International Journal of Current Advanced Research
ISSN: O: 2319-6475, ISSN: P: 2319-6505, Impact Factor: 6.614
Available Online at www.journalijcar.org
Volume 8; Issue 01(F); January 2019; Page No. 17068-17071
DOI: http://dx.doi.org/10.24327/ijcar.2019.17071.3182

Research Article

ETIOLOGICAL AND ENDOSCOPIC PROFILE IN PATIENTS WITH NON-VARICEAL UGI BLEED ATTENDING A TERTIARY CARE CENTRE

Dande Tejaswini., Malarvizhi M*., Venkateswaran A. R., Rajkumar Solomon T., Chezhian A and Murali R

Institute of Medical Gastroenterology, Madras Medical College, Chennai, Tamil Nadu, India

A R T I C L E I N F O

Article History:
Received 12th October, 2018
Received in revised form 23rd November, 2018
Accepted 7th December, 2018
Published online 28th January, 2019

Key words:
non-variceal UGI bleed, Erosive disease, Peptic ulcer disease

A B S T R A C T

Introduction: Non-variceal upper gastrointestinal bleeding (UGIB) is a common medical emergency associated with significant morbidity and mortality. At present, there is limited epidemiological data on non-variceal UGIB in India.
Aim: To study the etiological spectrum of non-variceal UGIB in our tertiary care centre.
Methodology: This is a retrospective trial. The registry of the endoscopies performed in the Institute of Medical Gastroenterology, Madras Medical College, Chennai, from December 2015 to December 2018, was referred to. Consecutive patients aged more than 13 years old with non-variceal UGI bleeds were included in the study. Endoscopy findings were documented in detail, along with the patient's age, sex and the presenting symptom of GI bleeding (hematemesis, melena, hematochezia). The data was analyzed to look for the most common lesions encountered during endoscopy in patients with non- variceal UGIB. The results are depicted in the form of tables and charts.
Results: In our study, 2582 patients were included. 922 patients (35.71%) were diagnosed with erosions in the esophagus, the stomach or the duodenum. This was the most common cause of non-variceal UGIB in our centre. 698 patients (27.03%) had peptic ulcers (gastric or duodenal) as the cause of UGIB, 281 patients (10.88%) had Mallory- weiss tears, 104 patients (4.02%) had carcinomas (esophageal, gastric, duodenal, periampullary), 1 (0.04%) had an aorto-enteric fistula, 51 (1.98%) had GAVE, 30 (1.16%) had bleeding polyps in the stomach, 2 (0.07%) had Dieulafoy's lesion, 125 (4.84%) had severe portal hypertensive gastropathy/duodenopathy, 20 (0.77%) had post EVL ulcer, 1 (0.04%) had Cameron's lesion, 3 (0.11%) had hemosuccus-pancreaticus, 10 (0.38%) had anastomotic ulcers, 334 (12.97%) had no lesions on esophagogastroduodenoscopy.
Discussion And Conclusion: Our study shows that erosive disease of UGI were the most common cause of non- variceal UGIB (35.71%), whereas in most of the studies, it is peptic ulcer disease.

INTRODUCTION

*U*pper gastrointestinal (GI) bleeding is defined as bleeding derived from a source proximal to the ligament of Treitz[1].It is associated with significant morbidity and mortality[2]. The causes can be variceal or non-variceal. The two have different treatment algorithms and prognoses[3].

According to various studies, peptic ulcer remains the commonest cause of UGI bleed accounting for approximately (31-67%) of the cases, followed by oesophageal varices (6-39%), Mallory-Weiss tears (2-8%), drugs (NSAIDS, heparin, steroid, calcium channel antagonists, coumarin derivative, aspirin+alcohol). Other causes include neoplasms, gastroduodenal erosions and arteriovenous malformations[7].

Corresponding author:* **Malarvizhi M
Institute of Medical Gastroenterology, Madras Medical College, Chennai, Tamil Nadu, India

The primary diagnostic test for the evaluation of upper GI bleeding is endoscopy, which has a sensitivity of 92%-98% and specificity of 30%-100%[4]

Early endoscopy and the endoscopic appearance of certain lesions help in diagnosis and to guide care and thereby reduce rebleeding, requirement for transfusion, the need for surgery, costs and duration of hospitalization[5,6].

