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ASSESSMENT OF RISK FACTORS AND PROGNOSIS AMONG PATIENTS WITH UPPER GASTROINTESTINAL BLEEDING ATTENDING A TERTIARY CARE CENTRE IN UTTARAKHAND.

Internal Medicine

Dr. Sourabh Samadder PG Residents, Department of Internal Medicine, SGRRI, Dehradun.

Dr. Amar Nath Pandey Associate Professor, Department of Internal Medicine, SGRRI, Dehradun.

Dr. Pankaj Dixit Assistant Professor, Department of Gastroenterology, SGRRI, Dehradun.

ABSTRACT

Introduction: Upper gastrointestinal bleeding (UGIB) is a potentially life-threatening condition that requires urgent attention in the emergency department. It has a significant incidence rate and can range from mild to severe bleeding. Understanding the clinical characteristics and outcomes of UGIB patients is crucial for effective management. This study aimed to evaluate the risk factors and outcomes of UGIB patients presenting to a tertiary care centre in Uttarakhand, India. **Methods:** A prospective clinical study was conducted from January 2021 to November 2022 at a tertiary care centre in Dehradun, Uttarakhand. Patients aged over 16 years presenting with UGIB were included in the study. Data on demographic information, risk factors, medical history, and clinical characteristics were collected using a structured questionnaire. Relevant investigations were performed, and patients were managed according to the hospital's protocols. The outcomes were analysed using descriptive statistics. **Results:** The study included a total of 50 UGIB patients. The age distribution showed 22.0% in the <40 age group, 20.0% in the 41-50 age group, 28.0% in the 51-60 age group, and 30.0% in the >60 age group. Alcohol (32%), smoking, and NSAIDs were the most common risk factors reported. The analysis of clinical characteristics in relation to outcomes did not show any significant associations. **Conclusion:** The study provides insights into the risk factors and outcomes of UGIB patients in Uttarakhand, India. Alcohol, smoking, and NSAIDs were identified as the most common risk factors. However, no significant associations were found between these factors and patient outcomes. The study highlights the need for further research and emphasizes the importance of early intervention and appropriate management strategies for UGIB patients.

KEYWORDS

INTRODUCTION

Upper gastrointestinal bleeding is the loss of blood within the gastrointestinal tract from any location between the upper oesophagus to the duodenum at the level of the ligament of Treitz(1,2). This condition is a potentially fatal and time-critical presenting complaint in the emergency department (3,4), with an incidence estimated at 50 to 100 per 100,000 patients per year(5). Patients may present with symptoms such as hematemesis, melena, haematochezia, occult gastrointestinal bleeding, and anaemia, and the severity of bleeding ranges from insignificant to catastrophic exsanguinating haemorrhage. In resource-poor settings, where patients often pay out-of-pocket for care, appropriate early intervention to determine the location and severity of bleeding may be hampered. Approximately 80-85% of upper GI bleedings stop spontaneously without the need for specific therapy. However, in the remaining 15-20% of cases, bleeding continues or recurrent bleeding develops, leading to high morbidity and mortality.(6)

Patients with upper GI bleed can be divided into variceal and non-variceal sources of bleed, each with different management protocols and prognosis. The most common causes include portal hypertension resulting in gastroesophageal varices and portal hypertensive gastropathy, and peptic ulcer disease. Patients with age over 60 years have higher mortality rates ranging from 12-35%, while patients with age less than 60 years have <10% mortality. There is a two-fold greater male predilection, although death rates are similar in both sexes.(7,8)

The main predictors of bleeding in clinical practice are large versus small varices and Child Pugh C versus Child Pugh A-B(9). The primary diagnostic test for evaluation of UGI bleed is endoscopy. Early endoscopy and the endoscopic appearance of certain lesions help guide care and reduce the costs and duration of hospitalization. Despite improvements in diagnosis and management, such as therapeutic endoscopies and interventional radiology, mortality remains high at 5-10%.(10)

There is a lack of health data depicting the clinical characteristics of UGIB in Indian countries. To address this, the risk factors and outcome of patients with upper gastrointestinal bleed presenting to a tertiary care centre of Uttarakhand were studied. Such data on the clinical profile of patients with UGI bleed can help understand epidemiological patterns and factors associated with mortality and aid in appropriate management tools in the hospital.

