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Clinicoetiological profile of patients with gastrointestinal bleed presenting to a tertiary care hospital in Kumaon Region of Uttarakhand

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ABSTRACT

Background: Gastrointestinal (GI) bleed is a common cause of medical emergency resulting in significant morbidity and mortality. GI bleeding can be classified as upper (bleeding source proximal to the ligament of Treitz) and lower (bleeding source distal to the ligament of Treitz). **Aims and Objectives:** The present study was aimed to determine the current clinicoetiological profile of GI bleeding in Kumaon Region of Uttarakhand. **Materials and Methods:** All patients presented with GI bleed (GIB) to outpatient department and Emergency department or developed the GIB during hospitalization are managed in intensive care unit (preferably) and high-dependency unit. **Results:** Both upper and lower GI endoscopy were twice normal in 2.7% of patients (obscure bleeding). On upper GI endoscopy findings showing esophageal varices (45.83%), gastroesophageal varices (8.33%), isolated gastric varices (8.33%), gastric ulcer (8.33%), duodenal ulcer (6.25%), Mallory-Weiss tear (6.25%), erosive gastritis (6.25%), gastric antral vascular ectasia (4.16%), gastric carcinoma (4.16%), and Dieulafoy's lesion (2.08%). Upper GIB (UGIB) had more mortality than lower GIB, among UGIB variceal bleed having higher mortality than non-variceal bleeding. **Conclusion:** Unlike the evidence from the west that peptic ulcer is the most common cause of upper gastrointestinal bleeding, we found varices as the common cause, followed by peptic ulcer and erosive gastritis. Hence, the variable spectrum of the etiology of the GIB seen in our country could represent either a true epidemiological difference or reflect skewed access to health care.

Key words: Endoscopy; Upper and lower gastrointestinal bleed; Obscure bleeding; Varices; Peptic ulcer

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INTRODUCTION

Gastrointestinal bleed (GIB) accounts for 1–2% of all acute hospital admissions. GIB can present in five different ways: (a) Hematemesis, (b) Malena, (c) Hematochezia, (d) Occult bleeding, and (e) Features of blood loss or anemia such as lightheadedness, angina, dyspnea, or syncope.[1]

The incidence of upper GIB (UGIB) is two times more common than the lower intestinal bleed. The incidence of UGIB is 50–150/100,000 populations/year, and the incidence increases with age probably due to non-steroidal anti-inflammatory drugs (NSAIDs) abuse in elderly patients. The incidence is 2 times more in males than females. The mortality rate due to UGIB is 12–35% in patients elder than 60 years of age, <10% in patients younger than 60 years of age and the overall mortality rate was 5–11%.[2] Population-based epidemiological data revealing the current trend in India are sparse. Once frequent, peptic ulcer bleed has declined all over the world as demonstrated by various researchers.[3]

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Mortality due to variceal bleed is much higher than non-variceal. Variceal bleeding mortality is around 15–20% during the first episode but is higher in severe patients (Child-Pugh C), at around 30%, whereas it is very low in compensated cirrhosis patients (Child Pugh A). The important predictors of bleeding in clinical practice are large versus small varices, red wale marks, and Child-Pugh C versus Child-Pugh A-B.[4] Around 80% of UGI bleeding episodes are self-limited and require only supportive therapy. The two most important prognostic variables appear to be the cause of bleeding and the presence of comorbidities. Several scoring systems have been developed to predict the risk of rebleed and death due to UGI bleeding.[5]

Lower GIB (LGIB) is classified as acute and chronic LGIB. Acute LGIB refers to new-onset bleeding (<3 days), and chronic LGIB is explained as the flow of blood through the rectum over a longer period, usually indicating slow or intermittent blood loss.[6,7] The etiology and epidemiology of LGIB vary according to the environmental conditions depending on the lifestyle, dietary habits, smoking prevalence, history of drug intake, age, longevity of the populations, etc. Most of the data from the west suggest that colonic diverticula are the most common cause of LGIB followed by angiodysplasia, colitis (ischemic, infectious, chronic inflammatory bowel disease), neoplasms, small bowel bleeding, and post-polypectomy bleeding. Colonoscopy is the most convenient and effective preliminary investigation. Actual visualization during acute episode is uncommon because the view is poor. While some authors advocate early colonoscopy in unprepared bowel, others advise a more expectant approach.[8]

At present, there is limited data in clinicoetiological profile of gastrointestinal bleeding from this Kumaon Region of Uttarakhand. In this study, we aimed to determine the current clinicoetiological profile of gastrointestinal bleeding in this region.

