FREQUENCY OF DIFFERENT CAUSES OF UPPER GASTROINTESTINAL BLEEDING USING ENDOSCOPIC PROCEDURE AT A TERTIARY CARE HOSPITAL

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ABSTRACT

Objectives: To assess the outcome of early endoscopy in terms of frequency of different causes of upper gastrointestinal bleeding at a tertiary care hospital.

Study Design: Cross sectional descriptive study.

Place and Duration of Study: Outpatients / indoor patients, Department of Medicine Military Hospital Rawalpindi from 1st Jan 2010 to 30th June 2010.

Patients and Methods: Study was carried out in department of medicine Military Hospital Rawalpindi. Two hundred and forty four after cosen. Patients of upper gastrointestinal bleeding fulfilling the inclusion criteria were included in the study. Haemodynamically stable patients were kept empty stomach for at least 6-8 hours before procedure. A detailed history and thorough physical examination was carried out. Protocols for endoscopic examination were followed. Mandatory baseline investigations were obtained. Endoscopic findings were documented on a proforma. *p* value of less than 0.05 was considered statistically significant.

Results: There were 174 males (71.3%) and 70 females (28.7%). The age of the patients ranged from 15 years to 75 years, mean age was 52.23 years (SD = 14.78). The most common cause of upper GI bleed was varices in 176 (72.1%) patients; followed by gastric ulcer in 24 (9.8%) patients. Other causes in order of decreasing frequency included gastritis 16(6.55%), duodenal ulcer 14(5.73%), esophagitis 6(2.45%), Mallory Weiss tear 2(0.81%) and miscellaneous 6(2.45%).

Conclusion: Esophageal varices is the most common cause of upper GI bleed in our set up reflecting high prevalence of liver cirrhosis secondary to chronic HBV and HCV infection.

Key words: Hematemesis, Melena, Upper GI bleeding, Upper GI endoscopy, Varices.

INTRODUCTION

Upper gastrointestinal bleeding is a common presentation in gastroenterology clinics and medical units. It has multifactorial etiology that varies widely between geographical areas of the world. The most common presenting symptoms are hematemesis in acute bleed and melena in chronic cases[1]. Hematemesis indicates that the site of the bleeding is proximal to or at the duodenum while melena usually results from bleeding from the upper gastrointestinal tract, although right-sided colonic and small bowel lesions can occasionally be responsible[2]. Mortality increases with increasing age and is significantly higher in patients who are already admitted in hospital for co-morbidity[3].

In one study of 552 patients with upper gastrointestinal bleeding, esophageal varices accounted for the majority of the lesions (44%), followed by peptic ulcer disease that accounted for 19.7% and esophageal lesions like esophagitis and esophageal ulcers were seen in 6.6%[4].

Upper gastrointestinal bleeding can be treated both pharmacologically and endoscopically. With recent progress in treatment modalities, mortality from upper gastrointestinal bleeding has decreased appreciably[5]. Endoscopic therapy has been shown to decrease mortality and morbidity in patients presenting with gastrointestinal bleeding. Upper gastrointestinal endoscopy can decrease hospitalization costs by identifying patients who can be promptly discharged and can further decrease the need for surgery. Adequate resuscitation and stabilization

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Received: 30 May 2012; Accepted: 19 Sep 2013

is essential prior to endoscopy to minimize treatment associated complications[6].

Variceal bleeding secondary to portal hypertension and peptic ulcer diseases are the most common causes of upper gastrointestinal bleeding in Pakistan setup[7]. Less common causes include Mallory-Weiss tear, vascular anomalies, gastric neoplasms, erosive gastritis and esophagitis. While unusual causes of upper gastrointestinal bleeding include hemobilia, pancreatic insufficiency and pseudoaneurysm.

Our study assesses the common causes of upper gastrointestinal bleeding on the basis of endoscopic findings in our set up. This would help to sensitize the treating physicians regarding the most prevalent causes of upper gastrointestinal bleeding in our patients.

PATIENTS AND METHODS

This was an observational study carried out at the Department of Medicine Military Hospital Rawalpindi from 1st Jan 2010 to 30 June 2010. All patients presenting with hematemesis or melena were enrolled in the study. Patients included indoor patients as well as outdoor patients referred from other units with similar complaints. The patients included in the study were those with complaints of hematemesis or melena of either sex. They were between 15 and 75 years of age. Individuals in severe shock, with atlantoaxial subluxation or possible visceral perforation, those having severe respiratory disease, recent myocardial infarction, unstable angina or cardiac arrhythmias were excluded.

Sample size (n) was 244 patients with upper gastrointestinal bleeding. The sampling technique used was non-probability sampling (consecutive).

Permission from hospital ethical committee was obtained. A detailed history and thorough physical examination was carried out. Protocols for endoscopic examination were followed. Mandatory baseline investigations were obtained including blood complete count; stool for occult blood, ova/cyst; hepatitis serology; bleeding profile; abdominal ultrasound; ECG and chest X-ray. Patients were enrolled for upper gastrointestinal endoscopic evaluation after taking informed consent. Upper GI endoscopy was performed within 48 hours of onset of bleeding symptoms. Local throat anaesthesia was achieved with 4% xylocain spray. The site and type of lesion was documented by visualizing active bleeding lesion, cause of bleeding was ascertained and data entered in a proforma.