At present, there is limited data on the etiological and the endoscopic profiles of patients of non-variceal UGIB from India and particularly from South India. Therefore, this study was conducted to identify the clinical and endoscopic profile of patients with non-variceal upper GI bleed presenting to our hospital.

Aim

To study the etiological spectrum of non-variceal UGI bleed in our tertiary centre.

METHODOLOGY

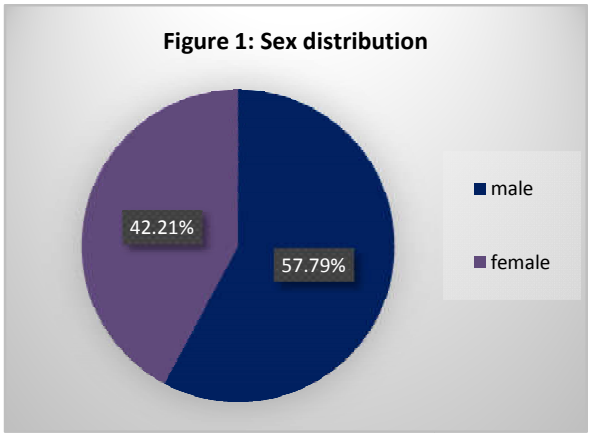
This is a retrospective study. After obtaining approval from the ethics committee, the registry of the endoscopies performed in the Institute of Medical Gastroenterology, Madras Medical College, Chennai, from December 2015 to December 2018, was referred to. Consecutive patients with ages more than 13 years with non-variceal UGI Bleed in the form of hematemesis or melena, undergoing endoscopy after 8 hours of fasting in our department have been included in the study.

Endoscopy findings were documented in detail, along with the patient's age, sex, history of GI bleeding (hematemesis, melena, hematochezia), risk factors like NSAIDs and ethanol intake, antiplatelet and anticoagulant usage, steroid intake, presence of co-morbid conditions such as diabetes mellitus, coronary artery disease, renal failure, etc. The endoscopic findings, of the patients, that were noted included those of the esophagus, the stomach, the 1st and 2nd parts of the duodenum and the ampulla. The data was analyzed to identify the most common lesions seen on endoscopy in patients with non-variceal UGI Bleed. The results have been depicted in the form of tables and charts.

All patients were treated along the standard lines of management in the form of proton pump inhibitors, H2 receptor antagonist, H. pylori eradication therapy, antacids, antiemetics, beta blockers, diuretics, etc., as required.

RESULTS

The study population included 2582 patients, of which 1492 (57.79%) patients were males and 1090 (42.21%) patients were females (figure 1). The mean age of the study population was 40.9 yrs. With a minimum age of 13 yrs and a maximum age of 85 yrs. The standard deviation (SD) is 11.5. Maximum number of subjects were in the age group 37 to 46 years.

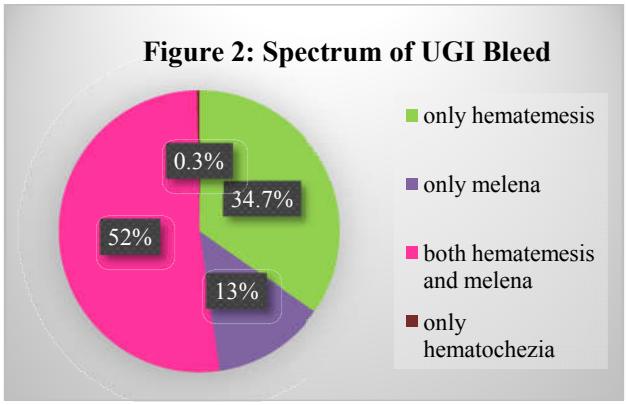


1376 patients (53.29%) had a history of regular alcohol intake, 694 patients (26.9%) had a history of intake of drugs like NSAIDS, antiplatelets, anti-coagulants, steroids, AKI/CKD etc. 40 patients (1.54%) had a history of blood dyscrasias and connective tissue disorders, 134 patients (5.19%) had chronic liver disease without varices, 20 patients (0.77%) had pancreatitis, 318(12.31 %) patients had no such relevant history (table 1).

