

A Clinical Study of Upper GI Endoscopy in Cases of Gastrointestinal Bleeding

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Abstract:

Background: Upper Gastrointestinal Hemorrhage (GI Bleeding) Is A Well-Known And Possibly Fatal Abdominal Emergency That Requires Quick Evaluation And Vigorous Emergency Care. Depending On The Position Of The Hospital In The Hierarchy And Its Location, The Range Of Upper GI Bleeding Varies From Region To Region. This Study Aimed To Determine The Common Etiological Factors Of Upper Gastrointestinal Bleeding Using Upper GI Endoscopy.

Methods: This Cross-Sectional Study Was Conducted In The Department Of General Surgery, Prathima Institute Of Medical Sciences, Naganoor, Karimnagar. The History Of Drug Consumption Over The Previous 48 Hours And Frequent Drug Consumption Over The Prior Months Was Asked About, And The History Of Cardiovascular, Respiratory, Renal, And Liver Illnesses Was Carefully Assessed. The Patients Were Then Subjected To Upper GI Endoscopy Using A Fibreoptic Instrument. (Olympus GIF 290).

Results: Out Of The Total N=50 Cases N=35 (70%) Were Males And N=15(30%) Were Females. The Male-To-Female Ratio Was Approximately 2.5: 1. Portal Hypertension (PTH) Varices Were The Most Commonly Found Cause For The Upper GI Bleeding In Both Male And Female Sexes, Consisting Of N=17 Cases And N=7 Cases Respectively. Other Causes, Duodenal Ulcers, Erosive Gastritis, And Esophagitis Were Commonly Seen In Males Whereas Mallory Weiss Syndrome Was Found In A Female Patient.

Conclusion: Endoscopic Therapy Is A Tested Method For Treating GI Bleeding And May Be An Effective Treatment Option For Some Individuals. An Essential Part Of The Care Of Acute Variceal Bleeding And The Long-Term Treatment Of Patients After A Variceal Bleed Is Endoscopic Therapy With Either Band Ligation Or Injection Sclerotherapy. Overall, The Available Data Show That Band Ligation Has Distinct Advantages Over Sclerotherapy For Variceal Hemorrhage. This Study Emphasizes The Use Of Endoscopy In The Therapy Of All Upper GI Bleeding, Both As A Diagnostic And Therapeutic Tool.

Keywords: Upper GI Endoscopy, Upper GI Bleeding, Oesophageal Varices, Peptic Ulcers

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Introduction

One of the major reasons for admission to the surgical intensive care unit is upper gastrointestinal bleeding. It has a considerable fatality rate even with contemporary resuscitation, anesthetic, and surgical techniques. [1] Previously one of the crucial diagnostic investigations for severe bleeding was the barium meal examination. [2, 3] It had two significant flaws. Small ulcers and erosions cannot be picked up. If a lesion is visible, it could not be where the bleeding is coming from. Endoscopy enables the location of the bleeding's origin and the administration of hemostatic medication to lesions that are actively bleeding. High-risk lesions can be treated endoscopically to halt bleeding and lower the risk of subsequent bleeding and the need for surgery. [4] An international consensus group advises endoscopy for individuals with acute upper gastrointestinal bleeding within 24 hours after presentation. [5] The consensus panel was unable to decide whether it would be better to perform an endoscopy right away or later for patients who are in danger of dying or bleeding out again. Numerous observational studies, [6-9] randomized controlled trials [10-12], and two systematic reviews [13,14] have demonstrated that urgent endoscopy in unselected patients with acute upper gastrointestinal bleeding did not reduce mortality (urgent endoscopy's criteria have varied among trials, ranging from within 2 hours to within 12 hours after presentation). The three randomized trials did not measure patient risk and did not concentrate on individuals at high risk of additional bleeding or death. The Glasgow-Blatchford score (scores range from 0 to 23, with higher scores indicating a higher risk of future bleeding or death) is a validated risk-assessment score for the prediction of clinical outcomes, including the requirement for interventions and the risk of mortality. [15] Recent research from two sizable cohort studies [8, 16] has

shown inconsistent findings regarding the link between mortality and urgent endoscopy (performed within 6 hours of admission). Cho et al., [16] discovered that endoscopy performed within 6 hours as opposed to between 6 and 24 hours was an independent predictor of lower mortality (odds ratio for death, 0.36; 95% confidence interval [CI], 0.14 to 0.95). The study involved 961 patients with Glasgow-Blatchford scores greater than 7. The time for endoscopy, however, that was related to the lowest mortality was between 6- and 24 hours following admission in the study by Laursen et al., [8] comprising 2944 patients. Patients with significant comorbid diseases or hemodynamic instability, as determined by an American Society of Anesthesiologists grade of 3 – 5. The primary aim of this study was to determine the common etiological factors of Upper gastrointestinal bleeding. To establish the site and source of UGI bleeding and its management.