Data was entered and analyzed with the help of statistical program SPSS V 15. Descriptive statistics i.e. mean and SD was calculated for age. Frequencies along with percentages were calculated for variables including age, gender and cause of hematemesis.

RESULTS

A total of 244 patients were included in the study, there were 174 (71.3%) males and 70 (28.7%) females. Male to female ratio was 2.5:1. The age of the patients ranged from 15 years to 75 years. Mean age was 52.23 years (SD = 14.78). All these patients were subjected to upper GI endoscopy after at least 6-8 hrs of admission. In all the age groups varices was the main cause of gastrointestinal bleeding; 62.7% in younger age group, 71.4% in middle age group while 77.1% in older age group (Table-1). Out of 176 patients with gastroesophageal varices 172 (98.86%) were esophageal varices and 4 (2.27%) were fundal varices. Out of 172 esophageal varices, 30 (17.44%) were grade I varices, 76 (44.18%) were grade II varices, 37 (21.51%) were grade III varices and 29(16.86%) were grade IV varices. The relationship between age and causes of gastrointestinal bleeding was also statistically insignificant.

Peptic ulcer was the second common cause of upper gastrointestinal bleeding in our study. Out of 244 patients with upper gastrointestinal bleeding 38 (15.57%) were of peptic ulcer. Out of these 38 (15.57%), 24 (9.84%) were of gastric ulcer and 14 (5.73%) were of duodenal ulcer.

Most of the patients belonged to the fourth, fifth and sixth decade of life (Fig. 1). One hundred and fifty five (63.5%) patients presented

with melena, 47 (19.3%) with hematemesis while 42 (17.2%) patients presented with both melena and hematemesis. Melena was the most frequent symptom in both the genders i.e. 62.1% in males and 67.1% in females (Table-2).

Presenting symptoms were also analyzed according to different age groups. In all the age groups mostly patients presented with melena; 58.8% in younger age group, 66.7% in middle age group while 63.3% in older age group. The relationship between presenting symptoms and age was statistically insignificant.

Table-1. Causes of gastrointestinal bleeding in different age groups.

Causes of Gastrointestinal Bleeding	Age Groups		
	≤ 39 years (n = 51)	40 – 59 years (n = 84)	≥ 60 years (n = 109)
Varices	32 (62.7%)	60 (71.4%)	84 (77.1%)
Gastric Ulcer	3 (5.9%)	10 (11.9%)	11 (10.1%)
Erosive Gastritis	5 (9.8%)	6 (7.1%)	5 (4.6%)
Duodenal Ulcer	5 (9.8%)	5 (6%)	4 (3.7%)
Esophagitis	3 (5.9%)	2 (2.4%)	1 (0.9%)
Mallory Weiss tear	0 (0%)	0 (0%)	2 (1.8%)
Miscellaneous	3 (5.9%)	1 (1.2%)	2 (1.8%)

Table-2: Presenting symptoms distribution in patients included in study (n=244).

Presenting Symptoms	Male (n = 174)	Female (n = 70)
Melena	108 (62.1%)	47 (67.1%)
Hematemesis	37 (21.3%)	10 (14.3%)
Both	29 (16.7%)	13 (18.6%)

DISCUSSION

Acute upper gastrointestinal bleeding is a serious medical emergency and is associated with considerable morbidity and mortality (13%), as well as the enormous financial burden on health services[8].

Age and sex ratio in the study under discussion was almost similar to other reported studies. In the National American Society for Gastrointestinal Endoscopic Bleeding Survey (ASGE) on UGI tract involving 2,225 patients, 6 pathological entities were responsible for most bleeding episodes[9]. These include duodenal and gastric ulcer, acute gastritis, esophageal varices, esophagitis and Mallory Weiss tears. In our study esophageal varices was the most common cause followed by gastric ulcer and then gastritis. These results were different from studies conducted in Western countries. In the National American Society for Gastrointestinal Endoscopic Bleeding Survey (ASGE) on UGI tract involving 2,225 patients, peptic ulcer was the most common cause, where as varices were present in 15.4% cases compared with 72.1% in our study.

In a study conducted by Barkun et al in most settings, the vast majority of acute episodes of upper gastrointestinal bleeding (80 to 90%) have non-variceal causes, with peptic ulcer accounting for the majority of lesions[10]. In another study conducted by Laine, varices accounts for 10 to 30 percent of all cases of bleeding from the upper gastrointestinal tract[11].

But our results are comparable with the results of studies from other developing countries e.g., in a study conducted in Kenya at National Hospital esophageal varices was the major cause of upper gastrointestinal bleeding[12]. These results are also comparable with studies conducted in Pakistan. In one local study of 552 patients with upper gastrointestinal bleeding that was conducted in PIMS Islamabad, esophageal varices accounted for the majority of the lesions (44%), followed by peptic ulcer disease that accounted for 19.7% and esophageal lesions like esophagitis and esophageal ulcers were seen in 6.6%[4]. Similarly in another study of 350 patients with

upper gastrointestinal bleeding that was conducted in Gastroenterology Department Postgraduate Medical Institute, Hayatabad Medical Complex Peshawar, variceal bleed was the most common cause in 45.7% cases followed by peptic ulcer in 31.4% cases[7].

In our study varices is the leading cause of upper gastrointestinal bleeding but the percentage has increased much and it is almost 72.1%.

CONCLUSION

Esophageal varices is the most common cause of upper gastrointestinal bleeding. It is most commonly secondary to liver cirrhosis as a long term complication.

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