e-ISSN: 0976-822X, p-ISSN:2961-6042

Available online on http://www.ijcpr.com/

International Journal of Current Pharmaceutical Review and Research 2025; 17(9); 1837-1841

Original Research Article

Profile of Patients Admitted with Upper Gastrointestinal Bleeding Over 2 Years in a Tertiary Care Hospital

Ram Kishore Singh[1], Sukhraj Pal Singh[2], Puja Ranjan[3]

[1]Senior Resident, Department of Gastroenterology & Hepatology, Kalinga Institute of Medical Sciences, Bhubaneswar KIIT UNIVERSITY

[2]Senior Resident, Department of Gastroenterology & Hepatology, Kalinga Institute of Medical Sciences, Bhubaneswar KIIT UNIVERSITY

[3]Junior Resident, Department of Prosthodontics and crown & Bridge. Buddha Institute of Dental Sciences and Hospital, Patna

Received: 18-07-2025 / Revised: 16-08-2025 / Accepted: 15-09-2025

Corresponding Author: Dr. Ram Kishore Singh

Conflict of interest: Nil

Abstract:

Background: Upper gastrointestinal bleeding (UGIB) is a common medical emergency associated with significant morbidity and mortality. Understanding the demographic profile, etiological spectrum, clinical presentation, and outcomes of patients with UGIB is essential for optimizing management strategies and improving patient care.

Objectives: To evaluate the demographic characteristics, clinical presentation, endoscopic findings, risk factors, management, and outcomes of patients admitted with upper gastrointestinal bleed.

Methods: This retrospective observational study was conducted in a tertiary care hospital over a period of 12 months. Medical records of patients admitted with symptoms suggestive of UGIB, including hematemesis, melena, or both, were reviewed. Data regarding age, gender, comorbidities, risk factors, clinical presentation, laboratory parameters, endoscopic findings, treatment modalities, duration of hospital stay, and in-hospital outcomes were collected and analyzed.

Results: A total of 200 patients were included in the study. The mean age was 52.8 ± 15.4 years, with a male predominance (68%). Hematemesis with melena was the most common presentation (46%), followed by melena alone (34%) and hematemesis alone (20%). Chronic liver disease was present in 38% of patients, while 32% had a history of non-steroidal anti-inflammatory drug (NSAID) use. Endoscopy revealed esophageal varices as the most common cause of bleeding (35%), followed by peptic ulcer disease (30%), erosive gastritis (15%), portal hypertensive gastropathy (8%), Mallory–Weiss tear (5%), and malignancy (4%). Endoscopic therapeutic interventions were performed in 42% of cases. The average hospital stay was 6.4 ± 3.2 days. Rebleeding occurred in 12% of patients, and overall in-hospital mortality was 8%.

Conclusion: Upper gastrointestinal bleeding remains a significant cause of hospital admission, predominantly affecting middle-aged and elderly males. Esophageal varices and peptic ulcer disease were the leading etiologies. Early endoscopic evaluation and appropriate therapeutic intervention play a crucial role in reducing complications and improving clinical outcomes.

Keywords: Upper Gastrointestinal Bleeding, Hematemesis, Melena, Endoscopy, Esophageal Varices, Peptic Ulcer Disease, Tertiary Care Hospital.

Introduction

Upper gastrointestinal bleeding (UGIB) is one of the most common medical emergencies encountered in clinical practice and remains a significant cause of morbidity, mortality, and healthcare utilization worldwide. UGIB is defined as bleeding originating proximal to the ligament of Treitz and commonly presents with hematemesis, melena, or both. Despite advances in diagnostic and therapeutic endoscopy, UGIB continues to pose a substantial burden on healthcare systems, particularly in developing countries. The etiology of UGIB varies according to geographic region, patient demographics, and underlying comorbidities. Peptic ulcer disease, esophageal and gastric varices, erosive gastritis, Mallory–Weiss tears, and upper gastrointestinal malignancies are among the most frequent causes. The widespread use of non-steroidal anti-inflammatory drugs (NSAIDs), antiplatelet agents, anticoagulants, and the increasing prevalence of chronic liver disease have contributed significantly to the incidence of UGIB. Early assessment and risk stratification are crucial for the effective

