

Original Research Article

Profile of acute upper gastro intestinal bleed: a referral hospital-based study in sub Himalayan region

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ABSTRACT

Background: Acute upper gastrointestinal bleeding (UGIB) is one of the most common medical emergencies and remains a major cause of morbidity and mortality. We are likely to see more of it in coming years with ageing population, patients with liver disease, increasing use of NSAIDs, single or multiple antithrombotic agents and novel anticoagulants, the present study was designed with the aim to assess the clinical profile of UGIB presenting to the Department of Medicine in sub Himalayan region.

Methods: Study done over 12 months included all patients presenting with acute hematemesis and/or melena. Detailed history, clinical examination, blood tests and Upper GI Endoscopy was done in all patients.

Results: One hundred seventy-five patients were included in the study, 129 (73.7%) were males. The commonest age group was 41-60 years contributing to 44%, male to female ratio 2.8:1. The commonest presentation was melena, patients with hematemesis presented earlier, with mean duration 1.46 days. 42.3% of patients were hemodynamically unstable at admission. The mean hemoglobin (Hb) was 8.224 ± 2.78 g%. The cause of bleed was shared by ulcer, varices, non-ulcer non-variceal approximately 1/3rd each, major cause being ulcer in 39.4%. Varices was common in age 30-40 yrs, ulcer in age 51 to 70 years.

Conclusions: UGI bleed was more frequent in males age between 41-60 yrs, peptic ulcer being the leading cause in our study, presence of signs of liver failure were associated with varices.

Keywords: Duodenal ulcer, Upper gastrointestinal bleeding (UGIB), Upper gastrointestinal endoscopy (UGIE), Varices

INTRODUCTION

Acute upper gastrointestinal bleeding (UGIB) is one of the most common medical emergencies and remains a major cause of morbidity and mortality, accounting for up to 8% hospital admissions. UGIB refers to gastrointestinal blood loss whose origin is proximal to the ligament of Treitz.

Hematemesis and melena are the most common presenting symptoms. The prevalence of UGIB is 170 cases per 100,000 per year, whereas its incidence varies from 50-150 per year in USA and 100-107 per 100,000

per year in UK.¹ The common causes of UGIB include duodenal ulcer, gastric ulcer, erosive mucosal disease (EMD), varices due to portal hypertension and Mallory-Weiss Tear (MWT). Less common causes include esophagitis, neoplasms, and angiodysplasia.² The most common cause of UGIB in Asians is esophageal varices as compared to peptic ulcer in western countries.¹ With a systematic management approach, nine out of ten patients with massive UGIB can be saved.² UGIB is a problem that will persist. We are likely to see more of it in coming years with an ageing population, increasing use of non-steroidal anti-inflammatory drugs, single or multiple antithrombotic agents and novel anticoagulants which do

not have reversal agents.³ Earlier, Barium meal examination had been performed as one of the important diagnostic investigation for acute upper GI bleeding. It had two major drawbacks. Erosions and small ulcers cannot be picked up. If a lesion is shown it may not be the actual source of the bleeding. Fibre optic instruments have recently facilitated and extended the range of examinations. The latest generations are highly flexible and maneuverable pan endoscopes which allow a complete survey of the esophagus, stomach and duodenum.⁴ Upper gastrointestinal endoscopy (UGIE) is the primary diagnostic modality for determining the cause of bleeding. Other uses of UGIE in patients in the setting of UGIB are for prognostic information and therapeutic intervention to stop bleeding, which is associated with a reduction in blood transfusion requirement and length of intensive care unit and total hospital stay.¹ Most of the available literature on UGIB is from studies based on urban population and studies in developed countries. Moreover, the inference from studies on western population or urban population may not be uniformly applicable to the rural population. Keeping these things under consideration, the present study was designed with the aim to assess the clinical profile of UGIB presenting to the Department of Medicine, Dr. R.P.G Medical College, Kangra at Tanda.

METHODS

It was a prospective hospital-based study. The study was conducted for a period of 12 months including data collection, data organization, presentation, data analysis and data interpretation.

Inclusion criteria

- Patients presenting with acute hematemesis and/or melena were included in the study.

Exclusion criteria

- Patients who were not willing to participate in study and/or not fit for UG endoscopy.

