ORIGINAL ARTICLE

Endoscopic Findings in Patients with Upper Gastrointestinal Bleeding at Pakistan Railway General Hospital, Rawalpindi. A Retrospective Review of 100 Cases

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ABSTRACT

Objective: To determine the frequency of various causes of upper gastrointestinal bleeding on the basis of endoscopic findings.

Study Design: A descriptive observational study.

Place and Duration of Study: Study was done from 1st, January, 2015 to 31st December, 2017 at Pakistan Railway General Hospital Rawalpindi.

Material and Methods: The study was carried out in the Department of Medicine at Railway Hospital. The record of patients admitted with upper GI bleed through indoor/outdoor was retrieved from the Endoscopy Unit. 100 Patients fulfilling inclusion criteria were selected in the study. The relevant data and endoscopic findings were documented on Performa. The data was analyzed retrospectively.

Results: Out of 100 patients selected, 58(58%) were males and 42(42%) females. The mean age of 52.20 years ± SD 15.88.The most common cause was esophageal varices (47.90%), followed by gastritis/esophagitis 23%, peptic ulcer 14.58%. The malignant condition contributed 1.58 %. While in 9(9%) of patients, no cause of bleeding was identified.

Conclusion: Variceal hemorrhage is the most frequent cause of upper gastrointestinal bleeding in our population.

Key Words: *Endoscopy, Peptic Ulcer, UGIB, Upper Gastrointestinal Bleed, Variceal Bleed.*

Introduction

Upper gastrointestinal bleeding (UGIB) is defined as bleeding derived from a source proximal to ligament of treitz.[1] It is a common life-threatening medical emergency associated with mortality of 5-15%[2]. Its incidence is 50-150 per 100,000 people per year.[2,3] It is two times more common in males in all age groups, however mortality is same in both sexes. The patients can present with insignificant bleed to catastrophic hemorrhage. In approximately 80-85% cases, bleedings stop spontaneously while in 15-20% bleeding is continuous or recurrent. Initial evaluation of patients presenting with GI bleeding is very essential. Intensive resuscitation to achieve hemodynamic stability saves life.[4,5,6]

UGIB has been classified as variceal or non-variceal as they have different underlying mechanism, treatment algorithm and prognosis. In cirrhotics, variceal bleed is responsible for 70% of UGIBand is major cause of death.[6] Variceal bleed has higher mortality as compared to non-variceal bleed. Mortality during first episode is 15-20%.[7,8] Non-variceal causes include peptic ulcer, esophagitis, gastritis, Mallory weiss tear, and malignancies.[8,9]

The epidemiology of peptic ulcer is changing. Peptic ulcer is still common cause of UGIB[10] but incidence is decreasing. Peptic ulcer bleeding is less severe, occurs in older age group.[11]

Upper gastrointestinal endoscopy is the initially recommended procedure because of its safety.[4] The sensitivity and specificity of upper GI endoscopy for the diagnosis of UGIB is 92-98% and 30-100% respectively.[12] Timely endoscopy has vital role in modern management of UGIB.[6] Endoscopic management has shown to reduce morbidity, duration of hospital-stay, risk of re-bleeding, and overall health care cost.[5,6,13]

No large scale studies are available in Pakistan about

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prevalence of common causes of UGIB. Endoscopic services are not readily available or affordable for most patients in our setup. Patients are treated without any endoscopic evaluation to assess the etiology and response to treatment. Therefore the aim of the study was to evaluate the patients admitted with UGIB, So that future plans are made for better outcome.

Material and Methods

This was descriptive observational study. It was carried out at Department of Medicine Railway General Hospital from 1st Jan, 2015 to 31st December 2017.

Sample size was 100 patients with upper GI bleed. The sampling technique was non-probability (consecutive) sampling. Record of all patients referred with upper gastrointestinal bleeding to the Endoscopy Unit from indoor and outdoor was reviewed. Relevant data and endoscopic findings were retrieved from endoscopic register and entered in structured Performa. Those cases with incomplete record were excluded.

This study was conducted after approval by Institutional Ethical review committee

All patients had given written consent for endoscopy and had undergone hepatitis B and hepatitis C screening. In 60% of patients, endoscopy was performed within 24 hours. Biopsies were taken for suspicious lesions when required. The endoscopy was performed using endoscope GIF 130 Olympus Japan. Lignocaine gargles were used for local analgesia before endoscopy.

