Etiological Spectrum, Clinical Profile and Prognostic Factors in Non-Variceal Upper Gastrointestinal Bleed

Vipin Goyal¹, Shinu Singla²

¹Doctorate Of Medicine, Medical Gastroenterology, Sri Aurobindo Medical College & Pg Institute, Indore
²Senior Resident Dept. Of Neurology, King George Medical College, Lucknow Uttar Pradesh India

Abstract

Introduction: UGI bleed is defined as bleed occurring proximally to ligament of trietz common emergency presentation accounting for mortality rate of 10%. Worldwide peptic ulcer disease is the commonest cause. Material and methods: 2-year prospective observational study was performed on 201 patients presenting with hematemesis. Detailed history, examination and laboratory tests were performed. The statistical analysis of the data was performed. Results: Out of 201 patients, 125 (62.4%) patients were having varices and 76 (37.6%) had no varices. Mean age of the non-variceal population was 43.58years. Patients at presentation having tachycardia and hypotension had significantly increased risk of mortality in non-variceal patients (p=0.012). Patients requiring endoscopic intervention had significantly increased mortality (p=0.001). Patient having rockall score of ≥3 had significantly increased mortality in non-variceal patients. Conclusion: We found variceal bleed to be the commonest cause of hematemesis. Mean age of the patients having non-variceal bleed was 5th decade. We observed gastritis as the commonest cause of non-variceal bleed. Tachycardia and hypotension on presentation, requiring blood transfusion, rockall score ≥ 3, requiring endoscopic intervention and those who rebleed have poor prognosis.

Keywords: Non-variceal bleed, Rockall score.

INTRODUCTION

Acute upper gastrointestinal (UGI) bleed is defined as the bleed occurring proximally to ligament of trietz [1, 2]. Acute UGI bleed is a common medical emergency with a mortality rate of around 10% [3]. A study in United Kingdom estimated the incidence rate of around 50-150 per 100,000 population. UGI bleed can present as hematemesis or melena. Hematemesis is defined as vomitus containing blood while melena is used as the term for the black tarry stools, formed by degradation of the hemoglobin to hematin by the intestinal bacteria. Melena requires > 60 ml of blood leaked proximally to ligament of trietz and requires more than 8 hrs of intestinal transit time [4]. In 80% of patients, UGI bleed is self-limited without specific therapy [1]. The mortality rises to 30-40% in the remaining 20% of the patients who continue to bleed.

Worldwide, peptic ulcer disease is the commonest cause accounting for nearly 50-70% of the cases of UGI bleed, followed by esophageal varices (6-39%), Mallory weiss (2-8%) and drug induced (mostly NSAID). Other causes include neoplasm, gastroduodenal erosions and arteriovenous malformations [5]. Rockall Scoring system is used to predict the mortality and to identify the patients at high risk for rebleed and mortality in non-variceal bleed [6].

MATERIAL AND METHODS

This is a hospital based, prospective observational study done in all patients presenting to emergency with acute upper gastrointestinal bleeding (UGIB) during April 2016 to March 2018. Since the study was an observational study to collect the existing data, no attempt was made to make changes in the existing method of managing these patients and an attempt was made to collect all the available data prospectively. Patients were resuscitated initially followed by history regarding the complaints of the patient were recorded. Clinical examination was done to look for pallor, icterus, pedal edema, splenomegaly, ascites and signs for liver failure. Ryle’s tube was...
inserted and rectal examination was done to look for melena. Relevant blood investigations were done. Viral markers were done in cirrhotic patients. Radiological investigations like ultrasound, chest x-ray and ct abdomen were done whenever necessary.

In all patients, associated comorbidities were also recorded. Patients diagnosed without variceal bleeding were started on proton pump inhibitor infusion. Blood and blood products were transfused whenever necessary. Upper GI Endoscopy was done using videoscope (Olympus, GIF Type Q 150, and Tokyo, Japan). Endoscopic adrenaline injection and cauterization were applied in bleeding peptic ulcer patients. Patients with recurrent bleeding, not responding to endoscopic treatment was considered for surgery. Any morbidity or mortality occurring in the patients was also recorded. In patients with non-variceal bleed, rockall scoring system was used to predict the prognosis and risk of rebleeding by dividing the patients into two groups i.e. Group I with score <3 and Group II with score ≥3.