All consecutive patients of UGIB willing to participate were subjected to focused history and examination. Demographic profile of the patients was recorded which included age, sex, place of residence. History regarding alcohol intake, NSAID use, anti-coagulants was also elicited. Focused examination was carried out to record blood pressure, heart rate, postural fall. Abdominal examination was conducted.

Blood pressure was measured in the recumbent and sitting/standing position using mercury manometer. Biochemical investigation: Haemogram, Blood Sugar level (RBS), renal function test and liver function test were done. UGIE was done after the patient was hemodynamically stable.

RESULTS

During April 2013 to June 2014, a total of 175 patients were included in the study. 129 patients (73.7%) were males and 46 patients (26.3%) were females (Table 1). 44 patients (25.1%) were in the age group 41 to 50 years. Melena was present in 73 (42%) patients, followed by both hematemesis and melena in 59 (34%), and hematemesis alone in 43 (24%) patients.

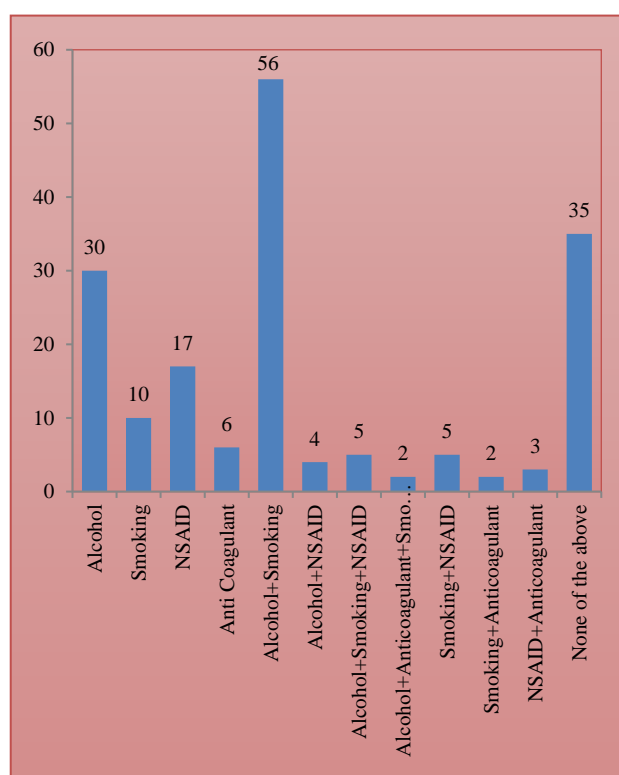


Figure 1: Prevalence of risk factors.

Alcohol intake was present in 94 patients (53.7%), followed by smoking in 80 (45.7%), NSAID intake in 34 (19.42%) and anticoagulant intake in 13 (7.5%) patients. Combination of risk factors was also present, commonest being alcohol with smoking in 56 patients (Figure 1).

Table 1. Demographic profile.

	Age							Total
	18-30	31-40	41-50	51-60	61-70	71-80	81-90	
Male	7	26	35	26	18	14	3	129 (73.7)
Female	6	3	9	7	15	5	1	46 (26.3)
Total (%)	13 (7.4)	29 (16.6)	44 (25.1)	33 (18.9)	33 (18.9)	19 (10.9)	4 (2.3)	175 (100)

