# AETIOLOGICAL PROFILE OF PATIENTS PRESENTING WITH UPPER GASTROINTESTINAL BLEEDING

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**ABSTRACT**

**BACKGROUND**

In the recent years, the number of studies exclusively examining epidemiologic patterns of Upper Gastrointestinal Bleeding (UGIB) has been quite limited. However, most epidemiologic studies have shown a decrease in the incidence of all causes of upper gastrointestinal bleeding. Although, the incidences of peptic ulcers have remained unchanged. Gastrointestinal bleeding is a very common emergency accounting for 7-8% of acute medical admissions. UGIB is 4-5 times more common than the lower GI haemorrhage. Acute erosive gastritis is the most common cause followed by oesophageal varices, peptic ulcer and reflux oesophagitis. Upper GI bleed is more common in men than women (ratio 3:2) and the frequency increases with age. Hence, the present study was designed to study the aetiological profile of patients presenting with upper gastrointestinal bleeding.

**MATERIALS AND METHODS**

This one year cross-sectional study was conducted from January 2013 to December 2013. Sample size of 50 was considered. Patients aged 18 years and above presenting with upper gastrointestinal bleeding and who are fit for endoscopy were selected. Endoscopy was performed in all patients within 24 hrs. of admission and data was plotted in terms of rates, ratios and percentages and continuous data was expressed as mean ± standard deviation.

**RESULTS**

In the present study, most of the patients reported past history of liver disease and intake of NSAIDs and aspirins. In the present study, on clinical examination, most of the patients had pallor followed by tenderness. In the present study, the commonest diagnosis was cirrhosis of liver due to alcohol-induced with portal hypertension.

**CONCLUSION**

Upper GI endoscopy revealed varices as most common cause of upper gastrointestinal bleeding.

**KEYWORDS**

Upper Gastrointestinal Bleeding, Erosive Gastritis, Peptic Ulcer, Variceal Bleeding, Haematemesis.

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## BACKGROUND

Upper gastrointestinal bleeding refers to blood loss within the intraluminal gastrointestinal tract from any location between the upper oesophagus to the duodenum at the level of the ligament of treitz.[1] It is a common medical emergency associated with significant morbidity and mortality. Bleeding from the upper gastrointestinal tract is approximately five times more common than lower gastrointestinal tract.[2] The overall incidence of acute upper gastrointestinal haemorrhage has been estimated at 50 to 100 per 1,00,000 patients per year with an annual hospitalisation rate of approximately 100 per 1,00,000 hospital admissions.[3,4] Further age more than sixty years old, concurrent diseases, haemodynamic status disorder, active bleeding, hypertension, coagulation problems, NSAIDs and Helicobacter pylori infection are the main risk factors for upper gastrointestinal bleeding.[5] Patients may present only with symptoms of blood loss or anaemia such as lightheadedness, syncope, angina or dyspnea.[6] Haematemesis results from a combination of large amount of blood filling the stomach together with the urge to vomit. So, haematemesis generally indicates a more severe bleeding episode than melaena. Clinical presentation depends on the site, extent and rate of haemorrhage and presence of coincidental disease.[6]

### Aims and Objective of Study

The objective of the present study was to assess the aetiological profile of patients presenting with upper gastrointestinal bleeding.

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## MATERIALS AND METHODS

The sample size was determined considering 80% of the average three year hospital statistics on patients presenting with upper GI bleed. Sample consists of 50 subjects. The patients presenting with upper gastrointestinal bleeding were screened for eligibility with which endoscopy can be undertaken. Patients were interviewed and demographic data, history of present illness, other comorbid conditions, personal history and diet pattern were obtained. Further, these patients underwent clinical examination. Patients were subjected to upper gastrointestinal video endoscopy using an Olympus forward viewing flexible video endoscope. Endoscopy was performed by placing the patients in a left lateral position by standard technique. The categorical data was expressed in terms of rates, ratios and percentages and continuous data was expressed as mean ± standard deviation.

### Selection Criteria

### Inclusion Criteria

- Patients presenting with upper gastrointestinal bleeding.
- Patients aged 18 years and above.