Erosion is defined as the mucosal breakage of <5 mm. Ulcer was defined as mucosal disruption of ≥ 5 mm or submucosal extension. Patient having fall of Hb below 7gm/dl was considered for blood transfusion (restrictive strategy).

**Study Analysis**

Univariate analysis for the associations between clinical parameters and the morbidity and mortality of UGIB was carried out using the χ² test or Fisher’s exact test for categorical variables. Continuous variables were compared using Student ’t’ test. A p value < 0.05 was considered statistically significant. Multivariate Analysis with Logistic regression to identify independent parameters was performed and presented with odds ratio and 95% confidence interval. Statistical analysis was done using SPSS version 17.0.

**Results**

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<th>Table 1: Percentage of characteristics in non-variceal bleed patients</th>
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<td><strong>PRESENTING COMPLAINTS</strong></td>
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**DISCUSSION**

UGIB is one of the commonest medical emergencies seen. Despite the advancements in the treatment of the gastrointestinal bleed, the mortality still remains high. So we have focused on the clinical parameters that increase the risk of death and are early markers of poor prognosis.
Our study observed male predominance in ratio of 1.53: 1 which corresponds to the finding of the study done by Mahajan et al in which male to female ratio was 1.6: 1 while the male predominance was seen to be as high as 6:1 in a study done by Singh and Panigrahi from Orissa [7, 8]. In our study, melena as presenting complaint in 15.8% patients which slightly higher than 10.94 % observed in the study done by Mahajan et al.[7]. In a studies done by Singh–Panigrahi and Bambha et al. melena was presenting complaint in 95% and 19%, respectively [8,9]. We observed tachycardia was present in one-third patients and hypotension in 8% patients. Blood transfusion was required in one-sixth of the patients in our study population while a study done by Al-jagbeer et al. in both variceal and non-variceal bleed patients, required blood transfusion in 49% when using restrictive strategy [10]. History of (H/O) NSAID intake was present in 25 % patients in our study. A study by Baradaran et al. observed H/O NSAID intake was present in 43% in UGIB patients [11].

In our study, variceal bleeding was the commonest cause of hematemesis (62.2%), a finding also seen in study done by Mahajan et al. where hematemesis was seen in 53.6% patients [7]. A study done by Panigrahi and Mohanty in eastern India found that peptic ulcer disease (41%) was the commonest cause of UGIB [12]. Mortality was observed in 11.8% of the patients in our study while studies which included both variceal and non-variceal bleed patients done by Mahajan et al. and Chalasani et al. observed 5.83% and 14.2%mortality rate, respectively [7,13]. We observed that 5% patients had underlying malignancy in our study while it was about 10.71% in a study done by Baradaran et al. [11]. We observed rebleeding rate of 4% in non-variceal bleed patients while a study by Baradaran et al. observed rebleeding rate of 34.5% in patients with UGIB [11].

We observed various clinical parameters affecting mortality in non-variceal bleed patients. We observed mortality was significantly higher in the patients requiring blood transfusion as compared to those who don’t in our study (p=<0.0001). We also observed mortality was significantly higher in patients developing tachycardia and hypotension as compared to those not developing tachycardia or hypotension (p=0.002 and p=<0.001, respectively). We observed that patients having rockall score of ≥ 3 had significantly higher than those having score 0-2 (p=0.001).

CONCLUSION

We found variceal bleed to be the commonest cause of hematemesis. Mean age of the patients having non-variceal bleed was 5th decade and non-variceal bleed was more common in males. We observed gastritis constituted majority of the cause of non-variceal bleed patients. Tachycardia and hypotension on presentation, requiring blood transfusion, rockall score ≥ 3, requiring endoscopic intervention and those who rebleedhave poor prognosis.

REFERENCES