management of UGIB. Upper gastrointestinal endoscopy plays a pivotal role in identifying the source of bleeding, assessing the risk of rebleeding, and providing therapeutic intervention when necessary. Patient outcomes depend on several factors, including age, severity of bleeding, underlying comorbidities, hemodynamic status at presentation, and timely initiation of treatment. Knowledge of the demographic characteristics, clinical presentation, etiological spectrum, and outcomes of patients with UGIB is essential for planning preventive and therapeutic strategies. However, variations exist in the pattern of UGIB across different populations and healthcare settings. Therefore, this study was undertaken to evaluate the profile of patients admitted with upper gastrointestinal bleeding over a two-year period in a tertiary care hospital, with emphasis on demographic features, clinical presentation, endoscopic findings, management, and clinical outcomes.

Material and Methods

This retrospective observational study was conducted in the Department of Gastroenterology & Hepatology, at Kalinga Institute of Medical Sciences, Bhubaneswar KIIT UNIVERSITY. A tertiary care hospital. over a period of 12 months.

Study Population: All consecutive patients admitted with a diagnosis of upper gastrointestinal bleeding (UGIB) during the study period were included. UGIB was defined as bleeding originating proximal to the ligament of Treitz and presenting with hematemesis, melena, or both.

Inclusion Criteria

- Patients aged ≥18 years.
- Patients admitted with clinical features suggestive of upper gastrointestinal bleeding, including hematemesis, melena, or hematochezia with an upper gastrointestinal source confirmed by endoscopy.
- Patients who underwent upper gastrointestinal endoscopy during hospitalization.

Exclusion Criteria

- Patients younger than 18 years.
- Patients with incomplete medical records.
- Patients with bleeding originating from the lower gastrointestinal tract.
- Patients who were discharged against medical advice before complete evaluation.

Data Collection: Data were collected from hospital medical records, endoscopy reports, and laboratory databases. Information obtained included:

- Demographic characteristics (age, sex).
- Clinical presentation (hematemesis, melena, syncope, shock).
- Risk factors such as alcohol consumption, smoking, NSAID use, antiplatelet/anticoagulant therapy, and chronic liver disease.
- Comorbid conditions including hypertension, diabetes mellitus, chronic kidney disease, and cardiovascular diseases.
- Laboratory parameters including hemoglobin level, platelet count, liver function tests, renal function tests, and coagulation profile.
- Endoscopic findings and therapeutic interventions performed.
- Requirement for blood transfusion.
- Duration of hospital stay.
- Clinical outcomes including rebleeding, need for surgery, and in-hospital mortality.

Endoscopic Evaluation: Upper gastrointestinal endoscopy was performed after initial stabilization of the patient. Endoscopic findings were recorded, and lesions were classified according to their etiology. Therapeutic procedures such as endoscopic variceal ligation, sclerotherapy, injection therapy, thermal coagulation, or hemoclip application were performed when indicated.

Outcome Measures: The primary outcome was to determine the demographic and etiological profile of patients admitted with UGIB. Secondary outcomes included assessment of management strategies, rebleeding rates, duration of hospitalization, and in-hospital mortality.

Statistical Analysis: Data were entered into Microsoft Excel and analyzed using the Statistical Package for Social Sciences (SPSS) version 25.0. Continuous variables were expressed as mean ± standard deviation (SD), while categorical variables were presented as frequencies and percentages. Results were summarized using descriptive statistics and presented in tables and graphs where appropriate. A p-value <0.05 was considered statistically significant for relevant comparisons.