Aims and objectives

To study the Clinicoetiological profile of patients with gastrointestinal bleed presenting to a tertiary care hospital in kumaon region of uttarakhand.

1. To study the clinical presentation of patients with gastrointestinal bleed
2. To study the demographic profile of patients with gastrointestinal bleed
3. To study the risk factors associated with gastrointestinal bleed
4. To study the severity of gastrointestinal bleed
5. To study the aetiology of gastrointestinal bleed.

MATERIALS AND METHODS

This prospective hospital-based single-center study was conducted in the Department of General Medicine, Dr. Susheela Tiwari Memorial hospital and associated government medical college, Haldwani, from January 2020 to September 2021. All patients presented with GIB to outpatient department or emergency department or developed the GI bleed (GIB) during hospitalization are managed in intensive care unit (preferably) and high-dependency unit. A drowsy/comatose patient is at high risk of aspiration if vomiting or hematemesis continues. These patients are kept in lateral position in slightly propped up bed. A cuffed endotracheal tube inserted for airway protection in needed patients.

In patients with hemodynamic instability, two large bore IV cannula inserted, infused with IV fluids - normal saline or Ringer's lactate and meanwhile arranging for blood transfusion also. Patients with shock were taken on vasopressor support and titrated accordingly with monitoring of central venous pressure, vitals, and urine output. Blood transfusions were given to all the bleeding patients who were severely anemic, hemodynamically unstable or patients with ongoing blood loss with following our hospital policy of restricted blood transfusion - target Hb 7–9 for variceal bleed and 9–11 for non-variceal bleed. Platelets and fresh frozen plasma transfusion were given to correct the clotting abnormalities.

Proton pump inhibitors - IV pantoprazole 80 mg bolus followed by 8 mg/h infusion for 48–72 h given for patients with ulcer bleed and octreotide 100 mg bolus followed by 50 mg/h infusion for 72 h given to variceal bleeding patients.

Index endoscopy was done for all hemodynamically unstable patients within 12 h, hemodynamically stable patients within 24 h of hospital admission, under pharyngeal anesthesia using 15% lignocaine anesthetic spray. Endoscopic interventions such as variceal band ligation, glue application, adrenaline injection, and sclerotherapy were done as per the findings observed.

Colonoscopy was performed within 24 h of the presentation based upon the urgency of the patient condition. Prep was administered to the patients, which consisted of magnesium sulfate, sodium sulfate, and potassium sulfate. Subjects were advised to take prep on the night before colonoscopy, the next day, early morning colonoscopy was performed. For some patients, we have given split prep also, where half of the prep is given on the night before colonoscopy and rest half given in the next day early morning. Colonoscopy was done within 12 h of presentation in hemodynamically

unstable patients and patients with severe comorbidities. Biopsies were performed in needed conditions and sent for histopathological examination. For some patients with suspected non-alcoholic steatohepatitis (NASH)-related chronic liver disease, liver biopsy was advised, but patients were refused for biopsy; hence, diagnosis of NASH was made based on clinical grounds.