Table 1

Significant history	No. of patents	Percentage of patients
Regular alcohol intake	1376	53.29%
Drugs like NSAIDS, antiplatelets, anti-coagulants, steroids, AKI/CKD	694	26.9%
Blood dyscrasias and Connective tissue disorders	40	1.54%
Chronic liver disease without varices	134	5.19%
Pancreatitis	20	0.77%
No relevant history	318	12.31 %

34.7% (896 patients) presented with only hematemesis, 13% (336 patients) presented with only melena, 52% (1342 patients) presented with both hematemesis and melena and 0.3% (8 patients) presented with hematochezia (figure 2).



922 patients (35.71%) were diagnosed to have erosions in esophagus or stomach or duodenum which was the most common cause of non-variceal UGI Bleed in our centre , 698 patients (27.03%) had peptic ulcer (gastric or duodenal) as the cause behind GI bleed, 281 patients (10.88%) had Mallory-Weiss tear, 104 patients (4.02%) had carcinomas (esophageal, gastric, duodenal, periampullary), 1 (0.04%) had aorto-enteric fistula, 51 (1.98%) had GAVE, 30 (1.16%) had bleeding polyps in the stomach, 2 (0.07%) had dieulafoy's lesion, 125 (4.84%) had severe portal hypertensive gastropathy/duodenopathy, 20 (0.77%) had post EVL ulcer, 1 (0.04%) had Cameron's lesion, 3 (0.11%) had hemosuccus pancreaticus, 10 (0.38%) had anastomotic ulcer, 334 (12.97%) had no lesions on esophagoduodenoscopy (table 2).

Table 2

Sl.No.	Etiology	Percentage of pts	No. of pts
1	Mucosal erosive disease (esophagitis, gastritis, duodenitis)	35.71%	922
2	PUD (GU+DU)	27.03%	698
3	Mallory Weiss tear	10.88%	281
4	Malignancy	4.02%	104
5	Aortoenteric fistula	0.04%	1
6	GAVE	1.98%	51
7	Polyps	1.16%	30
8	Dieulafoy's lesion	0.07%	2
9	Severe PHG	4.84%	125
10	Post EVL Ulcer	0.77%	20
11	Cameron lesion	0.04%	1
12	Hemosuccus pancreaticus	0.11%	3
13	Anastomotic ulcer	0.38%	10
14	None	12.97%	334

DISCUSSION

Non-variceal upper GI bleed still remains the most common cause of GI bleeds in patients coming to the hospital. Despite advancements in intensive medical and surgical care, pharmacological therapy, and endoscopic technology, the mortality rate has remained significant[8-10]. Our study is aimed at understanding the etiological and endoscopic profile of patients who present to the endoscopy suite of MGE department with acute non-variceal UGIB.

Peptic ulcer bleeding is still the most common cause, accounting for 37±44% of all casesaccording to many studies[12,13]. Oesophagitis is not an uncommon cause of upper gastrointestinal bleeding. In hospital inpatients, oesophagitis as a cause of upper gastrointestinal bleeding was found in 37%[15]. Mallory Weiss lesions were found to be the origin of bleeding in 23%[12].

According to the Gupta PK *et al*[11], the etiology of non-variceal UGI bleed was as follows- Peptic ulcer disease 50%, Erosions 25-30%, Mallory-Weiss tear 8%, Watermelon stomach 3-5%, Carcinomas 1-5%, Angiomata 1-2%, Dieulafoy's lesion1-2%,Hemobilia 1%, Aorto-enteric fistula 1%, Other 6-10%.
In the Chaitanya *et al*[16] study,the mean age of patients was 45.04 years with male: female ratio 2.33:1.Etiology of non-variceal UGIB was as follows- Gastric ulcer -24%, Duodenal ulcer -14%, Malignancy -11%, Mallory- Weiss tear (3%), Oesophageal ulcer(2%), erosion(2%).