Material and Methods

This cross-sectional study was conducted in the Department of General Surgery, Prathima Institute of Medical Sciences, Naganoor, Karimnagar. Institutional Ethical approval was obtained for the study. Written consent was obtained from all the participants of the study after explaining the nature of the study in the local language.

Inclusion criteria

1. Patients with a history of hematemesis or melena
2. Those admitted to General Surgery Wards
3. Patients with complaints of dyspepsia and liver diseases
4. Males and females
5. Aged above 15 years

Exclusion criteria

1. Corrosive diseases

2. Lower GI bleeding cases
3. Children below 15 years
4. Unstable patients

Based on the inclusion and exclusion criteria n=50 cases were included in the study. As soon as the patient is hospitalized, a thorough history was taken to determine the type of bleeding, if it had stopped at the time of admission, and how long it had been happening. Before the bleeding, the patients were also questioned about recent changes in bowel habits and symptoms of nausea, vomiting, dysphagia, regurgitation, heartburn, stomach discomfort, hunger, and weight gain or loss.

The history of drug consumption over the previous 48 hours and frequent drug consumption over the prior months was asked about, and the history of cardiovascular, respiratory, renal, and liver illnesses was carefully assessed. Particular emphasis was placed on the patient's drinking behavior. A thorough examination was performed, taking into account the patient's mental state, physical attributes, and skin condition. Other findings included pulse rate, blood pressure, peripheral edema, and symptoms of heart failure. The abdomen was checked for any sensitive spots, palpable lumps, ascites, and a rectal examination. A

provisional diagnosis was made based on the clinical information gathered. Investigations such as total WBC and differential count, Hb, PCV, BT, CT, urine routine analysis, blood urea, LFT, and abdominal scan were done in some cases as and when warranted. These patients were then subjected to Upper GI endoscopy using a fiberoptic instrument. (Olympus GIF 290). The details were entered in a predesigned proforma.

Statistical analysis: The data was collected and uploaded on an MS Excel spreadsheet and analyzed by SPSS version 22 (Chicago, IL, USA). Quantitative variables were expressed on mean and standard deviations and qualitative variables were expressed in proportions and percentages. Mann Whitney U Test was used to find the difference between the two proportions.

Results

In the present study out of the total n=50 cases, it was observed that the most common cause of upper GI bleed was oesophageal varies consisting of 46% of patients followed by Gastric erosion and duodenal ulcers in 12% of cases each, and 16% of cases were with normal findings oesophagitis was found in 6% of cases the details have been depicted in table 1.

Table 1: Endoscopic findings in the cases of the study

Endoscope findings	Frequency	Percentage
Varices	23	46
Gastric Erosion	6	12
Duodenal Ulcer	6	12
Oesophagitis	3	6
Gastric Ulcer	2	4
Mallory Weiss syndrome	1	2
Malignancy	1	2
Normal Study	8	16
Total	50	100

Most of the patients with upper bleeding were between 30 - 60 years of age. In this study portal hypertension and varices were most common in the age group of 40-50 years range. In this age group, the

incidence of PHT and varices was 46% (followed by erosive gastritis at 28%, PUD at 12%, and esophagitis (at 6%). Out of all the cases, PHT & varices are most commonly found in the age group 41 – 50,

PUD in 21 – 50 years, erosive gastritis in 41 – 50 years, esophagitis in 51 – 60 years, and Mallory Weiss syndrome in 16 – 20 years details depicted in table 2.

Table 2: Showing the Age wise incidence of diseases in the cases of the study

Age	Portal hypertension and Varices	Peptic ulcer disease	Erosive Gastritis	Esophagitis	M. W Syndrome
16 – 20	1	0	0	0	1
21 – 30	2	0	1	0	0
31 – 40	4	2	3	1	0
41 – 50	6	3	4	1	0
51 – 60	4	1	3	1	0
61 – 70	5	0	2	0	0
71 – 80	1	0	1	0	0

Out of the total n=50 cases, n=35 (70%) were males and n=15(30%) were females. The male-to-female ratio was approximately 2.5: 1. Portal hypertension (PTH) varices were the most commonly found cause for upper GI bleeding in both male and female sexes, consisting of n=17 cases and n=7 cases respectively. Other causes, duodenal ulcers, erosive gastritis, and esophagitis were commonly seen in males whereas Mallory Weiss syndrome

was found in a female patient aged 18 years and gastric ulcers were seen equally in both sexes.

In this study hematemesis was the most common presentation reported in 78% of cases followed by melena, previous bleeding was in 6% of cases each and combined hematemesis and melena were reported in 4% of cases, and Hematochezia and others in 2% of cases each depicted in figure 1.