### Exclusion Criteria

- Patients unfit for upper gastrointestinal video endoscopy.

### Ethical Clearance

The study was approved by the Ethical and Research Committee of Jawaharlal Nehru Medical College, Belgaum.

The patients presenting with upper gastrointestinal bleeding were screened for eligibility. Those who fulfilled the selection criteria were informed about the nature of study and included after obtaining a written informed consent.

### Statistical Methods

The data obtained was coded and entered into the Microsoft Excel Spreadsheet (Annexure III). The categorical data was expressed in terms of rates, ratios and percentages and continuous data was expressed as mean ± standard deviation.

## RESULTS

In the present study, majority of the patients were males (94%). The male-to-female ratio was 15.66:1. In this study, 24% of the patients each presented with age between 40 to 50 years and 61 to 70 years. The mean age was 52.78 ± 13.52 years (Figure 1). Majority of the patients presented with haematemesis (Figure 2). Most of the patients reported past history of liver disease (28%) and intake of NSAIDs and aspirins (26%). History of alcohol consumption, smoking and tobacco chewing was noted in 44%, 26% and 20%, respectively. 72% of the patients followed mixed diet that is vegetarian and non-vegetarian diet.

On clinical examination, most of the patients (68%) had pallor followed by tenderness (50%). On systemic examination, majority (70%) of the patients had abnormal findings on per abdomen examination. Most of the patients had oesophageal varices (54%) on endoscopy. The commonest diagnosis was cirrhosis of liver-alcohol-induced with portal hypertension with ascites noted among 26% of the patients. The next common diagnosis was chronic liver disease with portal hypertension with ascites (18%) followed by gastric ulcerations (10%), erosive gastritis (8%), chronic liver disease with portal hypertension secondary to hepatitis B infection and non-cirrhotic portal hypertension (6% each) (Figure 3).