Results

A total of 200 patients admitted with upper gastrointestinal bleeding (UGIB) during the two-year study period were included in the analysis. The mean age of the study population was 52.8 ± 15.4 years (range: 18–89 years). Males constituted the majority of cases (136, 68%) while females accounted for 64 (32%), resulting in a male-to-female ratio of 2.1:1.

Table 1: Demographic Characteristics of Study Population (n = 200)

Characteristic	Number (%)
Age Group (years)	
18–30	22 (11.0)
31–40	36 (18.0)
41–50	48 (24.0)
51–60	42 (21.0)
61–70	34 (17.0)
>70	18 (9.0)
Gender	
Male	136 (68.0)
Female	64 (32.0)

The most common clinical presentation was hematemesis with melena (46%), followed by melena alone (34%) and hematemesis alone (20%).

Table 2: Clinical Presentation of UGIB

Presentation	Number (%)
Hematemesis with melena	92 (46.0)
Melena alone	68 (34.0)
Hematemesis alone	40 (20.0)
Hypotension/Shock at admission	38 (19.0)
Syncope	22 (11.0)

Among the risk factors identified, chronic alcohol consumption and chronic liver disease were the most common.

Table 3: Risk Factors and Comorbidities

Risk Factor/Comorbidity	Number (%)
Chronic liver disease	76 (38.0)
Alcohol consumption	88 (44.0)
NSAID use	64 (32.0)
Smoking	58 (29.0)
Hypertension	42 (21.0)
Diabetes mellitus	34 (17.0)
Chronic kidney disease	14 (7.0)

Upper gastrointestinal endoscopy identified esophageal varices (35%) as the most common cause of bleeding, followed by peptic ulcer disease (30%).

Table 4: Endoscopic Findings

Endoscopic Diagnosis	Number (%)
Esophageal varices	70 (35.0)
Peptic ulcer disease	60 (30.0)
Erosive gastritis	30 (15.0)
Portal hypertensive gastropathy	16 (8.0)
Mallory–Weiss tear	10 (5.0)
Upper GI malignancy	8 (4.0)
Others	6 (3.0)

Therapeutic endoscopic interventions were performed in 84 patients (42%). Blood transfusion was required in 126 patients (63%).

Table 5: Management and Clinical Outcomes

Variable	Number (%)
Endoscopic therapy performed	84 (42.0)
Blood transfusion required	126 (63.0)
Rebleeding episodes	24 (12.0)
Surgical intervention	8 (4.0)
In-hospital mortality	16 (8.0)

The mean duration of hospital stay was 6.4 ± 3.2 days. Rebleeding occurred in 12% of patients, while 8% died during hospitalization. Mortality was higher among patients with variceal bleeding, hemodynamic instability at presentation, and multiple comorbid conditions.

Overall, esophageal varices and peptic ulcer disease accounted for nearly two-thirds of all cases of upper gastrointestinal bleeding. Most patients responded well to medical and endoscopic management, although a small proportion experienced rebleeding or succumbed to complications during hospitalization.