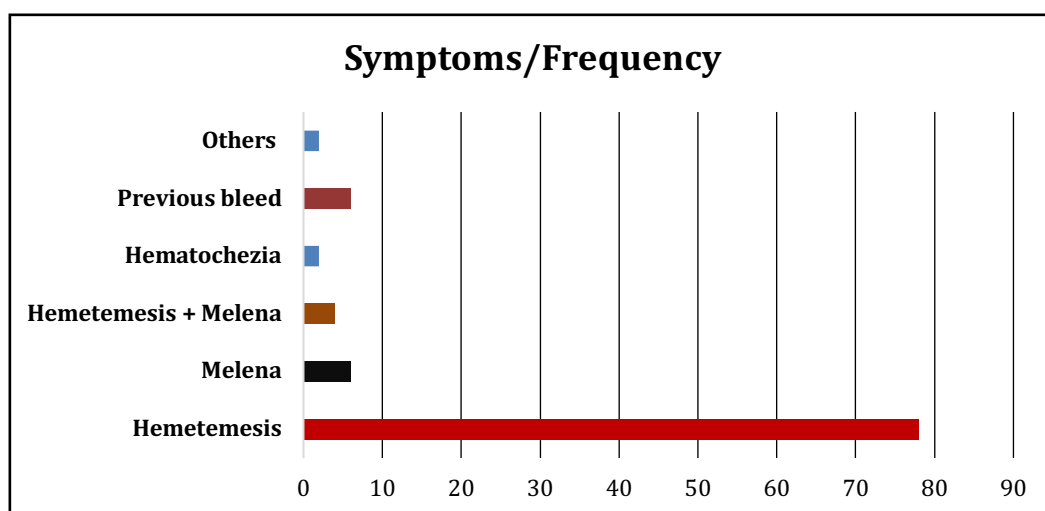


Figure 1: Showing the frequency of symptoms(percentage) reported in the cases of the study

In this study esophageal varices being the most common presentation of upper GI bleeding, were clinically graded using an upper GI endoscope depending on size and anatomical location. Among all varices, esophageal varices were most commonly

seen in 20 cases (89.96%) of patients. In esophageal varices most of them 45% presented as grade 3, followed by grade 2 in 40% of cases and grade I in 15% of cases details depicted in figure 2. Combined varices were found in n=2 cases

and isolated fundal varices were found in n=1 cases.

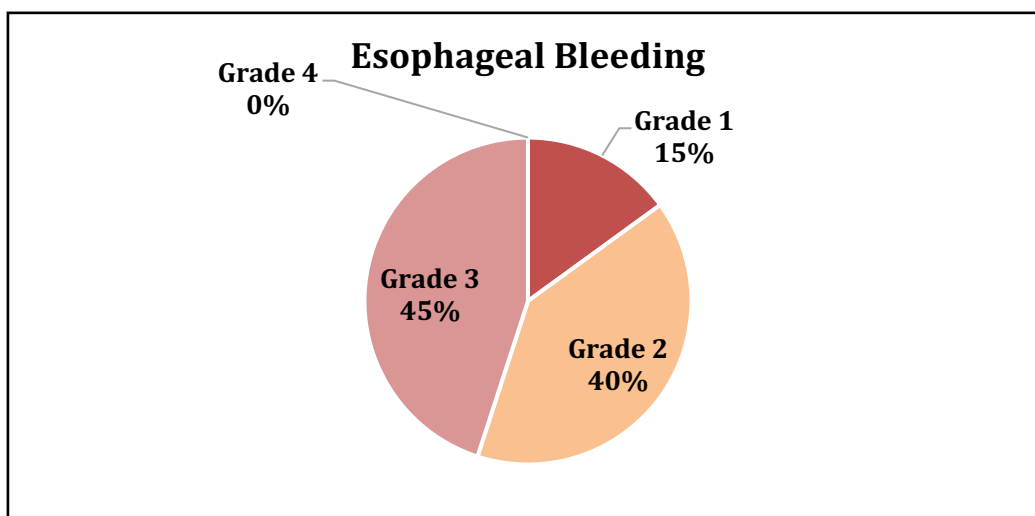


Figure 2: Showing the different grades of esophageal bleeding in the cases

Cirrhosis is the commonest cause of portal hypertension in upper GI bleeding consisting in 22% of cases followed by undetected cases in 18% and extrahepatic portal hypertension in 4% and Budd Chiari syndrome in 2% of cases each given in table 3.

Table 3: Showing the etiology of bleeding in the cases

Etiology	Frequency	Percentage
Cirrhosis	11	22.00
Extra Hepatic Portal Hypertension	2	4.00
Budd Chiari Syndrome	1	2.00
Not Detected	9	18.00

Out of n=23 cases with variceal bleeding n=14(60.87%) of patients have undergone endoscopic banding. And n=7(30.43%) of patients were treated medically and n=2(8.69%) of the patient have undergone endoscopic sclerotherapy. Peptic ulcer disease was a common cause of upper GI bleeding in the present study. Alcohol consumption was the most common causative factor for peptic ulcer disease consisting of 66.67% of patients, followed by drug-induced (NSAIDs) in 33.33% of cases.

