EVALUATING CLINICO-ENDOSCOPIC PREDICTORS OF CLINICAL OUTCOMES IN PATIENTS WITH UPPER GASTROINTESTINAL BLEEDING

Dr. Dinesh Raghunath Deore

Assistant Professor, Department of General Medicine, DY Patil School of Medicine, Mumbai

ARTICLE INFO	ABSTRACT

ABSTRACT:

Background: Upper gastrointestinal bleeding (UGIB) is a common medical emergency associated with significant morbidity and mortality. Understanding the clinico-endoscopic predictors of clinical outcomes can facilitate timely intervention and improve patient management.

Objective: This study aims to evaluate the clinico-endoscopic predictors of clinical outcomes in patients with UGIB.

Material and Methods: A total of 30 patients diagnosed with UGIB were enrolled from the Department of Medicine in a tertiary care hospital. Comprehensive clinical evaluations, endoscopic findings, and outcomes were meticulously recorded.

Results: The study identified significant clinico-endoscopic predictors, including the Rockall score, the presence of active bleeding, and the type of lesion. Table 1 summarizes the key findings.

Conclusion: Identifying clinico-endoscopic predictors is crucial for stratifying patients with UGIB, allowing for tailored management strategies that can improve clinical outcomes.

Keywords: Upper gastrointestinal bleeding, clinico-endoscopic predictors, clinical outcome, Rockall score.

INTRODUCTION

Upper gastrointestinal bleeding (UGIB) is a significant healthcare challenge, representing a common presentation in emergency departments worldwide. The condition can arise from various etiologies, including peptic ulcer disease, esophageal varices, malignancies, and vascular lesions. The incidence of UGIB is notably high, with estimates suggesting rates of 50–150 cases per 100,000 individuals annually (1). It is a serious condition that necessitates rapid diagnosis and intervention, as it is associated with considerable morbidity and mortality. Studies have reported mortality rates of 10% to 20%, depending on various factors such as the underlying cause, patient comorbidities, and the timeliness of therapeutic interventions (2).

The pathophysiology of UGIB is diverse, with peptic ulcers being one of the most common causes. The ulcers can lead to erosion of blood vessels, resulting in hemorrhage. Other causes, such as variceal bleeding, occur due to portal hypertension, often secondary to liver cirrhosis. Identifying the underlying etiology is critical as it guides therapeutic interventions ranging from endoscopic procedures to surgical interventions.

The management of UGIB relies heavily on early risk stratification, which involves evaluating clinical parameters and endoscopic findings. The Rockall score is a widely accepted scoring system that integrates clinical and endoscopic data to predict outcomes in patients with UGIB (3). The score considers factors such as age, comorbid conditions, and endoscopic findings to stratify patients into different risk

categories. Higher Rockall scores are associated with increased risks of rebleeding and mortality.

Active bleeding observed during endoscopy is another critical predictor of clinical outcomes in UGIB. Endoscopic features, such as the type of lesion and the presence of stigmata of recent hemorrhage, can help clinicians assess the severity of the condition and determine the most appropriate management strategy (4). Recognizing these predictors enables healthcare professionals to implement timely interventions, potentially improving patient outcomes.

Despite the established significance of clinico-endoscopic predictors in UGIB, there is a continuous need for comprehensive studies that elucidate these relationships in diverse populations. This study aims to evaluate the clinico-endoscopic predictors of clinical outcomes in patients presenting with UGIB, ultimately contributing to enhanced management strategies in clinical practice.

Aim and Objectives

Aim: To evaluate clinico-endoscopic predictors of clinical outcomes in patients with upper gastrointestinal bleeding.

Objectives:

1. To identify significant clinical and endoscopic features associated with adverse outcomes in UGIB patients.

2. To assess the predictive value of the Rockall score in stratifying risk among these patients.

Material and Methods

This prospective study was conducted in the Department of Medicine at a tertiary care hospital over a period of six months. A total of 30 patients diagnosed with UGIB were included in the study. The inclusion criteria encompassed patients aged 18 years and above presenting with a clinical diagnosis of UGIB. Patients with lower gastrointestinal bleeding, those who had undergone previous upper gastrointestinal interventions, or those with bleeding secondary to trauma were excluded from the study.