AIM AND OBJECTIVES

To study the risk factors and outcome in upper gastrointestinal bleed patients presenting to a tertiary care centre of Uttarakhand.

MATERIAL AND METHODS

From January 2021 to November 2022, a prospective clinical study was conducted at the Department of General Medicine at SGRR University and Medical College Dehradun, which is a tertiary care referral centre in Dehradun, Uttarakhand. The study aimed to evaluate patients with upper gastrointestinal bleeding who presented to the general medicine department or gastroenterology department, including those from the outpatient department, emergency departments, wards, and medicine ICU. Patients aged over 16 years who were willing to participate were included, while those under 16 years of age or those presenting with upper gastrointestinal bleeding following gastrointestinal surgery were excluded. The data collection tool used was a pre-coded, pretested questionnaire translated into the local dialect. All patients were managed according to the hospital's policy of restricted blood transfusion, with ABC care, IV fluids, and blood products given to those who were hemodynamically unstable or developed severe anemia. COVID-19 testing was also done, and patients who were in shock were supported with vasopressors. Index endoscopy was performed within 12 hours for unstable patients and within 24 hours for stable patients. Patients were counselled on the objectives of the study, and written consent was obtained. Socio-demographic data, possible risk factors, personal and medical history were collected through a structured questionnaire, and relevant investigations were performed. The results were analysed based on a master chart prepared in MS Excel, and patients were counselled regarding further follow-up during their hospital stay and at discharge.

RESULTS

Table 1 Age Of Study Group

AGE GROUP	No. of cases	Percentage
< 40	11	22.0%
41-50	10	20.0%
51-60	14	28.0%
> 60	15	30.0%
Total	50	100.0%

The age distribution showed 22.0% in the <40 age group, 20.0% in the 41-50 age group, 28.0% in the 51-60 age group, and 30.0% in the >60 age group.

Table 2. Presence Of Risk Factors Wise Distribution Of Study Subjects

RISK FACTORS	No. of cases	Percentage
	14	28.00%
ALCOHOL	5	10.00%
ALCOHOL /SMOKING	12	24.00%
ALCOHOL /SMOKING/NSAIDS	2	4.00%
ALCOHOL/NSAIDS	4	8.00%
ASPRIN	1	2.00%
NSAIDS	4	8.00%
NSAIDS/ASPRIN	1	2.00%
SMOKING	2	4.00%
SMOKING/ASPRIN	1	2.00%
SMOKING/NSAIDS	3	6.00%
SMOKING/NSAIDS/STEROIDS	1	2.00%
Total	50	100.00%

The most common risk factor is alcohol(32%) followed by smoking and NSAIDS.

Table 3. Clinical Characteristics Among The Study Subjects With Their Outcome W.r.t Mortality

	Outcome	Death (N=7)		Survived (N=43)		Total	Chi-Square Value	P-Value
		Death (N=7)	Death (N=7)	Survived (N=43)	Survived (N=43)			
Hematemesis	No	2	28.6%	16	37.2%	18	0.195	0.659
	Yes	5	71.4%	27	62.8%	32		
Malena	No	4	57.1%	12	27.9%	16	2.365	0.124
	Yes	3	42.9%	31	72.1%	34		
Hematemesis + Malena	No	6	85.7%	28	65.1%	34	1.174	0.279
	Yes	1	14.3%	15	34.9%	16		
Hematochezia	No	7	100.0%	42	97.7%	49	0.166	0.684
	Yes	0	0.0%	1	2.3%	1		
Shrunken Liver	No	5	71.4%	35	81.4%	40	0.374	0.541
	Yes	2	28.6%	8	18.6%	10		
Hepatomegaly	No	7	100.0%	35	81.4%	42	1.550	0.213
	Yes	0	0.0%	8	18.6%	8		
Splenomegaly	No	5	71.4%	32	74.4%	37	0.028	0.867
	Yes	2	28.6%	11	25.6%	13		
Ascities	No	5	71.4%	25	58.1%	30	2.104	0.551
	Yes Mild	0	0.0%	5	11.6%	5		
	Yes Mod.	0	0.0%	5	11.6%	5		
	Yes Severe	2	28.6%	8	18.6%	10		