Deep Anand *et al*[17] study had 114 patients in the study. The mean age of patients was 49 ± 14.26, male to female ratio was 5:1. Peptic ulcer-related bleed was the most common etiology - 14.91%,followed by gastric erosions - 12.28%, Mallory-Weiss tear - 8.77%, gastric malignancy- 4.38%, Dieulafoy's lesion - 1.75%, Duodenal polyp- 1.75%. Alcohol intake was present in 53.5%, NSAIDs intake in19.29%, aspirin usage 8.77%, Alcohol+NSAIDs in 5.26%. Only hematemesis was present in 27.19%, melena-12.28%, Hematochezia- 0.87%, hemtemesis+melena-59.64%.

Chandan kumar *et al*[18]study included 150 patients. Peptic ulcer was the chief cause resulting in gastrointestinal bleed followed by oesophageal varices. 105 were male (70%) and 45 females (30%). The mean age of the study population was 44.9 yrs. with minimum age being 15 yrs. and maximum age 76 yrs. 78 patients (52% out of 150) had a history of regular alcohol intake, 39 patients (26%) had a history of intake of drugs like NSAIDS, antiplatelet, anti-coagulants, steroids, etc. 15 patients (10%) had a history of blood dyscrasias, coagulation disorders, cerebrovascular accident (CVA), inflammatory bowel disease (IBD), all of which have been included in others category. 36 (24%) patients had no such relevant history. 68 patients (45.3% out of 150) presented with hematemesis (24 had only hematemesis no melena), 96 patients (64%) presented with melena (out of which 53 had only melena no hematemesis), 47 patients (31.3%) had both hematemesis and melena and 29 patients (19.3%) presented with hematochezia. 62 patients (41% out of 150) were diagnosed to have peptic ulcer (gastric or duodenal) as the cause behind GI bleed, 39 patients (26%) had oesophageal varices, 4 (03%) had carcinomas (gastric, colonic, rectal), 7 (05%) hematological disorders (aplastic anemia, acute leukemia, DIC), 8 (05%) had internal haemorrhoids, 11 (07%) had obscure bleed and in 19 patients (13%) GI bleed was caused by either Mallory-Weiss tear or IBDcolitis, portal gastropathy, colonic polyp or snake bite (which has been put together under the "others" category).

According to ESGE guidelines[19], the most common cause of acute UGIBis non-variceal[1,2]. This includes peptic ulcers: 28 %-59 % (duodenal ulcer 17 %-37 % and gastric ulcer 11 %-24 %); mucosal erosive disease of the esophagus/stomach/duodenum- 1 %-47 %; Mallory-Weiss syndrome- 4 %-7 %; upper GI tract malignancy-2 %-4 %; other diagnosis 2 %-7 %; or no exact cause identified 7 %-25 % [1, 2]. Moreover, in 16 %-20 % of acute UGIB cases, more than one endoscopic diagnosis may be identified as the cause of bleeding.

Pranav Mahajan *et al*[20] study included 1790 patients. Hematemesis + melena was seen in 865 (68.11%), Hematemesis 266 (20.95%), Melena 139 (10.94%). Esophageal varices 553 (43.54%), Duodenal ulcer 129 (10.16%), Gastric ulcer 94 (7.40%), Gastric erosion/gastritis 193 (15.20%), Duodenal erosion 74 (5.83%), PHG 73 (5.75%), Cancer stomach 31 (2.44%), Gastric varices 22 (1.73%), Esophagitis 36 (2.83%), Mallory-Weiss tear 6 (0.47%), GIST 17 (1.34%), Dieulafoy's lesion 9 (0.71), GAVE 31 (2.44%), Duodenal varices 2 (0.16%).

Jain J. *et al*[21] included 118 patients, both hematemesis and melena were seen in (50) 43%, melena in (41) 32%, and hematemesis in (27) 23%. Mean age of the patients was 46.2 + 15.3 years and 77.8% were male. Risk factors in the study participants included alcohol in 47%, NSAIDS in 20%. of the study participants had Oesophageal varices -47.5% followed by PHG in 27.1%, gastric erosions in 14.4%, DU in 5.9%, GU in 5.1%, Mallory-Weiss tear and gastric malignancy in 4.2% each, esophageal erosions in 3.4%, and esophageal malignancy in 1.7%. In 19 (16.1%) patients, no endoscopic lesion for UGIB could be identified.

