



CLINICAL CHARACTERISTICS, SEVERITY, AND OUTCOME OF ACUTE UPPER GASTROINTESTINAL BLEEDING IN ELDERLY AND NON-ELDERLY PATIENTS IN A TERTIARY CARE HOSPITAL- A PROSPECTIVE OBSERVATIONAL STUDY.

Internal Medicine

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ABSTRACT

Introduction: Upper gastrointestinal bleeding (UGIB) is a common emergency that requires hospitalization, and is more prevalent in men and older individuals. Age and co-morbidities are important factors for high mortality in UGIB patients, and elderly patients have an increased risk of mortality and morbidity compared to younger individuals. The type of UGIB experienced can also vary based on age. **Aim and objectives:** The aim of this study was to examine and compare the clinical characteristics, severity, and outcome of UGIB in elderly individuals (aged 60 or older) and non-elderly individuals (aged under 60) in Assam, India. **Materials And Methods:** This was a prospective observational study conducted at Assam Medical College and Hospital between April 2022 and September 2022. The study included adult patients presenting with UGIB. Patients below 18 years of age and in-patients who developed UGIB during hospitalization were excluded. A diagnosis of UGIB was based on the history of hematemesis and/or melena. Relevant blood and radiological investigations were conducted for all patients. All patients underwent upper GI endoscopy (UGIE). Data on clinical profiles, laboratory reports, transfused blood/blood products, endoscopic findings and interventions, and subsequent outcomes were collected prospectively for analysis. **Results And Discussion:** A total of 60 patients were included in the study, with a mean age of 42 years and 78.33% of patients being male. Of the 60 patients, 70% were non-elderly and 30% were elderly. The proportion of patients with co-morbidities and the use of non-steroidal anti-inflammatory drugs or oral anti-coagulants was higher in the elderly group. The commonest mode of presentation among non-elderly patients was isolated melena (55%), while haematemesis in association with melaena was more common among elderly patients (50%). The proportion of patients with tachycardia and hypotension was significantly higher among the elderly group. Variceal bleeding was significantly higher among the elderly group (50% vs. 25%). The Rockall score, a measure of the severity of UGIB, was higher in 25% of elderly patients compared to 12.

KEYWORDS

INTRODUCTION

Acute upper gastrointestinal bleeding (UGIB) is a common emergency that requires hospitalization. UGIB is more prevalent in men and older individuals, with an estimated 35-45% of patients presenting with UGIB being over the age of 60.(1) Age and co-morbidities are important factors for high mortality in UGIB patients. Elderly patients with UGIB have an increased risk of mortality and morbidity compared to younger individuals, which is partly attributed to the presence of co-morbid illnesses and the use of medications such as aspirin, nonsteroidal anti-inflammatory drugs, and warfarin.(2,3)

The type of upper gastrointestinal bleeding (UGIB) experienced can vary based on the age of the individual, with younger individuals more likely to experience duodenal ulcer bleeding and middle-aged individuals more likely to have bleeding from gastric ulcers or esophageal varices. Elderly individuals, on the other hand, may be more prone to bleeding related to gastroesophageal malignancy. Additionally, older individuals may have decreased pain sensitivity and may use analgesic drugs more frequently, which can mask the symptoms of gastroduodenal ulcers and delay diagnosis, potentially leading to complications such as perforation and bleeding.(4,5)

The purpose of this study was to examine and compare the clinical characteristics, severity, and outcome of upper gastrointestinal bleeding (UGIB) in elderly individuals (aged 60 or older) and non-elderly individuals (aged under 60) in Assam, India. This information is important in developing strategies to reduce the negative impact of UGIB on health and mortality, as the prevalence of UGIB can vary significantly among different regions.

MATERIALS AND METHODS

This was a prospective observational study conducted at Assam Medical College and Hospital between April 2022 and September 2022. A diagnosis of acute UGIB was based on the history of hematemesis and/or melena. Consecutive adult patients presenting with UGIB in the department of Medicine were included in the study. Patients below 18 years of age and in-patients who developed UGIB during hospitalization were excluded from the study.

After initial resuscitation, a detailed history was obtained from each patient, and a clinical examination was performed to look for tachycardia, postural hypotension, pallor, and stigmata of chronic liver disease. Relevant blood and radiological investigations were conducted for all patients. All patients were managed with standard

medical therapy, and transfusion of blood and blood products was performed as necessary.