Endoscopic evaluation of varices was done in four grades, i.e., grade I-IV.[14] In case of peptic ulcer, FORREST classification[15] was used as follows; FI: active bleeding, FII: stigmata of recent hemorrhage, FIII: lesions without active bleeding. Los Angeles classification[16] system was used for esophagitis. Acute erosive gastritis was considered when multiple dark brown erosions were present.[17] Normal endoscopy was defined by absence of any abnormality.

Data (parametric) was analyzed by statistical software package SPSS version21. Descriptive statistics, including patient's age, gender, and admission number, were entered. Mean ± SD was calculated for age and frequency of qualitative variables was expressed as frequencies and percentages.

Results

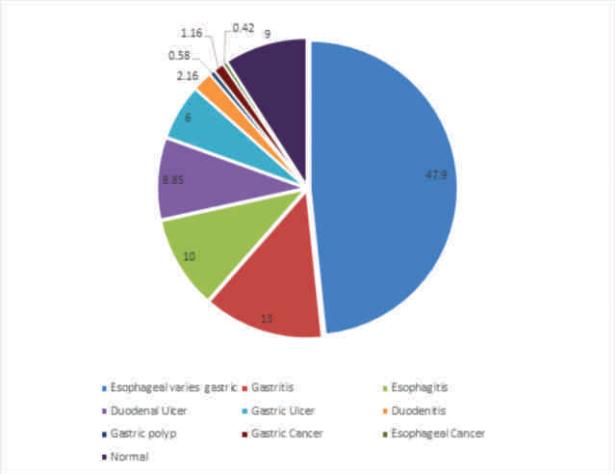
Out of 100 patients there were 58 (58%) males and 42(42%) females. The male to female ratio was 1.4:1. The mean age of patients was 52.20 ±15.58 SD years. The age range was between 18 to 80 years. The source of bleeding was endoscopically identified in 91(91%) cases and in 9 patients no source of bleeding could be identified. The commonest cause of UGIB was esophageal varices consisting of 47.90% with equal frequency in male and female. The commonest cause of non-variceal bleed was erosive mucosal disease (gastritis, esophagitis, and duodenitis) accounting for 25.16% of cases. While peptic ulcer accounted for 14.58% cases. Other less frequent causes include malignancy, gastric polyp and duodenitis. In patients with variceal bleed, anti HCV was positive in 80% and HBsAg in 10% of cases.

Table I: Distribution of patients with UGIB according to age and sex. Patient n=100

Age (years)	Number of patient (%)		
	Males	Females	Total
<30	5	6	11
31-50	18	1 5	33
51-70	27	12	39
>71	8	9	17

Table II: Distribution of endoscopic findings and its frequency with sex.

Endoscopic Finding	Males (%)	Females (%)	Total (%)
Esophageal varices	28(27.84)	20(20.16)	48(47.90)
Gastritis	9(7.54)	4(5.46)	13(13)
Esophagitis	4(5.8)	6(4.2)	10(10)
Duodenal Ulcer	5(5.22)	3(3.36)	8(8.58)
Gastric Ulcer	4(3.48)	2(2.52)	6(6)
Duodenitis	1(1.74)	1(0.42)	2(2.16)
Gastric polyp	1(0.58)	0	1(0.58)
Gastric Cancer	2(1.16)	0	2(1.16)
Esophageal Cancer	0	1(0.42)	1(0.42)
normal	4(5.22)	5(3.78)	9(9)



Upper GI bleed is a serious medical emergency associated with high morbidity and mortality. In our study esophageal varices was the most common cause followed by erosive mucosal disease and peptic ulcer. Age and sex ratio in this study was similar to other reported studies. In Pakistan there is high prevalence of hepatitis B[18] and hepatitis C[19] viruses and is the major cause of cirrhosis in our population. In variceal bleed group 80% patients were tested positive for anti HCV and 10% were positive for HBs.Ag.