Pre-designed proforma was used to interview the patient. Sociodemographic characters such as age, sex, religion, address, occupation, education, and socioeconomic status using modified Kuppuswamy classification have been noted. Mode of presentation associated risk factors such as drugs-NSAID's abuse, aspirin, anticoagulants, steroid, any other complementary alternative medicine intake, IV drug abuse smoking, alcoholism, tattooing, and abnormal sexual behavior has been noted and associated comorbidities, history of surgery, blood transfusion were noted. General and systemic examination was done in detail and the relevant information's were all documented. Ryle's tube aspiration was done to look for blood, and per rectal examination was done to all patients to look for Melena. All relevant investigations were performed such as complete blood count, prothrombin time, international normalized ratio, liver function test (bilirubin, alkaline phosphatase, transaminases, serum albumin, total protein), creatinine, sodium, lipid profile, hemoglobin A1c, hepatitis B surface antigen, antihepatitis C virus, stool for occult blood, ultrasound whole abdomen or computed tomography abdomen. COVID-19 sampling was done to the necessary patients and their reports came negative.

Index endoscopy was done for all patients and findings were noted, and therapeutic interventions are done as per need. Patients were observed for some days to look for in hospital rebleed.

Inclusion criteria

All patients aged >16 years presenting with gastrointestinal bleeding to the Susheela Tiwari hospital, Haldwani, were willing to participate in the study.

Exclusion criteria

i Patients <16 years of age
ii Patient/guardian refusing for consent
iii Patients who ever having gastrointestinal bleeding following gastrointestinal surgery.

Ethical approval

Ethical clearance was taken from ethical committee. Patient's informed consent was taken before enrolling them in the present study.

Table 1: Characteristics of the study variables

Variables	Frequency	Percentage
Age groups		
16–30 years	10	13.5
31–45 years	24	32.4
46–60 years	31	41.9
≥60 years	9	12.2
Gender		
Male	53	71.6
Female	21	28.4
Residence		
Hilly	26	35.1
Non-hilly	48	64.9
SES		
Upper	9	12.2
Upper middle	16	21.6
Upper lower	2	2.7
Lower middle	25	33.8
Lower	22	29.7
Educational status		
Illiterate	34	45.9
Primary	16	21.62
Secondary education	9	12.16
Graduate	16	21.62
Risk factor		
Alcohol	30	40.54
Smoking	32	43.24
NSAID's	11	14.86
Aspirin	7	9.4
Steroid	2	2.7

SES: Socioeconomic status, NSAID's: Non-steroidal anti-inflammatory drugs

RESULTS

Table 1 shows that majority of the study participants (41.9%) were in the age group 46–60 years followed by 31–45 years (32.4%) and >15–30 years (13.5%) with a mean age of 45.78±13.87. Males were in maximum number (71.6%) among the study participant as compared to females (28.4%). Maximum number (64.9%) of study subjects were from non-hilly area while 35.1% were from hilly area. Majority of study subjects belong to lower middle class (33.8%) followed by lower socioeconomic class 29.7%. Maximum number of study subjects were illiterate (45.9%) followed by primary level and graduates (21.62%). Smoking as a risk factor was present in 43.24% of study subjects followed by alcohol (40.54%) and NSAID's intake 14.86.

Figure 1 represents that most of the patients had upper GI bleeding (64.86%) followed by lower GI bleeding (32.43%), and 2.7% of patients had obscure bleeding.

Table 2 shows that on etiological classification of GIB, majority of study subjects had esophageal varices (29.72%) followed by gastroesophageal varices (5.4%), isolated gastric varices (5.4%), gastric ulcer (5.4%), duodenal ulcer (4.05%), Mallory-Weiss tear (4.05%), erosive gastritis (4.05%), gastric antral vascular ectasia (2.7%), gastric carcinoma (2.7%), and

Table 2: Distribution of study subjects by etiology of GIB (n=74)

Etiology	Frequency	Percentage
UGIB	48	64.86
Esophageal varices	22	29.72
Gastroesophageal varices	4	5.4
Isolated gastric varices	4	5.4
Gastric ulcer	4	5.4
Duodenal ulcer	3	4.05
Mallory-Weiss tear	3	4.05
Erosive gastritis	3	4.05
Gastric antral vascular ectasia	2	2.7
Gastric carcinoma	2	2.7
Dieulafoy's lesion	1	1.35
LGIB	24	32.43
Hemorrhoids	9	12.16
Anal fissure	2	2.7
Ulcerative colitis	3	4.05
Crohn's disease	1	1.35
Diverticulosis	2	2.7
Colonic carcinoma	3	4.05
Rectal carcinoma	2	2.7
Solitary rectal ulcer syndrome	2	2.7
Obscure bleeding	2	2.7
Total	74	100