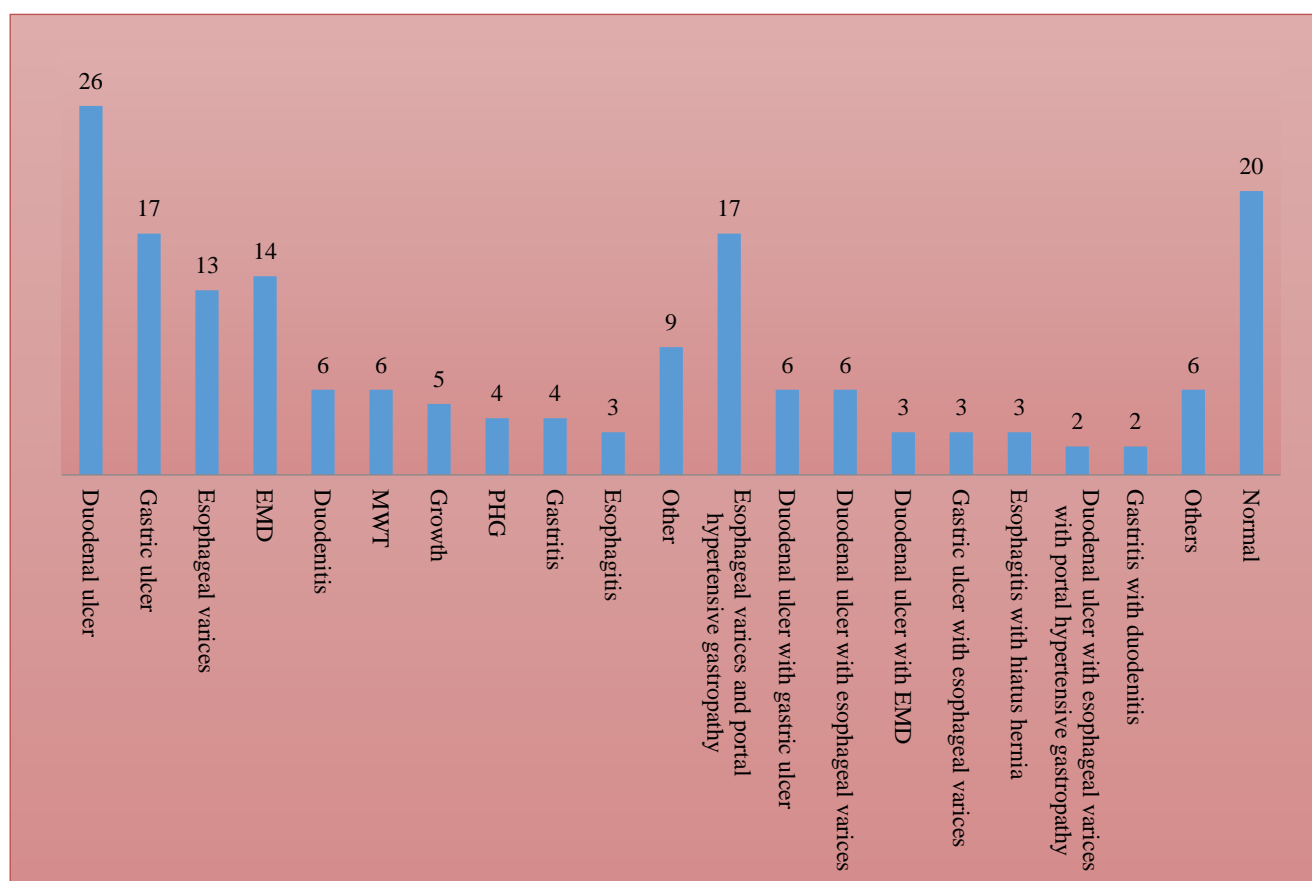


Figure 2. Findings in UGIE.

Table 2: Combination of findings in UGIE.

Endoscopic finding	Number
Esophageal varices and portal hypertensive gastropathy	17 (35.4%)
Esophageal varices and PUD	11 (22.9%)
Duodenal ulcer with gastric ulcer	6 (12.5%)
Duodenal ulcer with EMD	3 (6.25%)

27 patients (15%) had history of similar complaints, among them 7 were treated for PUD. 101 patients (57.7%) were normotensive, 45 (25.7%) had supine hypotension, 29 (16.6%) had postural hypotension.

Abdominal examination was normal in 99 patients (56.5%), ascites was present in 40 (22.8%) patients, tenderness was present in 32 (18.3%), hepatomegaly in 15 (8.5%), splenomegaly in 6 (3.4%), lump was palpable in 4 (2.3%) patients. Anemia was present in 167 patients (95.4%), of which 81(46.3%) had severe anemia (less than 7g%) Thrombocytopenia was present in 122(69.7%). Blood group 'B' was predominant with 69 patients (39.4%), followed by 'O' in 48(27.4%), 'A' in 37(21.1%) and 'AB' in 21 (12%). USG abdomen was normal in 110 patients (62.8%), 53 patients (30.2%) had cirrhosis, 7 had ascites alone, 1 had splenomegaly, 2 had portal hypertension and 2 had ascites with splenomegaly.