Upper GI endoscopy (UGIE) was performed within 24 hours, and endoscopic intervention was carried out as deemed appropriate. Data on clinical profiles, laboratory reports, transfused blood/blood products, endoscopic findings and interventions, and subsequent outcomes were collected prospectively for analysis. For comparison of data, patients were categorized into two groups: elderly (≥ 60 years) and non-elderly (< 60 years).

Statistical Analysis

Normally distributed continuous variables were expressed as mean (SD). Continuous variables with skewed distribution were expressed as median (range). Categorical data was presented as proportions. Comparisons were done using t-test for continuous variables and chi-square or Fisher's test for discrete variables. Data was analyzed using SPSS software version 23.0. A p-value of < 0.05 was considered significant.

RESULTS

A total of 60 adult patients presented with UGIB during the study period. The mean age of the patients was 42 years, and the majority (78.33%) were male. Of the 60 patients, 42(70%) were less than 60 years of age, and 18(30%) were 60 years or more of age.

Table 1: Number of patients in both groups

	Number of Patients	Percentage of Total
Less than 60	42	70%
60 or older	18	30%

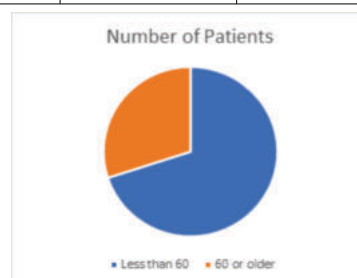


Chart 1: Pie chart showing number of patients in both groups

The proportion of patients with co-morbidities and the use of non-steroidal anti-inflammatory drugs or oral anti-coagulants was higher in the elderly group.

Table 5: Comparison of Co-Morbidities and Medication Use between Elderly and Non-Elderly Groups

Co-Morbidity or Medication	Less than 60	60 or older
Cardiovascular diseases	4 (9.524%)	6 (33.333%)
Chronic kidney disease	3 (7.143%)	4 (22.222%)
Diabetes	2 (4.762%)	6 (33.333%)
Liver diseases	4 (9.524%)	5 (27.778%)
Pulmonary diseases	5 (11.905%)	3 (16.667%)
Cancer	3 (7.143%)	2 (11.111%)
NSAIDs	5 (11.905%)	8 (44.444%)
Oral anti-coagulants	4 (9.524%)	5 (27.778%)

The commonest mode of presentation among non-elderly was isolated melaena 22 (55% vs. 25%, $p<0.05$) and among elderly group haematemesis in association with melaena was more common (50% vs 20%, $p<0.05$). The proportion of patients with tachycardia (80% vs. 37.50%, $p<0.05$) and hypotension (45% vs. 30%, $p<0.05$) was significantly higher among the elderly group as compared to the non-elderly group.

Table 2: Comparison of tachycardia and hypotension between Elderly and Non-Elderly Groups

Age Group	Tachycardia	Hypotension	P value
Less than 60	37.50%	30%	< 0.05
60 or older	80%	45%	< 0.05

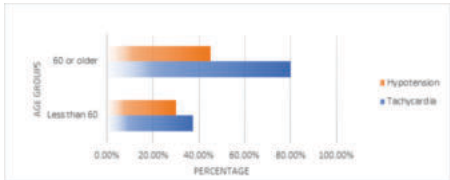


Chart 2: Bar diagram showing comparison of tachycardia and hypotension between Elderly and Non-Elderly Groups

All patients underwent endoscopy, and the proportions of patients with variceal and non-variceal bleeding were compared between the elderly and non-elderly groups.

Among the elderly group, 10 (50%) patients had variceal bleeding, and 10(50%) had non-variceal bleeding. Among the non-elderly group, 10(25%) patients had variceal bleeding, and 30(75%) had non-variceal bleeding. Variceal bleeding was significantly higher among the elderly group (50% vs. 25%, $p<0.05$). the profile of patients in elderly group with bleeding were 50% with variceal bleed,20% with ulcer bleed, 20% with bleed due to erosions and 10% was due to malignancy related bleed. Among the non-elderly patients 25% had variceal bleed, 50% had ulcer related bleed, 17.5% was due to erosions related bleed, 5% had Mallory Weiss tear and 2.5% had malignancy related bleed.