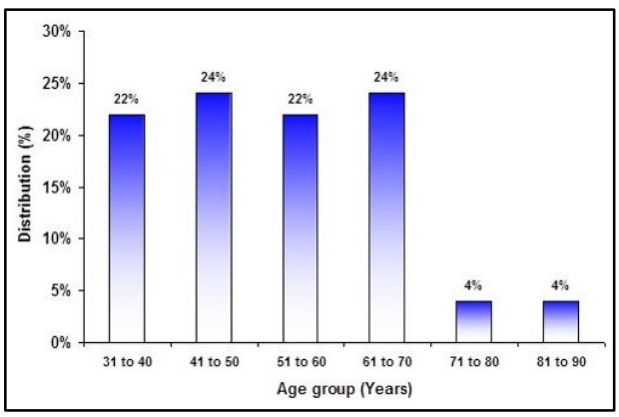


***Figure 1. Age Group of the Patients Presenting with Upper Gastrointestinal Bleeding***

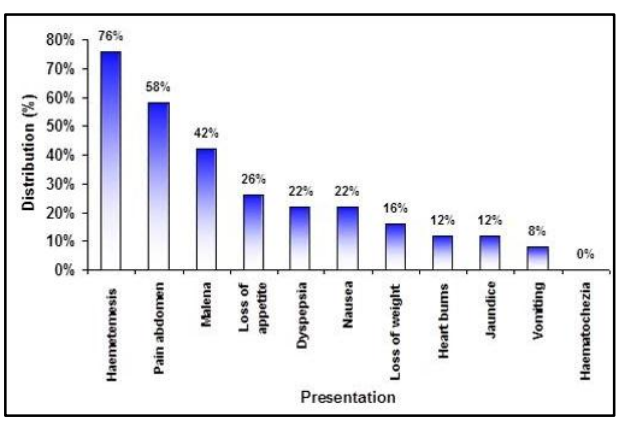


***Figure 2. Presentation of Patients with Upper Gastrointestinal Bleeding***

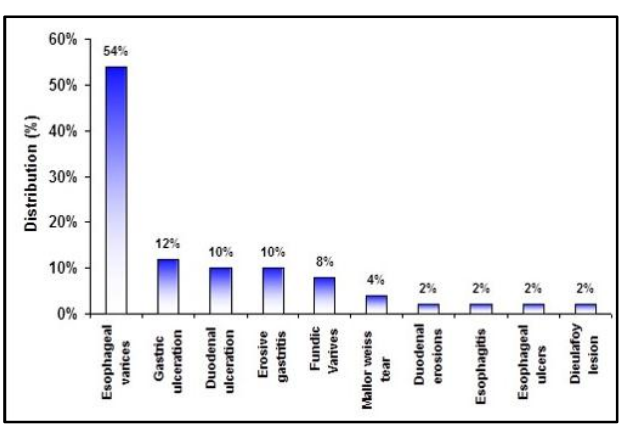


***Figure 3. Diagnosis of the Patients Presenting with Upper Gastrointestinal Bleeding***

## DISCUSSION

Acute upper gastrointestinal bleeding is one of the common medical emergencies that have a hospital mortality of approximately 7% to 10%. The incidence of UGI bleeding is

estimated to range from 50 to 150 cases per 1,00,000 populations in developed countries. Despite the advances in therapeutic management, mortality has remained unchanged, which may be due to increased longevity, comorbid conditions in the elderly, liver disease, frequent use of Nonsteroidal Anti-Inflammatory Drugs (NSAID) and anticoagulants.[7]

Non-variceal UGI bleeding is the most common cause where peptic ulcer disease accounts for 50% to 70%. Oesophageal varices account for less than 10% of all causes of GI haemorrhages, but have a very high mortality rate of at least 30% during their initial hospitalisation with a one year mortality rate approaching 60%. Other less common causes are inflammatory lesions, Mallory-Weiss tears, angiodysplasia and Dieulafoy's lesion.[7] The present study was aimed to study the aetiological profile of patients presenting with upper gastrointestinal bleeding.

This one year cross-sectional study included a total of 50 patients presenting with upper gastrointestinal bleeding from January 2013 to December 2013 to the Department of Medicine and Gastroenterology, KLES Dr. Prabhakar Kore Hospital and Medical Research Centre, Belgaum.

In this study, males (94%) outnumbered females (6%) with male-to-female ratio of 15.6:1. A similar study[6] from Rajshahi in 2008 also reported male preponderance that is; 88% males and 12% females with male-to-female ratio of 7.3:1. Another study[8] from Shimla in 2005 also reported with 78.4% of the males. Recently, a similar study[2] from Sikkim, India, reported 72.9% males and 27.1% females. In contrast, a study from Tata Main Hospital, Jamshedpur, of the 500 patients, there were 257 males in comparison to 243 female patients. However, the findings of the present study were consistent with the studies from Rajshahi[6] Shimla and Sikkim,[2] which reported male preponderance. The male preponderance observed in this study could be explained by the presence of various risk factors like smoking and alcohol consumption, which are common in male population leading to UGI bleeding.

Acute upper gastrointestinal bleeding is one of the common medical emergencies. In the present study, nearly one fourth that is, 24% of the patients each presented with age between 40 to 50 years and 61 to 70 years. In a study from Shimla, maximum patients (47.7%) with UGIB were in the age group of 41 to 60 years. Similarly, study from Sikkim[2] reported maximum patient with age group of 51-60 years and with mean age of 53.70 years. The mean age in this study was found to be 52.78 ± 13.52 years. The mean age is variably reported in different series. A study from Nepal[7] reported mean age as 48.76 ± 17.19 years. Other studies from India by Anand et al[9] reported mean age of 41 years and Rao et al[10] reported a mean age of 43 years from West Indies, Kaliamurthy et al[11] reported higher mean age of 55 years. The mean age of the present study was comparable with a study from Sikkim[2] and Kaliamurthy et al[11] from West Indies.