Table 3: Age wise distribution of UGIE findings.

Age in years	Variceal	Ulcer	Both ulcer and variceal	Nov variceal, non-ulcer	Normal	Total
18-30	1(7.69)	4(30.76)	0	3(23.07)	5(38.46)	13
31-40	12(41.37)	8(27.58)	1(3.44)	6(20.68)	2(6.89)	29
41-50	12(27.27)	9(20.45)	4(9.09)	15(34.0)	4(9.09)	44
51-60	6(18.18)	10(30.30)	5(15.15)	10(30.30)	2(6.06)	33
61-70	2(6.06)	12(36.36)	1(3.03)	13(39.39)	5(15.15)	33
71-80	3(15.78)	7(36.84)	0	7(36.84)	2(10.52)	19
>80	0	2(50)	0	2(50)	0	4
	36(20.57)	52(29.71)	11(6.28)	56(32)	20(11.42)	175

Endoscopy showed duodenal ulcer in 43 patients (24.6%), varices in esophagus in 42 patients (24%), gastric ulcer in 26 (14.9%), portal hypertensive gastropathy (PHG) in 24 patients (13.7%), followed by EMD in 21 patients (12%), esophagitis, gastritis, duodenitis in 7, 8, 8 patients (4%, 4.6%, 4.6%) respectively. MWT was present in 8 (4.6%), growth stomach was seen in 5 patients (3%), and other causes like gastric antral vascular ectasia (GAVE), eosinophilic esophagitis, hiatus hernia were seen in 12 patients (6.8%). 20 patients (11.4%) had normal Upper GI endoscopy (Figure 2) certain patients had combination of findings (Table 2) (Table 3).

DISCUSSION

The age of study population varied from 18 years to 90 years with the mean age of 52.6 ± 15.63 years. The maximum number of patients i.e. 44% were in between 41-60 years. This is in common with study done by Kashyap R et al, where 47.7% of patients were in the age group of 41 - 60 years.² Of the 175 subjects, 129 (73.7%) were males and 46 females, ratio being 2.8:1, similar to study by Roy A et al which had sex ratio 2.6:1.⁵ Clinical presentation in the form of melena alone was common, seen in 42% (73) followed by both hematemesis and melena in 34% (59) and hematemesis alone in 24%. Similar findings were observed by Ahmed MU et al where 42% had melena alone, 41.78% had melena in study by Singh SP et al where as 32% had melena in study by Lakhani K et al.^{2,6-8} Pain abdomen was seen in 28.7% (50) patients in present study, similar proportion was observed in the study by Singh SP et.al which had 31.25%.⁸

The patients with hematemesis presented earlier compared to those with melena. This could be due to the fact that the site of blood in vomitus alerts the patient to seek medical attention early. The various combination of risk factors was present, alcohol with smoking being the commonest. Matei et al had 43.5% patients with history of alcohol intake; Roy et al noted alcohol intake was found in 71.8% cases. History of NSAID intake in similar proportions was found in study by Matei et al which had 22.8% and anti-coagulant intake in 10.4%.^{5,9}

The last intake of alcohol within 7 days was present in 69 patients (40%) in present study, whereas drug intake within last two days was present in 38.7% of patients. In study by Kashyap R et.al, alcohol intake within last 48 hours was present in 7.2%.² Past history of treatment for PUD was in 9.6%, which was similar to as reported by Simon EG et al (12.1%).¹⁰

The assessment of hemodynamic status of the subjects showed 57.7% were hemodynamically stable and 42.3% were unstable which included 24.7% with supine hypotension, in common with study by Simon EG et.al which had 22.4% subjects presenting with shock and 21.7% in study by Dewan KR et al.^{10,11} The mean

hemoglobin (Hb) was 8.224 ± 2.78 g%, similar to study by Chasawat J et al which had 8.5 ± 2.6 g%. The mean Hb was 7.0 ± 2.1 g% in study by Chaikitamnuaychok R. Severe anemia was present in 46.3% in present study, higher than in study by Dewan KR et al which had 34.2%.¹¹⁻¹³