Initial hemostasis was achieved in all patients using endotherapy and medical management. Rebleeding occurred in 2.0% and 6.7% of patients in the elderly and non-elderly groups, respectively, but the difference was not statistically significant. None of the patients with variceal bleeding required surgical therapy. Bleeding from varices was the predominant cause of bleeding among the elderly group (50 vs. 25%, $p<0.05$). among the non-elderly ulcer elated bleeds were the most common cause.

Table 3: Comparison of Mode of Presentation between Elderly and Non-Elderly Groups

Age Group	Variceal Bleeding	Non-Variceal Bleeding
Less than 60	25%	75%
60 or older	50%	50%

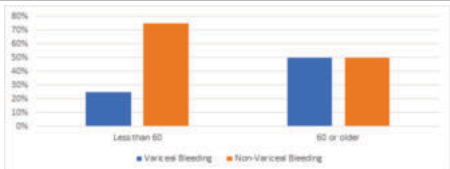


Chart 3 Bar diagram showing comparison of tachycardia and

hypotension between Elderly and Non-Elderly Groups

Table 4: Comparison of Causes of Bleeding between Elderly and Non-Elderly Groups

Cause of Bleeding	Less than 60	60 or older
Variceal Bleeding	25%	50%
Ulcer Bleeding	50%	20%
Bleeding Due to Erosions	17.5%	20%
Malignancy-Related Bleeding	2.5%	10%
Mallory Weiss Tear	5%	N/A

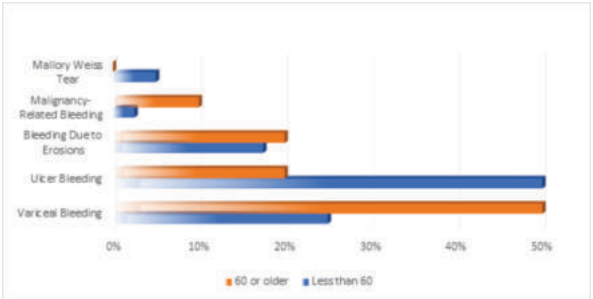


Chart 4: Bar diagram showing comparison of Causes of Bleeding between Elderly and Non-Elderly Groups

2 patients from the elderly group and 7 patients from the non-elderly group developed rebleeding from duodenal or pre-pyloric ulcers, and 1 patient from each group required surgical therapy after failed repeat endotherapy.

Rockall score >2 was present in 25 % of patients in the elderly group compared to 12.5% of patients in the non-elderly group ($p<0.05$). The requirement for blood transfusion of 4 or more units was higher among patients in the elderly group than in the non-elderly group (25.2% vs. 8.1%, $p<0.05$). The mortality rate was 5% ($n=3$), of which 33% ($n=2$) patients were over the age of 60 years and 1.66% ($n=1$) patients were less than 60 years ($p<0.05$).

Table 5: Comparison of Outcomes between Elderly and Non-Elderly Groups

Age Group	Rockall Score >2	Blood Transfusion of 4+ Units	Mortality Rate
Less than 60	12.5%	8.1%	1.66%
60 or older	25%	25.2%	33%

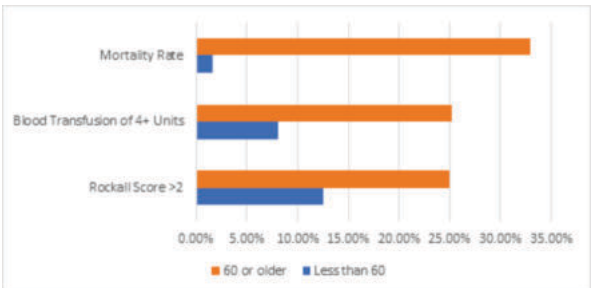


Chart 5: Bar diagram showing comparison of Outcomes between Elderly and Non-Elderly Groups

Table 6: Comparison of Hemoglobin Levels and Length of Hospital Stay between Elderly and Non-Elderly Groups

Parameter	Less than 60	60 or older
Hemoglobin levels	10 g/dL	8 g/dL
Length of hospital stay	5 days	7 days

DISCUSSION

The management of acute UGIB in elderly patients requires special consideration, as these patients may have atypical presentations and high mortality rates. Elderly patients may have cognitive, auditory, and visual impairments that can complicate the history of UGIB. Co-morbidities and medications that may increase the risk of bleeding can further complicate the management of UGIB in these patients. Our study clearly demonstrated that the severity and overall mortality rate of UGIB in elderly subjects were significantly higher than in non-elderly subjects.

