and 13%.[9] Many investigations verified that most of deaths are caused by a combination of medical disorders, not well tolerated significant loss of blood, and subsequent difficulties from the primary reason rather than by the ineffectiveness of medication or surgery.[10] Therefore the current study was carried out to explore the etiology, Morbidity, and death rate of UGIB Amongst Hospitalized Patients.

Materials and method

The present research was conducted from September 2023 to march 2024 at the Gastroenterology department, Bolan Medical Complex hospital, Quetta Balochistan after taking permission from the ethics review committee of the institute. A total of 224 participants were selected in this study. Patients of both sexes between the ages of 18 and 60 who examined with upper gastrointestinal hemorrhage were included. Children, patients who had other bleeding causes, and those unwilling to take part in our study were excluded. To identify the risk variables responsible for an increase in patient mortality and morbidity, all patients were observed for a maximum of two weeks. Each participant gave their informed permission. After each participant were initially hemodynamically stabilized, experienced endoscopists performed upper gastrointestinal endoscopies on all enrolled participants. All of the participants were transferred to their specific ward for further assessment following endoscopy. A proforma created for this study was used to gather all of the data. The Rockall score of each patient was calculated by employing multivariate analysis. [11]The Rockall system is used to categorize people with UGIB into "low, moderate, or high-risk groups" in order to assess their mortality risk. [12]The criteria of this score method consist of 3 medical features (age, shock, and comorbidities) and 2 endoscopic features (diagnosis and substantial SRH). After computation, a relationship between the Rockall score and the participant's outcomes were measured like morbidity and mortality. The data was analyzed using SPSS 24.0

Results

A total of 224 individuals of both genders and various age groups were included in this study out of which 145(64.7%) were male and 79(35.26%) were female as presented in **figure 1**. According to the age distribution, 123 (54.91%) of the patients were between the ages of 31 and 60, while 101 (45.08%) of the patients were under 30.**(figure 2.)** According to the clinical profile, 35 participants (15·6%) experienced non-specific symptoms, whereas 187 participants (83.4%) had both melena and hematemesis. According to endoscopy findings, Oesophageal varices were the most prevalent cause of

upper gastrointestinal bleeding, accounting for 132 cases (58.92%), followed by peptic ulcer in 33 cases (14.7%), gastritis in 22 cases (9.82%), and esophagitis in 20 cases (8.9%),. 40 patients (17.85%) had low risk, 128 patients (57.14%) had moderate risk, and 56 patients (25%) had high risk based on the Rockall score. Our research had a total death rate of 15 (6.69%) as presented in **table 1.** Mortality and Rockall score were shown to be significantly correlated (p=0.001). In the high-risk group of Rockall score, a high mortality rate of 10 (4.46. %) was noted as presented in **table 2**.