Cirrhosis was present in 30.2% (53) patients in present study which is lesser compared to 59.5% observed by Niaz et al in Pakistan and greater than seen by Chaikitamnuaychok R i.e. 15% in Thailand. Cirrhosis in association with UGI bleed in Indian population was not available in literature from earlier studies.^{1,13} The endoscopic finding in present study showed single lesion in 107 (61.1%). Peptic ulcer disease was the leading cause seen in 29.7%, with lone duodenal ulcer being the frequent etiology seen in 26 (14.8%), gastric ulcer in 17 (9.7%), combined ulcer in 6 (3.4%) and duodenal ulcer with EMD in 3 (1.7%). Earlier study by Kashyap R et.al showed duodenal ulcer in 43.9%, gastric ulcer in 17.1%. The proportion of patients with duodenal ulcer vary from 9.8% in Krishnakumar R et al, 25% in Anand C S et al, to 57.57% in study by Singh SP et al. In present study total 24.5% (43) had duodenal ulcer. Gastric ulcer varies from 1.18% in Singh SP to 17.1% seen in study by Kashyap R et al, present study had 14.9% (26) patients with gastric ulcer.^{2,8,14,15}

Varices was the next common finding, esophageal varices with PHG seen in 13 (7.5%) followed by lone esophageal varices in 13 (7.4%), gastro esophageal varices in 4 (2.3%), PHG in 4 (2.3%), one patient each with varices and EMD, PHG with EMD, adding up to 20.6%. Esophageal varices vary from 10.8% the least seen in study by Kashyap R to 33.33% by Krishnakumar R et al, to 56% seen in western India by Rathi P et al.^{2,14,16}

Combined varices and ulcer was seen in 11 patients (6.28%). EMD constituted 14 (8%), followed by duodenitis and MWT in 6 (3.4%) each, 5 (2.9%) patients had growth in stomach, gastritis with duodenitis esophagitis hiatus hernia GAVE made the rest constituting to a total 32%. The earlier study by Kashyap R et.al showed EMD in 11.7% MWT in 10.8%. EMD was seen in 1.18% in study by Singh SP, and 43.6% in study by Krishnakumar R et.al, present study had total 12% (21) patients with EMD. Malignancy was 0.75% in study by Rathi P et.al, 2.4% in Krishnakumar R et.al study of 408 patients and 9% of 100 by Lakhani K, present study had 2.9% with malignancy.^{2,7,8,14,16}

Present study showed varices had earlier presentation compared to ulcer, common in 31-40 years. In an earlier study by Niaz A majority of patient with esophageal varices were in age group 20-30 years. Present study had most of patients of peptic ulcer in age 51-70 years, which was comparatively later than study by Kashyap R et.al which had most patients in the age group of 41-60 years. This may be due to aging population with NSAID, aspirin intake.^{1,2}

In the patients with past history of similar complaint 51.8% of 27 had ulcer in present study, similar to study by Simon EG et al which had 47.5% with ulcer, and lower than seen in study by Kashyap R et al (61.53%).^{2,12}

Among the patients with severe anemia 35.8% had ulcer and 25.9% had varices. This was statistically insignificant. Majority of patients 65.7% had blood group O or B, there was no significant association between blood groups and etiology of bleed ($p=0.504$). In patients with ascites 65.2% had varices in present study, similar to study by Matei D et al where 68.8% with ascites had varices. 73.5% of patients with cirrhosis had varices in present study, whereas 93.5% had varices in study by Matei D et al.⁹ After excluding 20 patients (11.4%) with normal study, out of the 155 patients, 107 (61.1%) had single finding and 48 patients (27.5%) had combined findings. Combination of esophageal varices and portal hypertensive gastropathy was commonest seen in 17 patients (35%) (4 had gastro esophageal varices), followed by combination esophageal varices and PUD were seen in 11 (22.9%) patients (duodenal ulcer with esophageal varices was seen in 6 patients, gastric ulcer with esophageal varices in 3, duodenal ulcer with esophageal varices with portal hypertensive gastropathy in 2), duodenal ulcer with gastric ulcer in 6 (13%), duodenal ulcer with EMD, esophagitis with hiatus hernia were seen in 3 patients (6%) each.

The above findings indicate, causes of UGIB vary from study to study and time to time, combined lesions are not uncommon, appropriate clinical judgment and early endoscopy should be considered in all patients of UGIB.

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