

## Original Research Article

## A study on clinical and endoscopic profile of patients of upper gastrointestinal bleed in a tertiary care hospital in Southern Bihar

Avinash Kumar<sup>1</sup>, Amit Kumar Singh<sup>2</sup>, Anjali Kumari<sup>3</sup>, Amit Kishor<sup>4\*</sup>

<sup>1</sup>PG Resident, Department of General Medicine, Narayan Medical College & Hospital, Jamuhar, Sasaram, Bihar, India.

<sup>2</sup>PG Resident, Department of General Medicine, Narayan Medical College & Hospital, Jamuhar, Sasaram, Bihar, India.

<sup>3</sup>PG Resident, Department of Obstetrics & Gynaecology, Darbhanga Medical College & Hospital, Laheriasarai, Bihar, India.

<sup>4</sup> Associate Professor, Department of General Medicine, Narayan Medical College & Hospital, Jamuhar, Sasaram, Bihar, India.

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### Abstract

**Background:** Upper GI bleed is a common medical emergency associated with significant mortality and morbidity. Cause of UGIB have been classified in to variceal and non variceal bleed. H.pylori infection and use of NSAIDs are the two major risk factors for peptic ulcer and its complications. Early endoscopy and endoscopic appearance of certain lesions help to guide therapy and there by reduce the cost and duration of treatment. **Methods :** This observational study was carried out in a tertiary care hospital in southern Bihar and included 60 patients who presented with UGIB and fulfilled the criteria of study and were willing to undergo UGI endoscopy. **Result:** Esophageal varices (58.33%) is the most common cause of UGIB followed by portal hypertensive gastropathy (19%). Majority (28.33%) of study subjects were in age group of 31-40 years. **Conclusion:** Most cases presented with minor or moderate UGIB with massive bleed only in minority. Majority of patients belonged to the age group 31-40 years with male predilection. This study showed variceal bleeding is the commonest cause of UGIB in our patients.

**Keywords:** UGIB, variceal bleed, non variceal bleed, endoscopy, Rockall score

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### Introduction

Upper gastrointestinal bleeding refers to blood loss within the intraluminal gastrointestinal tract from any location between the upper esophagus to the duodenum at the level of the ligament of treitz. 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. 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 [1].

Causes of UGI bleed have been classified to variceal (e.g. esophageal and gastric varices) and non-variceal (e.g. peptic ulcer, erosive gastroduodenitis, reflux esophagitis, tumor, vascular ectasia, etc.). Helicobacter pylori (H. pylori) infection and the use of nonsteroidal anti-inflammatory drugs (NSAIDs) are two of the major risk factors for peptic ulcers and ulcer complications. Variceal bleed is the major cause of upper gastrointestinal bleeding in cirrhotic patients, accounting for 70% of cases [2]. Causes for LGIB may range from diverticulosis, colon cancer and polyps, colitis (infectious and non-infectious), ischemic colitis, inflammatory bowel disease, angioectasia, rectal ulcers, polyps, haemorrhoids etc. The spectrum

of causes of GIB varies by region and centre according to healthcare hierarchy. Diverticulosis is generally the most common cause of acute LGI bleeding, occurring in approximately 30% of cases [3]. There are many causes for upper GI hemorrhage. Patients can be stratified as having either variceal or nonvariceal sources of upper GI hemorrhage as the two have different treatment algorithms and prognosis. The primary diagnostic test for evaluation of UGIB is endoscopy. Early endoscopy and endoscopic appearance of certain lesions helps to guide care and thereby reduce the costs and duration [4]. Upper GI endoscopy has a crucial role in the diagnosis and treatment of UGIB because of its better diagnostic yield, especially for various superficial lesions. It also offers the opportunity for interventions such as band ligation, clipping, sclerotherapy, and biopsy of lesions. However, epidemiological studies are still limited and data for developing countries and that too for countries like India are still lacking. To the best of our knowledge, very few study has been reported from this part of India regarding the epidemiology and prevalence of UGIB [5].

#### Aim and Objectives

- To determine the common etiologies of upper gastrointestinal bleeding in patients presenting to hospital.
- To assess the clinical & endoscopic feature of upper gastrointestinal bleed .