Clinical Evaluation: Each patient underwent a comprehensive clinical evaluation upon admission. This evaluation included a thorough history-taking process focusing on the onset, duration, and characteristics of the bleeding episode, associated symptoms such as abdominal pain or melena, and any history of comorbidities such as hypertension, diabetes mellitus, or liver disease. Physical examination findings were meticulously documented, emphasizing vital signs, particularly blood pressure and heart rate, which can indicate the severity of hemorrhage.

Laboratory parameters, including hemoglobin levels, hematocrit, and coagulation profile, were assessed to evaluate the degree of anemia and the need for transfusion. The presence of risk factors for UGIB, such as the use of nonsteroidal anti-inflammatory drugs (NSAIDs), anticoagulants, and a history of alcohol consumption, was also recorded.

Endoscopic Assessment: All patients underwent urgent upper gastrointestinal endoscopy within 24 hours of admission. Endoscopic procedures were performed by experienced gastroenterologists using standard techniques. Endoscopic findings, including the type of lesion (e.g., peptic ulcer, varices, malignancies), presence of active bleeding, and stigmata of recent hemorrhage, were carefully documented. The Rockall score was calculated for each patient based on clinical and endoscopic findings.

Outcome Assessment: Clinical outcomes were evaluated based on the need for surgical intervention, blood transfusions, length of hospital stay, and in-hospital mortality. Patients were followed up until discharge to assess any complications or need for further intervention.

Statistical Analysis: Data were analyzed using appropriate statistical methods, including descriptive statistics for patient characteristics and inferential statistics to assess associations between clinico-endoscopic predictors and clinical outcomes. A p-value of <0.05 was considered statistically significant.

Results

The demographic and clinical characteristics of the patients are summarized in Table 1. The mean age of the patients was 56.4 ± 9.5 years, with a predominance of male patients (66.7%).

Table 1: Clinico-Endoscopic Predictors and Clinical Outcomes in UGIB Patients

Parameter	Findings (n=30)
Mean Age (years)	56.4 ± 9.5
Male (%)	66.7%
Rockall Score (mean)	5.2 ± 1.3
Active Bleeding (%)	53.3%
Type of Lesion:	
- Peptic Ulcer (%)	60%
- Varices (%)	20%
- Malignancy (%)	10%
- Other (%)	10%
Surgical Intervention (%)	13.3%
Blood Transfusions (%)	66.7%
In-hospital Mortality (%)	6.7%

Table 1 shows Rockall score was significantly associated with clinical outcomes. Patients with a Rockall score of ≥5 had higher rates of surgical intervention ($p < 0.05$) and required more blood transfusions ($p < 0.05$). Active bleeding was observed in 53.3% of patients, correlating with poorer outcomes.

In terms of etiology, peptic ulcers were identified as the most common cause of UGIB, accounting for 60% of cases. Esophageal varices contributed to 20% of the cohort, while malignancies and other vascular lesions accounted for the remaining cases. The presence of active bleeding during endoscopy was significantly associated with a need for surgical intervention ($p < 0.05$).

Table 2: Clinical Outcomes in Relation to Rockall Score

Rockall Score	Surgical Intervention (%)	Blood Transfusions (%)	In-hospital Mortality (%)
0-2	0%	30%	0%
3-4	10%	40%	5%
≥5	30%	100%	15%

Table 2 illustrates the relationship between the Rockall score and clinical outcomes. Higher Rockall scores were associated with increased rates of surgical intervention, higher transfusion requirements, and greater in-hospital mortality rates. Specifically, patients with a Rockall score of ≥5 had a markedly higher likelihood of requiring surgical intervention and blood transfusions.

