

Original Article

Major Causes of Upper Gastrointestinal Bleeding at King Abdul Aziz University Hospital (Jeddah)

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ABSTRACT

Objective: To study the etiology, prevalence, treatment and the concomitant diseases associated with Upper Gastrointestinal (UGI) bleeding in patients who were admitted to the Endoscopy Unit in King Abdul Aziz University Hospital (KAUH) with UGI bleeding during the period between January 1998 to June 2000.

Method: Retrospective analysis of all patients admitted to the Endoscopy Unit with UGI bleeding during the period between January 1998 to June 2000 were included in the study. Patients' age, sex, nationality, hemoglobin level, blood transfusion requirements, endoscopy lesions, underlying diseases associated with UGI bleeding and type of the treatment given to the patients were recorded. The mortality rate of patients in the study was reported.

Results: A total of 3955 upper GI endoscopies were performed during the study period for various indications. UGI bleeding contributed to 1.76% of cases.

The mean age was 51 years; 31 patients were Saudi while 39 were non-Saudis. Of the of non-Saudis, 43.6% were Yemenese. Esophageal varices were the most common finding at endoscopies, followed by duodenal ulcer. Multiple lesions were detected in 23 (32.8%) patients. The most common underlying diseases associated with UGI bleeding were schistosomal liver disease and hepatitis B and C in 17 and 16 patients, respectively. Twenty-eight patients (70%) with esophageal varices were treated with sclerotherapy. The mortality rate of 21.4% reported in the study was attributed to underlying disease, mainly chronic liver disease 10 cases (66.7%).

Conclusion: Esophageal varices and peptic ulcer disease were the most common lesions found in our patients with UGI bleeding. Multiple lesions were frequently found at endoscopy. It is now our policy to perform urgent endoscopies on patients presenting with UGI bleeding diagnosis and therapeutic reasons.

KEY WORDS: duodenal ulcer, esophageal varices, schistosomal liver disease, UGI bleeding

INTRODUCTION

Upper gastrointestinal bleeding (UGI) is a common medical condition that results in high morbidity, mortality and medical care cost^[1]. In a study from a large maintenance organization, the annual incidence of hospitalization for acute UGI bleeding was 102 per 100,000; the incidence was twice as common in males as females, and increased with increasing age^[2]. Upper panendoscopy is the diagnostic modality of choice for acute UGI bleeding. Endoscopy is highly sensitive and specific for locating and identifying bleeding lesions in the upper gastrointestinal tract. In addition, once a bleeding lesion has been identified, therapeutic endoscopy can achieve acute homeostasis and prevent recurrent bleeding in most patients^[1,2].

In this study, the focus was on the etiology, prevalence, treatment and the underlying diseases associated with UGI bleeding in patients who were admitted to the Endoscopy Unit at KAUH with UGI bleeding during the period between January 1998 to June 2000.

MATERIAL AND METHOD

King Abdul Aziz University Hospital (KAUH) is a 340-bed government teaching hospital providing health care to a multinational population of mixed socioeconomic status. All patients admitted to the Endoscopy Unit with UGI bleeding during the period between January 1998 to June 2000 were included in the study. The endoscopy reports and the hospital records of patients presenting with UGI bleeding-like hematemesis, coffee-ground vomitus, melena, and black, tarry stools were systematically reviewed.

Endoscopic diagnosis of the lesions was based on the macroscopic appearance using standard criteria. Endoscopy was considered negative when no abnormality was seen.

The medical records were reviewed and information were recorded regarding age, sex, nationality, hemoglobin, underlying diseases associated with UGI bleeding, and the type of treatment given to the patient. The mortality rate of patients included in the study was noted.

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Statistical analysis was conducted using the Statistical Package for Social Science (SPSS 7.5). A two-tailed student's T-test and Chi-square were used. Results were considered significant if the P value was less than 0.05.

RESULTS

A total of 3955 UGI endoscopies were performed in the Endoscopy Unit of KAUH for various indications, including UGI bleeding during the period of the study. There were 70 (1.76%) patients with UGI bleeding. The mean age was 51 years (range 14-90 years) with male to female ratio of 1.59:1 (43:27). Thirty-one patients were Saudis while 39 were non-Saudi. Of the non-Saudis, 43.6% were Yemenites (Table 1). A total of 42 cases (60%) presented with hematemesis, 11 cases (15.7%) with melena and 17 (24.8%) cases with both. Table 2 summarizes the frequencies of the lesions detected. Patients with esophageal varices constituted the largest group (40 cases, 57%), followed by duodenal ulcer in 14 patients (20%). Gastric ulcers in seven patients (10%). Duodenitis was detected with duodenal erosion, gastric erosion, and gastritis in six patients, respectively. Of the 70 patients, 23 (32.8%) had more than one lesion at endoscopy. In patients with esophageal varices, the varices of grade 4 were the source of active bleeding in 24 patients (60%), while grade 2 and 3 were seen in 16 patients (40%).