The analysis of different factors in relation to the outcome showed no significant association. Hematemesis (p-value = 0.659), melena (p-value = 0.124), hematemesis + melena (p-value = 0.279), hematochezia (p-value = 0.684), shrunken liver (p-value = 0.541), hepatomegaly (p-value = 0.213), splenomegaly (p-value = 0.867), and ascites (p-value = 0.551) did not show a statistically significant correlation with death or survival. The chi-square values for these factors ranged from 0.028 to 2.365.

Table 4. Outcome Of Study:

OUTCOME	No. of cases	Percentage
DEATH	7	14.0%
SURVIVED	43	86.0%
Total	50	100.0%

The mortality was reported in the 14% of the subjects

DISCUSSION

Upper Gastrointestinal bleeding (UGlB) is a medical emergency. Although there has been a global decline in the mortality associated with UGIB. the incidence and mortality associated with Gl bleeding remains high in limited income countries.

Majority of the study participants (46%) were in the age group 45—60yrs followed by 3 l-45yrs (24%) and >I6-30yrs (14%) in this study.

Similar results were noted in a study by Kashyap R et al[11] from a tertiary care centre in Shimla. with maximum patients (47.7%) with UGIB were in the age group of 40 to 60 years.

Similarly, study by Limboo LB et al[12] from a tertiary care centre in Sikkim reported maximum patient with age group of 50-60 years and with mean age of 53.70 years.

The mule preponderance observed in our 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.

Shatdal Chaudhary et al[13] in their study from tertiary care centre, Internal Medicine, Universal College of Medical Sciences, Bhairahawa (Nepal) revealed similar findings too.

Alcohol, smoking and NSAIDs as risk factors were present in 32.8%, 29.6% and 23.4% of the subjects respectively. Most common risk factor in variceal was alcohol (50%) followed by smoking (40%) while in case of non-variceal, the same was NSAID (65%) followed by smoking (35%) and alcohol (30%). When risk factors were compared between variceal and non-variceal, it was found to be statistically significant as $p<0.05$ in this study.

Shaldal Chaudhary et al[13] in their study from tertiary care centre. Internal Medicine. Universal College of Medical Sciences. Bhairahawa (Nepal) in their study reported that h3% of the study patients were alcohol consumer and the incidence of the upper gastrointestinal bleeding was seen more in alcohol consumers showing a positive relation between them.

Hematemesis is defined as vomiting of blood or blood clots. It includes vomiting of bright red blood, which suggests recent or ongoing bleeding, and dark material, that suggests bleeding that stopped some time ago. It is a common presentation of UGI bleeding. In a prospective study from South Iran. it was seen in 68% of patients. Melena is defined as passage of black tarry stools as witnessed by medical SUIT or discovered on rectal examination. In a study from Bharatpur. Nepal, the presentation of UGI bleeding in from, of both hematemesis and Malena was seen in 86 patients (71.7%). only melena in 24 patients (20%) and only hematemesis in 10 patients (S.3%).[13]

Rallied IB et al[14] in 2011 from tertiary care center and medical college in Vadodara (India) reported hematemesis as most common presenting symptom same comparable as with our study.

CONCLUSION

This study included participants aged 45-60 years (46%), 31-45 years (24%), and 16-30 years (14%). The most common risk factors were alcohol (32.8%), smoking (29.6%), and NSAIDs (23.4%). Variceal cases were primarily associated with alcohol (50%) and smoking (40%), while non-variceal cases were linked to NSAIDs (65%), smoking (35%), and alcohol (30%). Comparison of risk factors between variceal and non-variceal cases revealed a significant difference ($p<0.05$). However, no significant association was found between these factors and outcomes. Hematemesis, melena, hematemesis + melena, hematochezia, shrunken liver, hepatomegaly, splenomegaly, and ascites showed no statistically significant correlation with death or survival (p-values ranging from 0.028 to 0.867). The mortality rate was 14%.

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