GIB: Gastrointestinal bleed, LGIB: Lower gastrointestinal bleed, UGIB: Upper gastrointestinal bleed

Table 3: Distribution of study subjects by etiology of UGIB (n=48)

Etiology	Frequency	Percentage
Variceal bleed (n=30) (62.49%)		
Esophageal varices	22	45.83
Gastroesophageal varices	4	8.33
Isolated gastric varices	4	8.33
Non-variceal bleed (n=20) (37.51%)		
Gastric ulcer	4	8.33
Duodenal ulcer	3	6.25
Mallory-Weiss tear	3	6.25
Erosive gastritis	3	6.25
Gastric antral vascular ectasia	2	4.16
Gastric carcinoma	2	4.16
Dieulafoy's lesion	1	2.08
Total	48	100

GIB: Gastrointestinal bleed

Dieulafoy's lesion (1.35%), and among LGIB, majority of study subjects had hemorrhoids (12.16%), ulcerative colitis (4.05%), colonic carcinoma (4.05%), diverticulosis (2.7%), anal fissure (2.7%), rectal carcinoma (2.7%), solitary rectal ulcer syndrome (2.7%), and Crohn's disease (1.35%). 2.7% of patients had obscure bleeding.

Table 3 shows that on etiological classification of UGIB, majority of study subjects had esophageal varices (45.83%) followed by gastroesophageal varices (8.33%), isolated gastric varices (8.33%), gastric ulcer (8.33%), duodenal ulcer (6.25%), Mallory-Weiss tear (6.25%), erosive gastritis

Table 4: Distribution of study subjects by etiology of LGIB (n=24)

Etiology	Frequency	Percentage
Hemorrhoids	9	37.5
Anal fissure	2	8.33
Ulcerative colitis	3	12.52
Crohn's disease	1	4.16
Diverticulosis	2	8.33
Carcinoma colon	3	12.5
Rectal carcinoma	2	8.33
Solitary rectal ulcer syndrome	2	8.33
Total	24	100

LGIB: Lower gastrointestinal bleed

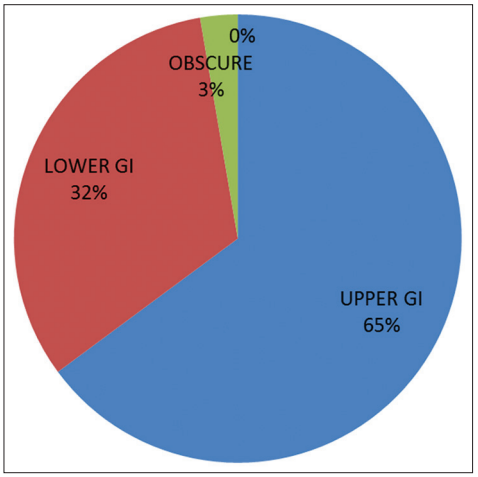

Figure 1: Distribution of study subjects according to source of bleeding (n=74)

(6.25%), gastric antral vascular ectasia (4.16%), gastric carcinoma (4.16%), and Dieulafoy's lesion (2.08%), respectively.

Table 4 shows that on etiological classification of LGIB, majority of study subjects had hemorrhoids (37.5%) as a cause, followed by ulcerative colitis (12.52%), anal fissure (8.33%), Crohn's disease (4.16%), diverticulosis (8.33%), carcinoma colon (12.5%), rectal carcinoma (8.33%), and solitary rectal ulcer syndrome in (8.33%) patients.

Table 5 shows that on majority 76.67% patients recovered while only 23.33% of patients deceased in variceal bleed patients. For non-variceal, 88.89% patients survived while 11.11% deceased. For LGIB, 91.67% patients recovered and 8.33% died during the course of treatment.