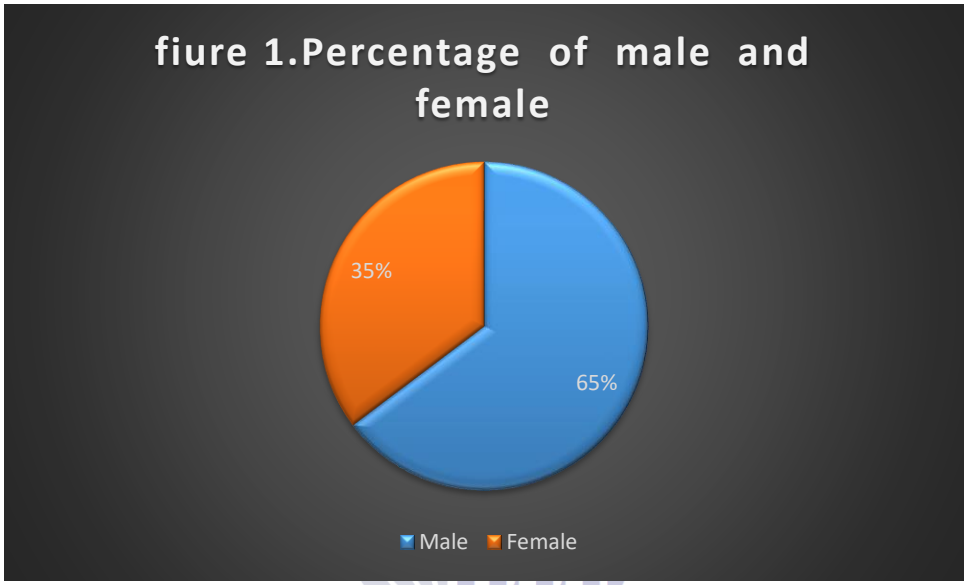
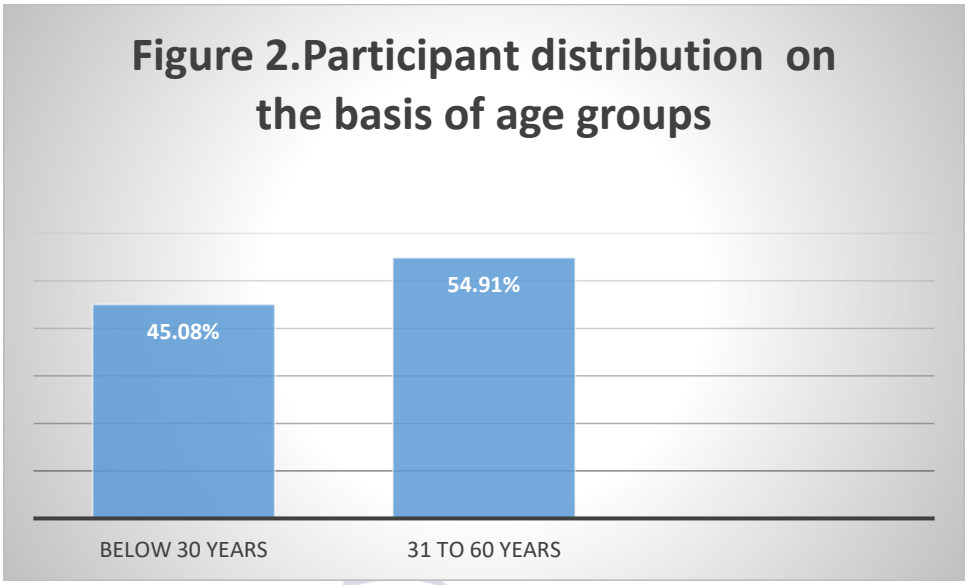


Table 1: Upper gastrointestinal bleeding causes, morbidity, and mortality rate

Features	Sub group	N (%)
Medical summary	melena plus hematemesis	187 (83.4%)
	General indications	35 (15·6%)
Endoscopic results	Esophageal varices	132 (58.92%)
	Peptic ulcer	33 (14.7%),
	Gastritis	22 (9.82%),
	Esophagitis	20 (8.9%)
	Mallory Weiss tears	7(3.12%)
	Oesophageal cancer	5(2.23%)
	Stomach cancer	5(2.23%)
Rockall score (RISK)	Low	40 (17.85%)
	Moderate	128 (57.14%)
	High	56 (25%)
Death rate	Yes	15 (6.69%)
	No	209(93.30%)

Table 2.Mortality and the correlation between the Rockall score		
Rockall score	Death rate %	Value of P
Low	0(0)	0.001
Moderate	5(2.23%)	
High	10(4.46%)	
Total	15 (6.69%)	