#### Methodology

#### Materials And Methods

**Study Design:** An observational study was conducted in General Medicine department in Narayan Medical College and Hospital , Jamuhar.

\*Correspondence

Dr. Amit Kishor

Associate Professor, Department of General Medicine, Narayan Medical College & Hospital, Jamuhar, Sasaram, Bihar, India.

E-mail: [nice.amt@gmail.com](mailto:nice.amt@gmail.com)

**Sample Size:** Sample size was calculated depending upon the prevalence of upper GI bleed in general population. It was found in the previous study that prevalence of upper GI bleed was 7-8% (As per study by Kamat AG et al[1] conducted in Belgaun "Aetiological Profile Of Patients Presenting With Upper Gastrointestinal Bleeding") the maximum error in the estimate we were willing to tolerate, say  $\pm 7\%$ , at 2-sided test with 95% confidence level ( $\alpha=5\%$ ) and design effect =1, expected sample size is 58 patients. so total 60 sample size will be taken.

**Duration of Study:** 6 months.

**Nature of Study:** Observational study.

**Study Material:** The data of all patients - i.e. detailed history, clinical examination, laboratory and radiological investigation was collected and analysed. Laboratory investigations were done, including complete haemogram, liver function tests, renal function tests, prothrombin time, stool for occult blood, USG-abdomen. Upper GI endoscopy was done to detect changes in oesophagus, stomach and duodenum (1st and 2nd part) and multiple biopsy samples were obtained from suspected or involved areas which includes fundus, antrum, greater and lesser curvature and duodenum (1st and 2nd part) and was also subjected to rapid urease test. Biopsy specimen was subjected to histopathological study. All patients were assessed by complete Rockall score irrespective of etiology.

#### Inclusion Criteria

All the patients aged 18 years and above who presented with hematemesis or melena or both within 7 days were included in the study.

#### Exclusion Criteria

1. Pregnant women.

2. Patients who did not give consent

3. Patients with hematochezia.

#### Procedure

Approval was obtained from the Institutional Ethics Committee before commencing the study. A voluntary informed and written consent was taken from the participants and only those who gave consent was included in the study. All participants / relatives were explained regarding possible benefits as well as risk of study in detail. Consent form was available in english and hindi, in case of illiterate participants/relatives, consent was taken in presence of witness. The personal details of participants and information related to study will be strictly kept confidential during study period at all levels. All patients were selected by a detailed history and physical examination. Patients with signs and symptoms suggestive of UGIB such as hematemesis, melena or both were included in the study. Endoscopy was performed in all patients and findings were noted.

Statistical Analysis.  
Data will be entered into computer Microsoft Excel and exported to SPSS version 20 for analysis. Continuous variables will be expressed as mean  $\pm$  standard deviation or median and range. Categorical variables will be expressed as frequency and percentage. Chi square or Fisher exact test will be used for association between exposure (Age, sex and risk factors) and outcome (Severity of bleeding and Rockall scale outcome) variable in case of categorical variables. P value will be considered statistically significant when it was less than 0.05

#### Result

A total of 60 patients of UGI bleed were included in the study.

**Table 1: Age distribution of study subjects**

Age group (years)	Frequency	Percent
18-20	3	5
21-30	12	20
31-40	17	28.33
41-50	13	21.67
51-60	7	11.67
61-70	6	10
>70	2	3.34
Total	60	100.0

Table 1 shows age wise distribution of study subjects. Majority (28.33%) study subjects were in age group of 31-40 years with mean age of 41.96 $\pm$ 15.16 years and range of 18-82 years.

**Table 2: USG findings among study subjects**

USG Findings	Frequency	Percent
Portal vein collaterals	28	46.67
Ascites	24	40.0
Spleen enlargement	24	40.0
Shrunken liver	26	43.34
Coarse echo texture of liver	18	30
Liver enlargement	15	25
Hepato-splenomegaly	9	15

Table 2 shows USG findings among study subjects. 46.67% of study subjects had portal vein collaterals, 43.34% subjects had shrunken liver, 40% each had ascites and spleen enlargement.