There is wide variation in the aetiology. The present study was an attempt to find out the aetiological profile of patients presenting with upper gastrointestinal bleeding, so as to choose the optimal treatment technique and management. Laszlo et al[12] frequent absence of preceding symptoms in upper GI bleeding patients regardless of NSAIDs use. In this study, 76% of the patients presented with haematemesis. The next common complaint was pain abdomen (58%) followed by melaena (42%), loss of appetite (26%), dyspepsia (22%) and nausea (22%). However, less common presentations were loss of weight (16%), heartburns (12%), jaundice (12%) and vomiting (8%). A study[6] from Rajshahi also reported that most of the patients with upper gastrointestinal haemorrhage presented with both haematemesis and melaena (42%). Rathod JB et al[13] in 2011 reported haematemesis as most common presenting symptom. In a study[2] from Sikkim, India the commonest presentation was haematemesis and melaena in over half of the patients like other studies,[4,14] which predict massive bleeding. However, a bleeding duodenal ulcer is likely to be presented with melaena more frequently than haematemesis while a bleeding gastric ulcer patient may present with haematemesis more frequently than melaena. Variations in presentation among the cases of upper GI haemorrhage in the present study compared to other studies maybe explained by the fact that haematemesis and melaena are dependent upon the rate, amount and site of bleeding.

Non-variceal UGI bleeding is the most common cause where peptic ulcer disease accounts for 50% to 70%. Oesophageal varices account for less than 10% of all causes of GI haemorrhages, but have a very high mortality rate of at least 30% during their initial hospitalisation with a one year mortality rate approaching 60%. Other less common causes are inflammatory lesions, Mallory-Weiss tears, angiodysplasia and Dieulafoy's lesion.[7] Similarly, study from Sikkim[2] reported maximum patient with age group of 51-60 years and with mean age of 53.70 years. The mean age in this study was found to be 52.78 ± 13.52 years. Rathod JB et al[13] in 2011 reported haematemesis as most common presenting symptom same comparable as with our study. However, a bleeding duodenal ulcer is likely to be presented with melaena more frequently than haematemesis while a bleeding gastric ulcer patient may present with haematemesis more frequently than melaena. Most of the patients reported past history of liver disease (28%) and alcohol consumption was noted in 44%. Majority of the patients presented with haematemesis (76%). NSAIDs, aspirin, can cause bleeding ulcer and also increase the chances of bleeding from pre-existing ulcers.[15] A study from Nepal[7] also reported that the commonest endoscopic findings was bleeding from oesophageal and gastric varices (47.7%) and study done by Rao et al[10] showed oesophageal varices as the most common cause (51%), which was slightly less than our study (54%). Upper GI bleeding is widely prevalent among males and patient is likely to present with haematemesis and history of liver disease. In a study by Elghuel A[16] at Tripoli Medical Centre, the most common cause of UGIB was peptic ulcer, which represents 37% of all cases followed by bleeding due to varices in 26.7%, reflux oesophagitis (9.8%), erosions (11.4%) as the most common

causes. Lakhwani MN et al[17] in 2010 reported duodenal ulcer (32%) as the most common causes of UGI followed by gastric ulcer (29.7%), erosion (10.9%) and oesophageal varices (10.9%). In a study, 37.5% patients gave history of NSAIDs, aspirin and other drugs intake within 48 hours, the probable precipitating factors. NSAIDs, aspirin, can cause bleeding ulcer and also increase the chances of bleeding from pre-existing ulcers.[17] A study[9] reported that alcohol was a probable precipitating factor in 12.5% of DU patients. In other studies, an overall 18% of patients of upper GI bleed had alcohol as a precipitating factor.[18] In 78.4% patients, ulcer-like symptoms were present before onset of UGI bleeding. Laszlo et al[12] found frequent absence of preceding symptoms in upper GI bleeding patients regardless of NSAIDs use.

## CONCLUSION

Based on the findings of this study, it maybe concluded that oesophageal varices is the commonest cause of upper gastrointestinal bleeding in this region based on upper gastrointestinal endoscopy. The other aetiologies are gastric ulceration, duodenal ulceration and erosive gastritis. Upper GI bleeding is widely prevalent among males likely to present with haematemesis as common symptoms and with history of liver disease.

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