DISCUSSION

India is a country with inhabitant of diversely heterogeneous population. It has also a wide range of customs and cultural practices with different lifestyles and health-related

Table 5: Distribution of study subjects by treatment outcome depends on the source

Outcome	UGI (variceal), n (%)	UGI (non-variceal), n (%)	LGIB, n (%)	Obscure bleeding, n (%)
Survived	23 (76.67)	16 (88.89)	22 (91.67)	2 (100)
Death	7 (23.33)	2 (11.11)	2 (8.33)	0 (0)
Total	30	18	24	2

UGI: Upper gastrointestinal, LGIB: Lower gastrointestinal bleed

behaviors which may influence the development of a particular disease and might also predispose to cause of GI bleeding. This observational, prospective hospital-based study was conducted among 96 patients aged >16 years with gastrointestinal bleeding came to Dr. Susheela Tiwari Hospital, during the study period, out of which 74 patients were enrolled in the final study as some patients were not willing for the study, some patients were not willing for endoscopy and some got discharged prematurely. Findings of this study and the other studies mentioned in the literature are compared here.

The mean age was 45.78 years (standard deviation [SD] = 13.87 years) with an age range of 17–72 years. It was similar to study done by Kumar et al.,[1] in Tertiary Care Centre, Kolkata, which reported that mean age was 44.9 years (SD = 11.27 years). The majority of the study participants (41.9%) were in the age group 46–60 years, followed by 31–45 years (32.4%) and 16–30 years (13.5%). Similar results were also noted by various researchers from different regions of India, namely Bhandary et al.,[9] Bodh et al.,[3] Prasad et al.,[10] Shyamsundar et al.,[11] who were all noted in their studies majority of their participants were fall in the following age groups 50–60 years (27.32%), 40–60 years (46.5%), 40–60 years (52.3%), 41–60 years (44%), respectively. Hence, the findings of our study were almost similar to other studies done previously from different regions of India. Only 9 subjects (12.2%) were above 60 years, as compared to 634 (27.2%) noted by Rockall et al.,[12] who concluded that the incidence of bleeding significantly increased with age. Western studies report a higher age at presentation, which is due to elderly population in their community.

Male predilection (71.6%) was noted in this study, in concordance with that noted by Rockall et al.[12] (57% males). Similar male predominance was also noted by Kumar et al.[1] (70% males), Dewan et al.[6] (75% males), Kumar et al.[4] (72.28% males), and Shyamsundar et al.[11] (73.7% males). The male preponderance observed in our study could be explained by the high prevalence of risk factors such as alcoholism, smoking in males leading to gastrointestinal bleeding.

Maximum number of study subjects belong to lower middle class (33.8%) followed by lower socioeconomic class 29.7%. Half of the study participants were farmer (27.02%) by occupation, followed by laborer's (24.32%) and housewife comprising 20.27% of study subjects. Maximum number of study subjects was illiterate (45.9%) followed by primary level and graduates (21.62%). The low socioeconomic status, poor education, poor awareness regarding risk factors such as alcohol, NSAIDs abuse, and poor access to health care for deaddiction or poor follow increase the risk for gastrointestinal bleeding in this populations. Poor hygiene of this group of patients could have predisposed them for higher incidence of UGI bleeding because of greater propensity of *Helicobacter pylori* infection.

In our study, majority of patients 35 (47.3%) had hematemesis as a presenting feature and 33 patients (44.6%) had melena, 17 patients (23%) had both hematemesis and melena, and 25 patients (33%) presented with hematochezia. Compared to study done by Longstreth et al.[13] who noted that 33% of their patients had hematemesis and 81% had melena.

Out of 74 patients, 48 (64.87%) had UGIB, 24 (32.43%) had LGIB, and 2 (2.7%) had obscure bleeding in our study. 2 patients presented with overt bleeding, but their both upper and lower gastrointestinal endoscopy is normal even after repetition; hence, these 2 patients (2.7%) labeled as obscure bleeding and referred to higher center for small bowel evaluation.