Discussion

All over the world, the prevalence of upper gastrointestinal bleeding has become one of the primary causes for emergency hospital admissions.[13] Because of its consistently high rates of morbidity and mortality, which have not decreased over time, the disorder has important treatment consequences in the field of healthcare. Numerous etiological variables that vary by area are responsible with UGIB. Variceal hemorrhage has been identified as the main cause of upper gastrointestinal bleeding, a significant sign of portal hypertension, in the Eastern geographic region.[14-15] This phenomena might potentially be explained by the high incidence of hepatitis in our population, which causes cirrhosis and varices. In Pakistan the prevalent rates of HBV and HCV were found to be two and three percent, respectively, in a prior evaluation carried just a few years ago.[16] In contrast, the most common cause in Western countries has been identified as intestinal ulcer that results in bleeding. This disease frequently develops as a consequence of a subsequent H.pylori exposure.[13] According to statistical data from the United States more than 350,000 people go to hospitals annually as a result of upper gastrointestinal bleeding and its death rates is 5% to 11%.[7] According to a research, people with cirrhosis who have fundal variceal or esophageal hemorrhage have deaths as high as fifty percent.[14] While non-variceal hemorrhage causes of death have been shown to vary between 10 and 14%.[15] Although recent data has shed further light, it shows that the use of stronger vasoactive medications, improvements in endoscopic procedures, and surgical procedures have all played a substantial role in bringing the death rates from variceal hemorrhage down to about 20%.[7] Moreover, non-variceal hemorrhage ranges from 3.8% to 5.6%.[17] Consequently, during the past five decades, there hasn't been much of a decrease in the fatality rate linked to gastrointestinal bleeding. A total of 224 individuals of both genders and various age groups were included in this study out of which 145(64.7%)

were male and 79(35.26%) were female. According to the clinical profile, 35 participants (15·6%) experienced non-specific symptoms, whereas 187 participants (83.4%) had both melena and hematemesis. Similar findings to the current study were found in a study by Anand et al[7] in India, where 16.6% of participants were female and 83.3% of participants were male. Additionally, our study showed that the most common symptom among hospitalized patients seeking medical treatment was hematemesis with melena. The study by Gregor et al[18] revealed that sixty percent of those diagnosed with upper gastrointestinal bleeding (UGIB) only had hematemesis after they were admitted to the hospital, which was in contrast to this findings. . According to the age distribution, 123 (54.91%) of the patients were between the ages of 31 and 60, while 101 (45.08%) of the patients were under 30. A considerable percentage of people with upper GIT bleeding were aged people and most of these had other medical issues according tody conducted by Mahajan et al. [19] According to endoscopy findings, Oesophageal varices were the most prevalent cause of upper gastrointestinal bleeding, accounting for 132 cases (58.92%), followed by peptic ulcer in 33 cases (14.7%), gastritis in 22 cases (9.82%), and esophagitis in 20 cases (8.9%). A considerable percentage of people with UGIB were identified to be older, and the majority of them had co-morbid medical issues, per a study by Mahajan et al.[19] Our results are consistent with a study by Elsebay et al. [20] in Egypt that found that over half of the subjects had variceal-induced higher gastrointestinal bleeding. A study carried out in Nepal also found that the same cause applied to patients who experienced upper gastrointestinal hemorrhage.[21] 40 patients (17.85%) had low risk, 128 patients (57.14%) had moderate risk, and 56 patients (25%) had high risk based on the Rockall score. Our research had a total death rate of 15 (6.69%). Mortality and Rockall score were shown to be significantly correlated (p=0.001). In the high-risk group of Rockall score, a high mortality rate of 10 (4.46. %) was noted. There is evidence that mortality rates eventually increase as risk scores do. Our research's outcomes are consistent with the theoretical framework because a sizable portion of deaths occurred among people who had an aggregate score exceeding.[4] This results aligns with the research conducted by Phang et al.[22] who noticed that when the Rockall score was higher than 4, there was a notable patient death rates. Our study's death rate was comparable to that of a prior investigation conducted by Naresh Kumar et al.[23]

Conclusion

Our study concludes that the most frequent cause for upper gastrointestinal bleeding was variceal bleeding. The second most frequent etiology for upper gastrointestinal bleeds was peptic ulcer. Additionally, our research demonstrates that the Rockall score is a reliable indicator of outcome for individuals with upper gastrointestinal bleeding.

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