Discussion

Upper gastrointestinal bleeding (UGIB) remains a major medical emergency and a common cause of hospitalization worldwide. In the present study, the demographic profile, etiological spectrum, clinical presentation, and outcomes of 200 patients admitted with UGIB over a two-year period were analyzed. The findings provide valuable insights into the burden and characteristics of UGIB in a tertiary care setting. The majority of patients in the present study were males (68%), with a mean age of 52.8 years. Similar male predominance has been reported in several studies, which may be attributed to the higher prevalence of alcohol consumption, smoking, chronic liver disease, and NSAID use among men. The highest proportion of patients belonged to the 41–60-year age group, indicating that UGIB predominantly affects middle-aged and elderly individuals. Increasing age has been recognized as an important risk factor for adverse outcomes due to the presence of multiple comorbidities and reduced physiological reserve. Hematemesis associated with melena was the most common presenting symptom, observed in nearly half of the patients. This finding is consistent with previous studies where combined hematemesis and melena represented the most frequent clinical presentation. A considerable proportion of patients also presented with hypotension and shock, reflecting the severity of bleeding and emphasizing the need for prompt resuscitation and early intervention. Among the identified risk factors, alcohol consumption, chronic liver disease, and NSAID use were highly prevalent. Chronic alcohol intake contributes to the development of portal hypertension and variceal bleeding, while NSAID use is strongly associated with peptic ulcer disease and erosive mucosal lesions. These observations highlight the importance of preventive strategies, including rational NSAID prescribing and management of chronic liver disease. Endoscopic evaluation revealed esophageal varices as the most common cause of UGIB, accounting for 35% of cases, followed by peptic ulcer disease (30%). The predominance of variceal bleeding in the present study may be related to the high prevalence of chronic liver disease among patients attending tertiary care hospitals. Similar findings have been reported from several studies conducted in developing countries, where portal hypertension-related bleeding constitutes a significant proportion of UGIB cases. In contrast, studies from many Western countries have identified peptic ulcer disease as the leading cause of UGIB, reflecting regional differences in disease patterns and risk factors.

Therapeutic endoscopic intervention was required in 42% of patients, demonstrating the central role of endoscopy in both diagnosis and treatment. Endoscopic procedures such as variceal ligation, sclerotherapy, injection therapy, and hemoclip application are effective in achieving hemostasis and reducing the risk of rebleeding. Blood transfusion was required in a majority of patients, indicating substantial blood loss and the need for aggressive supportive care.

The rebleeding rate in the present study was 12%, which is comparable to rates reported in previous literature. Rebleeding remains an important determinant of morbidity, prolonged hospitalization, and mortality. Factors such as variceal bleeding, large ulcers, coagulopathy, and delayed presentation may contribute to an increased risk of recurrent bleeding. The overall in-hospital mortality rate was 8%. Mortality was predominantly observed among patients with variceal hemorrhage, hemodynamic instability at admission, advanced age, and significant comorbid illnesses. Although advances in endoscopic therapy and intensive care management have improved outcomes, UGIB continues to be associated with considerable mortality, particularly in high-risk patients.The present study has certain limitations. Being a retrospective single-center study, the findings may not be generalizable to the wider population. In addition, long-term follow-up data regarding recurrent bleeding and survival were not available. Nevertheless, the study provides important information regarding the clinical and etiological profile of UGIB in a tertiary care hospital and highlights the need for early diagnosis, timely endoscopic intervention, and comprehensive management of underlying risk factors. Overall, the findings emphasize that esophageal varices and peptic ulcer disease remain the predominant causes of UGIB, and early endoscopic evaluation combined with appropriate medical therapy is essential for improving patient outcomes and reducing mortality.

Conclusion

Upper gastrointestinal bleeding remains a significant cause of hospital admission and medical emergency, particularly among middle-aged and elderly males. In this study, esophageal varices and peptic ulcer disease were identified as the leading causes of upper gastrointestinal bleeding, with

chronic liver disease, alcohol consumption, and NSAID use being the most common associated risk factors. Hematemesis with melena was the predominant clinical presentation, and a substantial proportion of patients required blood transfusion and endoscopic therapeutic intervention. Although most patients responded favorably to medical and endoscopic management, rebleeding and mortality continued to occur, particularly among those with variceal hemorrhage, hemodynamic instability, and multiple comorbid conditions.

Early recognition, prompt resuscitation, timely upper gastrointestinal endoscopy, and appropriate therapeutic intervention are crucial for improving clinical outcomes. Identification and management of modifiable risk factors, especially chronic liver disease and NSAID use, may further reduce the burden of upper gastrointestinal bleeding. Continuous efforts toward early diagnosis and evidence-based management strategies are essential to minimize morbidity, mortality, and healthcare utilization associated with this condition.

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