In our study, 2582 patients were included. 922 patients (35.71%) were diagnosed to have erosions in esophagus or stomach or duodenum which was the most common cause of non-variceal UGI Bleed in our centre. 698 patients (27.03%) had peptic ulcer (gastric or duodenal) as the cause behind GI bleed, 281 patients (10.88%) had Mallory- Weiss tear, 104 patients (4.02%) had carcinomas (esophageal, gastric, duodenal, periampullary), 1 (0.04%) had aorto-enteric fistula, 51 (1.98%) had GAVE, 30 (1.16%) had bleeding polyps in the stomach, 2 (0.07%) had dieulafoy's lesion, 125 (4.84%) had severe portal hypertensive gastropathy/duodenopathy, 20 (0.77%) had post EVL ulcer, 1 (0.04%) had Cameron's lesion, 3 (0.11%) had hemosuccus pancreaticus, 10 (0.38%) had anastomotic ulcer, 334 (12.97%) had no lesions on esophagoduodenoscopy.

The incidence of PUD is less compared to erosive disease in our study. This incidence will probably decline further as the two main causes of peptic ulcer disease have become less prevalent. First, the infection rate of Helicobacter pylori in the general population is falling and Helicobacter eradication is becoming more widespread. Secondly Cox 2-specific non-steroidal anti-inflammatory drugs (NSAIDs) have been developed. Further-more data are now available that show that omeprazole can prevent ulcers in patients taking NSAIDs[14]. The fact that at this moment the incidence of upper gastrointestinal bleeding remains fairly stable is probably a reflection of the ageing population.

The limitation of our study is that it is a retrospective trial. Investigation reports were not available. A lot of minor UGIB patients may not have reported to our endoscopy room, hence underestimating the data. There may be a referral bias as well, as ours is a tertiary centre. The period of study was short spanning over 36 months. The sample size was small. A larger sample size is required to deduce conclusion that can be applicable to the general population. In our institute there is a delay of about 48 to 72 hours between admission and endoscopy due to lack of emergency services. So, the diagnosis is possibly missed a number of times and bleed has to be labelled as obscure bleed. We got fewer numbers of patients with lower gastrointestinal bleed as causes of LGIB also got admitted in the surgical ward.

CONCLUSION

To summarize, this cross‑sectional study shows that erosive disease of esophagus, stomach and duodenum was the most common cause of non- variceal UGI bleeding (35.71%) in the adult population in our tertiary care centre when diagnosed by endoscopy. Endoscopy has a pivotal role in acute upper gastrointestinal haemorrhage. It allows us to delineate the origin of bleeding.It can partly predict the risk of rebleeding, and it is the first choice for treatment. The incidence of peptic ulcer disease is becoming less prominent. So, it is important to identify other etiologies as well. With increasing life expectancy, care of more elderly and patients with comorbid conditions should be taken, which contributes to the high mortality from GI bleeding.