In our study, majority of the patients (40.52%) had variceal bleeding (29.72% esophageal varices, 5.4% gastroesophageal varices, and 5.4% had isolated gastric varices) followed by 13.5% had bleeding from peptic ulcer and erosive mucosal disease, 5.4% had gastric ulcer, 4.05% had duodenal ulcer, 4.05% had erosive gastritis, 12.16% of patients had hemorrhoidal bleeding, 9.45% had malignancy as a source (4.05% of colonic carcinoma, 2.7% of gastric carcinoma, 2.7% of rectal carcinoma), 5.4% of patients had bleeding due to inflammatory bowel disease (4.05% had ulcerative colitis and 1.35% had Crohn's disease), Mallory-Weiss tears in 4.05% of patients; in 2.7% of patients, no cause was elucidated.

A study by Kumar et al.,[1] from Tertiary Care Centre, Kolkata, showing 74% had UGIB, 19% had lower gastrointestinal source, and 7% had obscure bleeding. This study by Kumar et al.[1] reported 41% of bleeding due peptic ulcer disease (PUD), 26% of patients had variceal bleeding, 35 of patients had malignancy, and 7% had obscure bleeding.

In our study, out of 48 patients of upper GI bleeding, 30 patients had variceal bleeding (62.49%) and 18 patients had bleeding due to non-variceal source (37.51%). Among variceal bleeding, 45.83% had esophageal varices, 8.33% had gastro esophageal varices, and 8.33% had isolated gastric varices. Among non-variceal causes, 8.33% had gastric ulcer, 6.25% had duodenal ulcer, 6.25% had erosive gastritis, 6.25% had Mallory-Weiss tears, 4.16% had malignant ulcer in stomach-gastric carcinoma, 4.16% had gastric antral vascular ectasia, and 2.08% had Dieulafoy's lesion. In the present study, variceal causes predominated in all age groups.

A very high percentage of patients (62.49%) were noted to have varices, in the present study, as compared to that noted by Rockall et al.,[12] Rockall and Logan[12] studied 2332 cases of UGIB, taking into consideration, both variceal and non-variceal etiology of bleed and this study reported that 36.1% had peptic ulcer, 10.3% had erosive gastritis, 10.3% had esophagitis, 5.1% had Mallory-Weiss tears, 4.6% had varices, and 4% had malignancy.

When considering variceal versus non-variceal bleed as etiology of UGIB, there are variable results in India. In a recent study conducted in eastern India in 2015, duodenal ulcer was found to be the most common cause of UGIB (41%) and variceal bleed was found in only 13% patients.[13] In our study, variceal bleeding was found in higher number of patients because alcoholic liver disease is highly prevalent in North Indian region where 50% patients had alcoholic liver disease as cause of variceal bleeding. Our results are in concordance to spectra reported by Anand et al.,[14] from Dehradun, Rathi et al.,[15] from Mumbai, and Mahajan and Chandail[2] from Jammu, Northern and Western India, Bhandary et al.,[9] from Karnataka, Southern India, that create the impression that variceal bleeding is the most common cause of UGIB in India.

This shows that the trend of UGI bleeding in southeast Asian countries different from the developed countries as UK Audit 2007 has reported only 11% bleeding varices[16] and Sanders et al., have reported only 4.4%.[17] Endoscopy services are unavailable in almost all public primary and secondary care centers in India.[18] Peptic ulcer-related bleeds are likely to more often cease spontaneously and rebleed less frequently as compared with variceal bleeds. The distance to the nearest available endoscopy service might be a confounding factor when looking for epidemiological differences in the etiology of UGIB in India. This difference has been reported by Das[19] in his retrospective audit of etiology of UGIB in a district center (DC), providing diagnostic UGIB services every weekend, vis-a-vis a tertiary care academic center (TC), in West Bengal, eastern India. There were significant differences between the etiologies of UGIB in the two centers. PUD was more frequent in the DC, while varices were more frequent in the TC as the cause of UGIB. Similarly, another recent study from a tertiary care center of the same region in eastern India by Banerjee et al.[20] also reported portal hypertension (62.30%) as the most common etiology of UGIB followed by PUD (16.70%).