Discussion

One of the major reasons for admission to the surgical intensive care unit is upper gastrointestinal bleeding, which necessitates prompt attention and critical care. The only effective method for assessing all types of upper GI bleeds is

upper GI endoscopy. Identification of the bleeding location and measurement of the amount and rate of bleeding are both aided by upper GI endoscopy. Most of the time, it is useful as a therapeutic interventional tool. In this study out of n=50 cases, n=35(70%) were males and n=15(30%) were females. Jaka H et al., [17] similarly concluded that male patients made up 176 (73% of the total patients), while female patients made up just 26.6% of the total. Even the median age of presentations, between 30 to 60 years old, was the same as in the current study. The mean age of presentations was 52.5 ± 8.5 years in the current study. In a similar study by Singh SP et al., [18] the study population comprised 608 patients of UGIB from Odisha. The majority were male (85.53%), and the male: female ratio was 6:1 with a mean age of 42±18.2 years. In

our study males formed the majority (70%) and the male-to-female ratio was 2.3:1 and the mean age was 44.9 ± 11.2 years. Kumar C et al., [19] in a similar study found the mean age of the study population with upper GI bleeding was 44.9 yrs. They found the most important cause of upper gastrointestinal bleeding (UGIB) was duodenal ulcer (DU), accounting for 57.6% of cases, and variceal bleeding was responsible for bleed in only 12.8%. The present study found the most important cause of upper GI bleeding was oesophageal varices followed by duodenal ulcer and gastric erosion. In a study conducted by Minakari M et al., [20] in Iran Referral Hospital between 2010 and 2015 at Alzahra Referral Hospital (in Isfahan), a total of 4747 patients (mean age = 55.46 ± 21.98 years; 69.2% male) were enrolled. The most typical presenting symptom (63.5%) was hematemesis. UGIB was attributed primarily (42.4%) to peptic ulcers (most commonly duodenal ulcers). This difference in causes could be explained due to common occurrence of hepatic cirrhosis and portal hypertension in our study patients and the use of a proton pump inhibitor. The other causes of portal hypertension are Extrahepatic portal hypertension and Budd Chiari syndrome. In the current study hematemesis was the most common presentation reported in 78% of cases followed by melena, previous bleeding was in 6% of cases each and combined hematemesis and melena were reported in 4% of cases and Hematochezia and others in 2% of cases Jaka H et al., [17] study found that hematemesis was most common 80.4% presentation, followed by melena 9.2% and 4.2% of the patients were presented with both hematemesis and melena. Alcohol consumption was the most common causative factor for peptic ulcer disease consisting of 66.67% of patients, followed by drug-induced (NSAIDs) in 33.33% of cases. Peptic ulcer disease and erosive gastritis were also common in males following either consumption of

alcohol or ingestion of NSAIDs. This study demonstrates the utility of endoscopy in the treatment of upper GI bleeding, particularly in patients who have variceal bleeding, as both a diagnostic and therapeutic technique. In the current study, endoscopic management, out of $n=23$ cases with variceal bleeding $n=14$ (60.87%) of patients have undergone endoscopic banding and $n=7$ (30.43%) of patients were treated medically and $n=2$ (8.69%) of patients have undergone endoscopic sclerotherapy. None of the patients received surgical treatment; the remaining patients (38.1%) were managed conservatively with medicinal therapy. Contrarily, the majority of patients (60.8%) in the study by Jaka H et al., [17] received conservative care, while endoscopic and surgical procedures were only used in 30.8% and 5.8% of instances, respectively. Endoscopic banding lessens the requirement for blood transfusions and the length of the patient's hospital stay. Despite upper GI bleeding, 16% of patients had a normal endoscopy. All of these patients' endoscopies were performed approximately 3 days after the last incident of bleeding, and it seems likely that they all had small stomach erosion or a Mallory-Weiss rip at the time of the procedure.

Conclusion

Endoscopic therapy is a tested method for treating GI bleeding and may be an effective treatment option for some individuals. An essential part of the care of acute variceal bleeding and the long-term treatment of patients after a variceal bleed is endoscopic therapy with either band ligation or injection sclerotherapy. Overall, the available data show that band ligation has distinct advantages over sclerotherapy for variceal hemorrhage. This study emphasizes the usefulness of endoscopy in the therapy of all upper GI bleeding, both as a diagnostic and therapeutic tool. Therefore, it is advised that early

endoscopy be done, ideally within 24 hours of the start of bleeding.

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