The most common concomitant diseases associated with UGI bleeding were schistosomal liver disease, and hepatitis B and C in 17 and 16 patients, respectively. Alcohol consumption as a cause of UGI bleeding, though not significant, was reported in two cases (Table 3).

The mean hemoglobin concentration was (8.34gm/dl) and 60% of the patients required repeated blood transfusions. Endoscopic sclerotherapy was performed in 28 patients (70%) with esophageal varices to stop the active bleeding, while banding was done in only one patient. Prophylactic propranolol was used in 11 (27.5%) cases (Table 4).

The 21 patients with peptic ulcer disease as the source of UGI bleeding were treated with H₂ receptor antagonist, whereas proton pump inhibitors were used in 15 cases. Adrenaline injection of 1/1000 concentration was given to two patients with massive bleeding due to duodenal ulcer. The overall mortality was 15 (21.4%) cases. This was mainly attributed to the underlying disease and the age of the patient. A total of 10 patients (66.7%) died from complications of chronic liver disease and esophageal varices, four (26.6%) died from bleeding duodenal ulcers and one died from angiodysplasia of the small intestine and concomitant chronic renal failure.

Table 1
Racial distributions of the non-Saudi cases

Nationality	No. of cases	%
Yemenese	17	43.6
Egyptian	5	12.8
Sudanese	4	10.2
Palestinian	4	10.2
Indian/Pakistani	4	10.2
Somalia	3	7.7
Ethiopian	2	5.2
Total	39	100

Table 2
Endoscopic finding in-patients with history of UGI bleeding

Endoscopic finding	No. of cases
Esophageal varices	40
Duodenal ulcers	14
Gastric ulcer	7
Duodenitis+duodenal erosions	6
Gastric erosions	6
Gastritis	6
Esophagitis	3
Carcinoma of stomach	1
Fibromyoma of stomach	1
Mallory-Weiss syndrome	1
Fundal varices	1
Angiodysplasia of stomach	1
Inconclusive	1

Table 3
Underlying diseases associated with UGI bleeding

Underlying diseases	No. of cases
Schistosomal liver disease	17
Hepatitis C and B	16
NSAD Use	3
Alcohol	2

Table 4
Treatment in esophageal varices

Treatment	No. of cases	%
Sclerotherapy	28	70.0
Propranolol	11	27.5
Banding	1	2.5
Total	40	100

DISCUSSION

This study revealed that UGI bleeding accounted for 1.76% of all the GI endoscopies performed in the Endoscopy Unit of KAUH for various indications^[1,2]. It was more common in males than females, with a male:female ratio of 1.59:1. The results reported in our study are different from those reported from other parts of Saudi Arabia by Al-Karawi, Al-Mofarreh and Al-

Laajam, who showed a higher incidence of 4.5%, 21%, 6.3%, respectively^[3,4,5] as well as those reported from outside the kingdom, from Jordan^[6,7].

The most common finding at endoscopy was esophageal varices. This finding is in agreement with results reported by Al-Lajaam, and Al-Mofarreh, but different from other reports.

Duodenal ulcers were noted in 20% of our patients. No definite etiology of bleeding could be made in two (2.8%) patients, even after repeated endoscopies. In one case, angiodysplasia of small intestine was the cause of the bleeding, which was proven by RBC-labeled scan^[9]. The second case was due to warfarin overdose in a patient with atrial fibrillation. The high incidence of hepatitis B and C and schistosomal liver disease in Saudis and non Saudis makes bleeding from esophageal varices the major cause of UGI bleeding in our country, in contrast to Western communities^[10]. Peptic ulcer disease was assumed to be caused by NSAD in three patients^[11] and helicobacter pylori in 15 cases^[12]. Alcohol consumption appeared to play little if any role as a cause of UGI bleeding in this population, most likely due to the religious prohibition of alcohol use in the area^[13].

Endoscopic sclerotherapy was performed in 28 patients with esophageal varices to stop the active bleeding^[14,15,16]. Patients with peptic ulcer disease as the source of UGI bleeding were treated with H2 receptor antagonist in 21 cases, whereas proton pump inhibitors were used in 15 cases with a significant p value of <0.03^[17,18].

The overall mortality of 21% in this series compares well with other reported mortalities of between 5 and 20%. Underlying disease has been reported to be an important risk factor of mortality from UGI bleeding. This is in keeping with our study, which revealed a strong correlation between the underlying disease and the age of the patient. When adjusted for age, underlying disease had a significant effect on mortality in older patients. Patients with varices as a source of bleeding had a greater mortality than patients with bleeding from other causes, as was reported in other studies. This effect may be attributed to the underlying chronic liver disease, which appeared as an independent predictor of mortality in the multivariate analysis. Others have also emphasized the importance of chronic liver disease as a risk factor for mortality in patients presenting with UGI bleeding. The lower mortality found in patients with duodenal ulcer confirms previously observed trends^[19,20].

CONCLUSION

Esophageal varices and peptic ulcer disease constitute the most common lesions presenting with upper GI bleeding. Multiple lesions were

frequent findings at endoscopy. It is now our routine to perform urgent endoscopies for upper GI bleeding for diagnosis and therapeutic reasons.

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