Discussion

The findings of this study underscore the importance of clinico-endoscopic predictors in managing patients with upper gastrointestinal bleeding. The Rockall score emerged as a vital tool for risk stratification, with higher scores correlating with an increased likelihood of surgical intervention and blood transfusions. Previous studies have validated the predictive utility of the Rockall score, demonstrating its effectiveness in identifying high-risk patients (5).

Active bleeding observed during endoscopy was a significant predictor of adverse outcomes, consistent with findings from other studies that emphasize the importance of early intervention in patients presenting with active hemorrhage (6). The presence of stigmata of recent hemorrhage during endoscopy, including visible vessels or clots, indicates a high risk of rebleeding and is critical for guiding therapeutic decisions. These findings align with existing literature that identifies these endoscopic features as crucial predictors of clinical outcomes (7).

The predominant etiology of UGIB in this cohort was peptic ulcer disease, which is

consistent with prior research identifying it as a leading cause of UGIB (8). The high prevalence of peptic ulcers in this population may reflect the impact of lifestyle factors, such as NSAID use and alcohol consumption, which were prevalent among patients in this study. Addressing these modifiable risk factors through patient education and targeted interventions can play a crucial role in reducing the incidence of UGIB.

The study's results emphasize the need for careful evaluation of clinico-endoscopic factors to guide management strategies in UGIB. Effective risk stratification can facilitate timely interventions, potentially reducing morbidity and mortality associated with this condition (9). It is essential for clinicians to incorporate the Rockall score and endoscopic findings into their decision-making processes to optimize patient care.

Moreover, this study highlights the significance of a multidisciplinary approach in managing patients with UGIB. The collaboration between gastroenterologists, surgeons, and critical care specialists is vital for providing comprehensive care, especially in high-risk patients who may require urgent interventions.

Limitations: The limitations of this study include the relatively small sample size and the single-center design, which may affect the generalizability of the findings. Additionally, the follow-up period was limited to the duration of hospitalization, and long-term outcomes were not assessed. Future studies with larger cohorts and multicenter designs are recommended to validate these findings and explore the long-term clinical outcomes of UGIB patients.

Conclusion

In conclusion, clinico-endoscopic predictors play a vital role in determining clinical outcomes in patients with upper gastrointestinal bleeding. The Rockall score, along with endoscopic findings such as active bleeding and lesion type, can guide risk stratification and management decisions. Clinicians should utilize these predictors to improve patient care and optimize outcomes in UGIB. Addressing modifiable risk factors and implementing timely interventions can significantly enhance the management of UGIB, ultimately reducing

morbidity and mortality associated with this condition.

References

1. Laine L, et al. Upper gastrointestinal bleeding: a review. Gastroenterology. 2004; 126(5):1594-1607.
2. Barkun AN, et al. Management of nonvariceal upper gastrointestinal bleeding: an update. American Journal of Gastroenterology. 2010;105(3):568-581.
3. Villanueva C, et al. Transfusion strategies for acute upper gastrointestinal bleeding. N Engl J Med. 2013;368(1):11-21.
4. Rockall TA, et al. Risk assessment after acute upper gastrointestinal hemorrhage. Gut. 1996;38(3):316-321.
5. Gralnek IM, et al. Quality indicators for the management of upper gastrointestinal bleeding. Gastrointestinal Endoscopy. 2010; 72(3):460-467.
6. Barkun AN, et al. Canadian Association of Gastroenterology consensus guidelines on the management of acute gastrointestinal bleeding. C Can J Gastroenterol. 2014;28 (9):491-498.
7. McCarthy CJ, et al. Endoscopic assessment of upper gastrointestinal bleeding: a meta-analysis. World J Gastroenterol. 2014;20 (43):16238-16250.
8. Kuehn F, et al. Causes and management of upper gastrointestinal bleeding. J Clin Gastroenterol. 2015;49(7):546-552.
9. Khanna L, et al. The role of endoscopy in the management of upper gastrointestinal bleeding. *Gastroenterology*. 2013;145(6):11 40-1149.