In our study on etiological classification of variceal bleed, majority of study subjects had alcoholic liver disease (50%) as a cause, followed by viral hepatitis (30%) and NASH (13%) while in 2 patients, no cause was elucidated. Our results were similar to the study done by Mahajan et al.[2] showing majority of variceal bleeding is due to alcoholic liver disease (67.09%) followed by extra hepatic portal vein obstruction (12.3%), viral hepatitis (8.5%), and cryptogenic (3.25%). In contrast to our study review by Vernava et al.,[21] patients with LGIB made up only 0.7% of all hospital admissions (17,941 patients); among the patients who underwent a diagnostic workup (4410 [24%]), the most common causes of bleeding were diverticular disease (60%), inflammatory bowel disease (13%), and anorectal diseases (11%).

Expectantly, our results are different from the pattern of LGIB in the Western world where diverticular disease, ischemic colitis, colorectal cancer, and angiodysplasia are the common findings at colonoscopy.[22] The only exception is colorectal cancer which ranked as the second most common finding and this is in contrary to the general belief that colorectal cancer is not common in our environment, but with the availability of colonoscopy, this had been debunked as shown in this study. The cause of LGIB varies from one region of the world to another. In a study conducted by Dar et al.,[23] from India, the most common cause of LGIB was colorectal polyps, which constituted 23.3% while as 17.7% cases could be attributed to inflammatory bowel disease. Hospitalisation rates are more in elderly patients than young and middle aged patients. Elderly patients develops LGIB due to diverticulosis, ischemic colitis, vascular malformations and malignancy. But this etiological spectrum changes in the young and middle aged groups. Patients in these age groups tend to bleed from hemorrhoids, vascular malformations, and rectal ulcers.[23] These findings are in aggregation with the current study in which hemorrhoid (37.5%) was the most common cause followed by ulcerative colitis (12.52%).

Limitations of the study

1. This study was conducted during COVID-19 pandemic and our hospital was a dedicated COVID care center so the number of study subjects are less because only referred cases were coming to our hospital, and hence, the results may vary compared to similar studies done previously elsewhere. A larger sample size is required to deduce conclusion that can be applicable to the general population.

2. GIB could not be evaluated by enteroscopy or capsule endoscopy, as both are not available in our institute.
3. This study was conducted at a high capacity, referral EDs and so the patient population and outcomes could be different at smaller or lower-capacity facilities. However, because these EDs receive referrals from all over the region, the patients sampled likely provide a wide representation of population.

CONCLUSION

Gastrointestinal bleeding is a disease of extremes of age, both children and older individuals being affected, although causes vary. Hematemesis is the most common presentation in our study followed by Melena. In our study, maximum number of patients had UGIB than LGIB, among UGIB, variceal bleeding is more than non-variceal bleeding. It can be concluded, unlike the evidence from the west that peptic ulcer is the most common cause for UGIB; we found varices as the common cause, followed by peptic ulcer and erosive gastritis. Hence, the variable spectrum of the etiology of the GIB seen in our country could represent either a true epidemiological difference or reflect skewed access to health care. The study findings could direct further research toward the analysis of correlation of the etiological factors with other clinical parameters to potentially improve the outcomes in the patients. In the future, research is required on larger sample size of patients with GIB to understand the etiology of the disease.

Recommendation

It is suggested that early resuscitation, effective blood transfusion, and endoscopic services may be put in place in the ED to reduce mortalities associated with UGIB. Societal education against inordinate use of NSAIDs and alcohol needs to be stepped up. Awareness programs should be organized with the help of NGOs, emphasizing the life-threatening consequences of hazardous level of alcohol consumption and high-risk behavior.

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JU- Definition of intellectual content, literature survey, prepared first draft of manuscript, implementation of study protocol, data collection, data analysis,manuscript preparation and submission of article; **SCJ-** Concept, design, clinical protocol, manuscript preparation, editing and manuscript revision; **YS-** Coordination and manuscript revision; **AJ-** manuscript revision.

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