**Table 3: Endoscopy findings among study subjects**

Endoscopy Findings	Frequency	Percent
Oesophageal Varices	35	58.33
Portal hypertensive gastropathy	19	31.67
Duodenal ulcer	12	20
Gastric ulcer	9	15
Hemorrhagic gastritis	6	10
CA Stomach	4	6.66

Erosive Oesophagitis	3	5
Mallory Weiss Tear	3	5
GAVE(Gastric Antral Vascular Ectasia)	2	3.34
Gastro-oesophageal Varices type-I (GOV Type-I)	2	3.34
Carcinoma oesophagus	1	1.67

Table 3 shows endoscopy findings among study subjects. Most commonly observed were oesophageal varices (58.33%), Portal hypertensive gastropathy (31.67%), Duodenal ulcer (20%), Gastric

ulcer(15%) and among less frequent findings were Hemorrhagic gastritis(10%),Carcinoma stomach(6.66%).

**Table 4: Relation between Rockall outcome and Risk factors among study subjects**

Risk factors	Rockall Outcome		Total	P value
	Good	Poor		
Alcohol	8(26.67%)	28(77.78)%	36	0.0002
Smoking	4(57.14%)	3(42.86%)	7	0.470
NSAIDs use	6(100%)	0	5	NA
HBsAg	0	2(100%)	1	NA
Hep C	0	2(100%)	1	NA

Table 4 shows association between severity of bleeding and risk factors among study subjects. There was significant difference in severity of bleeding and alcoholism with statistically significant value ( $p=0.001$ ). Among smokers, 77.8% had minor bleeding, among NSAIDs users, 100% found with minor bleeding.

#### Discussion

UGIB is a big and potentially life-threatening problem globally. Mortality and morbidity have remained more or less stable despite numerous advancements in diagnosis and care. The minimum presentation age in our sample was 18 years and the maximum age was 82 years and the mean age was  $41.93 \pm 15.16$  years and the majority of patients were 31-40 years of age (28.33 percent).

The mean presentation age in a study conducted by Anand D et al [4] was  $49 \pm 14.26$  years. In another Shah H et al [6] study, the mean presentation age was 45.56 years. In the present study, the ratio of male and female was 6.5: 1 indicating male predilection, comparable to the study performed by Singh S P et al [7] where the ratio of male and female was 6: 1. In our study, hematemesis and melena, which was seen in 28 patients, were the most common mode of presentation of UGIB (48.33 percent). Alcohol intake, smoking and use of NSAIDs are well-known risk factors associated with UGIB in a related study conducted by Anand D et al (4). In our sample, 60% of patients were alcohol users and the incidence of UGIB was shown to show a strong association between them ( $p=0.001$ ), which correlates well with the Chaudhary S et al study [8]. Depending on hemodynamic evaluation, upper GI bleeding was graded into mild, moderate or major [9]. Based on this, most patients with mild bleeding have been found to have (55 percent). 46.67 percent of research participants in the current study had portal vein collateral, 40 percent had ascites, 40 percent had splenomegaly.

In a study conducted by Shangavi Y et al [10], altered echotexture of the liver followed by splenomegaly in 19.04% of patients and dilated portal vein in 11.11% of patients was the most common abnormality found. Sarwar et al [11] found that patients with more than 11 mm portal vein diameter are more likely to develop oesophageal varicose veins. In different studies conducted in India, the etiological causes of UGIB are variable, some of them showing variceal bleeding, while others indicate peptic ulcer disease as the most common cause of UGIB. In our research, oesophageal varicose veins were seen in 58.33% of patients. Oesophageal varices (55%) were the most common cause of UGIB in a related study conducted by Shah H et al [6] followed by Mallory Weiss tear in 18.3 percent patients. The most common cause of UGIB followed by peptic ulcer was found in a study conducted by Anand D et al [4] on esophageal and gastric varices (56.14%). The Rockall rating system helps to estimate deaths and high-risk re-bleeding patients (11). The mean Rockall score in the present study was  $3.58 \pm 2.22$ , suggesting that most patients belonged to the group of high risk. There was a statistically

significant difference ( $p=0.001$ ) showing poor Rockall outcome in alcoholics

#### Conclusion

The majority of patients belonged to the age group of 31-40 years, with a male predilection. Most cases presented with minor or moderate upper GI bleed, with massive bleeds occurring only in minority. This study showed that variceal bleed was the commonest cause of upper GI bleeding in our patients.

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