Most studies conducted in Pakistan report a very high frequency of esophageal/gastric varices. A study comprising 550 patients and conducted at one of the largest tertiary care centers in Islamabad revealed that 44.4% patients reporting with UGIB had variceal bleeding while 19.7% had peptic ulcer and 6.6% had esophagitis.[20] A similar study from Multan[21] also showed high frequency of variceal bleeding (53%) with peptic ulcer being the second most frequent cause (26%). Ghouri et al. conducted a study in Jamshoro in which 54% of their patients had esophageal varices while 20% had peptic ulcer.[22]More recently, Farrukh et al. from Military Hospital Rawalpindi concluded that frequency of variceal bleeding in Pakistan has in fact risen over the years. More than two thirds of their study population (72.1%) was found to have esophageal varices.[23] Results of our study are therefore in accordance with the previous studies. Similar results are shown in a study from India.[24]

Portal hypertension secondary to hepatitis B and schistosomiasis is highly prevalent in African countries. Studies from Africa report higher frequency of esophageal varices. Jaka et al. from Tanzania reported varices in51.3% followed by peptic ulcers in 25.0% of cases.[25] While Aleema reported 40.6% cases had variceal bleed.[26]

UGIB can also result from erosive mucosal disease such as acute esophagitis, gastritis and duodenitis. Stress induced mucosal ulceration is a frequent occurrence in critically ill patients. However, clinically significant bleeding from acute stress gastritis has been reported as1.5%.[27] In the present study, erosive mucosal diseases were the second most common endoscopic finding in patients with UGIB. One in every four patients (25.16%) had esophagitis, gastritis and/or duodenitis. Results of our study closely match the findings of Shah et al. who also report erosive mucosal diseases as the second most common finding in their study after variceal bleeding. The frequency of esophageal varices in their study was 64.2% while that of erosive gastritis and peptic ulcer was 15.4% and 10.5% respectively.[28] Previously in a single center Indian study, Rathore et al. found erosive gastritis to be the most frequent cause of UGIB.[29] Similarly study by Aleema showed erosive mucosal disease second most important cause of UGIB after varices.[26]

The frequency of peptic ulcer in our study was relatively low (14.8%). While this is in accordance with results from local studies,[20,21,22,23,] although it is contrary to most data reported from the Western world. In a large scale study, Budimir et al. concluded that peptic ulcer bleeding (PUB) is the main cause of UGIB and is associated with significant re bleeding rate and mortality.[30] Peptic ulcer is strongly associated with Helicobacter pylori (H Pylori) infection. Other risk factors include alcohol abuse, chronic renal failure, non-steroidal anti-inflammatory drug (NSAID) use.

Peptic ulcer bleed and not variceal hemorrhage was the leading cause of UGIB in Pakistan in early 90's as determined in a study be Zuberi et al.[31] While this may partly be explained by the rising prevalence of chronic viral hepatitis in our country, the prevalence of peptic ulcer is overall declining.[32]This is believed to be due to an increased use of proton pump inhibitors (PPIs) and H pylori therapy. A study carried out in rural Sindh revealed that over half (51%) of patients in our setting are using PPIs with no definite indication.[33] It is therefore logical to assume that this

may very well be a contributing factor to changing trends in the frequency of PUB in recently published local data.

The endoscopy was normal in 9% of our patients. This number is much higher than the Western studies although similar to data from developing parts of the world.[26] A logical explanation of this is the fact that in the developed countries patients with UGIB undergo early endoscopy within 24 hours. In the present study, in 40% of our patients endoscopy was performed after 24 hours. Mucosal lesions are known to heal quickly, and delay in performing endoscopy can lead to normal endoscopic findings. Moreover, it is also important that detailed history must be taken to distinguish between haematemsis, haemoptysis, and gum bleed before endoscopy.

The result of our study stresses that variceal bleed is responsible for majority of cases of UGIB in our population. This requires mass efforts to stop transmission of hepatitis viruses and intensive treatment of chronic hepatitis to prevent progression to cirrhosis.

Limitation of study is that some patients had endoscopy after 24 hours of initial episode of bleeding and it is well known fact that mucosal lesion heal quickly, so bleeding source may not be identified in these patients.

Conclusion

Variceal hemorrhage is the commonest endoscopic finding in patients presenting with upper gastrointestinal hemorrhage. Amongst the non-variceal causes, erosive mucosal lesions such as esophagitis, gastritis and duodenitis are more frequently seen than peptic ulcer in our population.The authors report no conflict of interest. The authors alone are responsible for the content and writing of paper.

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