Between April 2022 to September 2022, 60 patients with upper GI bleed were included in our study, out of which 42 (70%) were below 60 years of age and 18 (30%) were above 60 years of age and showed a predilection towards the non-elderly group. In a study done by Lakhwani et al., upper GI bleeding was more common in age group of less than 60 years.(6) Bhandary et al in their study got a predilection among the non-elderly population which was similar to our study.(7)

Out of 60 patients in our study, upper GI bleed was found to be more common in men 78.33% as compared to women 21.67%. In a study done by Kashyap et al. found out that, out of 111 patients with upper GI bleeding included in their study, 78.4% were males which was similar to our study.(8) A study by Rodrigues and Shenoy et al showed that out of all patients with upper GI bleed 74.2% were males and 25.8% were females which was similar to our study.(9) Bhandary et al also found a male predilection in their study.(7)

The mode of presentation of UGIB varies between non-elderly and elderly individuals, with non-elderly individuals more commonly presenting with isolated melena (55% vs. 25%, $p<0.05$) and elderly individuals more commonly presenting with haematemesis in association with melaena (50% vs 20%, $p<0.05$). This is consistent with the findings of Bhandary et al., who found that the majority of patients (61.95%) presented with both hematemesis and melena.(7) However, Sourabh et al. found that isolated hematochezia was more common in elderly individuals(29% vs. 1.9%, $p<0.01$). (10) Overall, it is important to consider the specific characteristics and presentation of UGIB in different age groups in order to effectively diagnose and manage the condition.

Among the elderly group, 10 (50%) patients had variceal bleeding, and 10(50%) had non-variceal bleeding. Among the non-elderly group, 10 (25%) patients had variceal bleeding, and 30(75%) had non-variceal bleeding.

The results of this study showed that the elderly group had a significantly higher proportion of patients with variceal bleeding compared to the non-elderly group (50% vs. 25%, $p<0.05$). Among the elderly group, 50% of patients had variceal bleeding, 20% had ulcer bleeding, 20% had bleeding due to erosions, and 10% had bleeding due to malignancy. In the non-elderly group, 25% of patients had variceal bleeding, 50% had ulcer-related bleeding, 17.5% had bleeding due to erosions, 5% had Mallory Weiss tear, and 2.5% had bleeding due to malignancy. These findings suggest that variceal bleeding may be more common in elderly individuals, and it is important to consider this in the diagnosis and management of UGIB in this population.

The results of this study showed that rebleeding occurred in 2% of elderly patients and 6.7% of non-elderly patients, but the difference was not statistically significant. However, a higher proportion of elderly patients had a Rockall score >2 (25% vs. 12.5%, $p<0.05$), indicating a more severe bleeding episode, and required a higher number of blood transfusions (25.2% vs. 8.1%, $p<0.05$). The mortality rate was 5% overall, with 33% ($n=2$) of deaths occurring in the elderly group and 1.66% ($n=1$) occurring in the non-elderly group ($p<0.05$). These findings suggest that elderly individuals may have a higher severity of UGIB and a higher risk of death compared to non-elderly individuals. It is important to consider these factors in the management and treatment of UGIB in elderly patients.

CONCLUSION

In conclusion, our study found that the clinical characteristics and outcomes of upper gastrointestinal bleeding (UGIB) differ between elderly and non-elderly individuals. The mode of presentation of UGIB was found to vary between the two groups, with non-elderly individuals more commonly presenting with isolated melena and elderly individuals more commonly presenting with haematemesis in association with melaena. Variceal bleeding was found to be significantly more common in the elderly group, while the rate of rebleeding and the proportion of patients with Rockall scores >2 were higher in the elderly group, indicating a more severe bleeding episode. The mortality rate was also higher in the elderly group, with 33% of deaths occurring in this population. These findings highlight the importance of considering the specific characteristics and outcomes of UGIB in elderly individuals in order to effectively diagnose and manage the condition. Further research is needed to better understand the factors that contribute to the higher severity and mortality of UGIB in elderly patients and to develop strategies to reduce the negative

impact of UGIB on health and mortality in this population.

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