Reference

1. Rockall TA, Devlin HB, Logan RF, Northfield TC. Selection of patients for early discharge or outpatient care after acute upper gastrointestinal haemorrhage. The Lancet. 1996 Apr 27;347(9009):1138-40.
2. Ghosh S, Watts D, Kinnear M. Management of gastrointestinal haemorrhage. Postgraduate medical journal. 2002 Jan 1;78(915):4-14.
3. Ginn JL, Ducharme J. Recurrent bleeding in acute upper gastrointestinal hemorrhage: transfusion confusion. Canadian Journal of Emergency Medicine. 2001 Jul;3(3):193-8.
4. Jaskolka JD, Binkhamis S, Prabhudesai V, Chawla TP. Acute gastrointestinal hemorrhage: radiologic diagnosis and management. Canadian Association of Radiologists Journal. 2013 May 1;64(2):90-100.
5. Rockall TA, Logan RF, Devlin HB, Northfield TC. Risk assessment after acute upper gastrointestinal haemorrhage. Gut. 1996 Mar 1;38(3):316-21.
6. Barkun AN, Bardou M, Kuipers EJ, Sung J, Hunt RH, Martel M, Sinclair P. International consensus recommendations on the management of patients with nonvariceal upper gastrointestinal bleeding. Annals of internal medicine. 2010 Jan 19;152(2):101-13.
7. Strate LL. Lower GI bleeding: epidemiology and diagnosis. Gastroenterology Clinics. 2005 Dec 1;34(4):643-64.
8. Silverstein FE, Gilbert DA, Tedesco FJ, Buenger NK, Persing J. The national ASGE survey on upper gastrointestinal bleeding: II. Clinical prognostic factors. Gastrointestinal endoscopy. 1981 May 1;27(2):80-93
9. Schiller KF, Truelove SC, Williams DG. Haematemesis and melaena, with special reference to factors influencing the outcome. *Br Med J*. 1970 Apr 4;2(5700):7-14.
10. Allan R, Dykes P. A study of the factors influencing mortality rates from gastrointestinal haemorrhage. QJM: An *International Journal of Medicine*. 1976 Oct 1;45(4):533-50.
11. Gupta PK, Fleischer DE. Nonvariceal upper gastrointestinal bleeding. Medical Clinics of North America. 1993 Sep 1;77(5):973-92.
12. Czernichow P, Hochain P, Nousbaum JB, Raymond JM, Rudelli A, Dupas JL, Amouretti M, Gouérou H, Capron MH, Herman H, Colin R. Epidemiology and course of acute upper gastro-intestinal haemorrhage in four French geographical areas. *European journal of gastroenterology & hepatology*. 2000 Feb;12(2):175-81.
13. Rockall TA, Logan RF, Devlin HB, Northfield TC. Incidence of and mortality from acute upper gastrointestinal haemorrhage in the United Kingdom. Bmj. 1995 Jul 22;311(6999):222-6.
14. Hawkey CJ, Karrasch JA, Szczepanski L, Walker DG, Barkun A, Swannell AJ, Yeomans ND. Omeprazole compared with misoprostol for ulcers associated with nonsteroidal antiinflammatory drugs. New England Journal of Medicine. 1998 Mar 12;338(11):727-34.
15. Newton M, Burnham WR, Kamm MA. Morbidity, mortality, and risk factors for esophagitis in hospital inpatients. *Journal of clinical gastroenterology*. 2000 Apr 1;30(3):264-9.
16. Mowar Ab, Deepak A. Endoscopic Study in Patients of Upper Gastrointestinal Bleeding In Tertiary Care Hospital Of Rohilkhand Region. *International Journal of Scientific Research*. 2018 Jul 9;7(4).
17. Anand D, Gupta R, Dhar M, Ahuja V. Clinical and endoscopic profile of patients with upper gastrointestinal bleeding at tertiary care center of North India. *Journal of Digestive Endoscopy*. 2014 Oct 1;5(4):139.
18. Kumar C, Chakrabarti SK, Chakraborty S, Sinharay K. Clinical profile of patients presenting with gastrointestinal bleeding in a tertiary care hospital. International Journal of Advances in Medicine. 2017 Nov 22;4(6):1616-20.
19. Gralnek IM, Dumonceau JM, Kuipers EJ, Lanas A, Sanders DS, Kurien M, Rotondano G, Hucl T, Dinis-Ribeiro M, Marmo R, Racz I. Diagnosis and management of nonvariceal upper gastrointestinal hemorrhage: European Society of Gastrointestinal Endoscopy (ESGE) Guideline. Endoscopy. 2015 Oct;47(10):a1-46.
20. Mahajan P, Chandail VS. Etiological and endoscopic profile of middle aged and elderly patients with upper gastrointestinal bleeding in a Tertiary Care Hospital in North India: A retrospective analysis. *Journal of mid-life health*. 2017 Jul;8(3):137.
21. Jain J, Rawool A, Banait S, Maliye C. Clinical and endoscopic profile of the patients with upper gastrointestinal bleeding in central rural India: A hospital-based cross-sectional study. *Journal of Mahatma Gandhi Institute of Medical Sciences*. 2018 Jan 1;23(1):13.