An Etiological Study of Upper Gastrointestinal Bleeding

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Abstract

Background: To determine the causes of upper gastrointestinal bleed in patients undergoing endoscopy

Methods: In this prospective descriptive study 147 naive patients, with first episode of upper gastrointestinal bleeding, who underderwent endoscopic examination within 24 hours of their admission were included.

Results: Mean age was 52.8 years. Majority (64.5%) were male. 30.6% patients had either a single or multiple duodenal or gastric ulcers. Thirty one (21%) patients had bleeding lower esophageal varices (LEV) or gastric varices. Another 3.4% patients had bleeding peptic ulcer in presence of non bleeding LEV. Duodenitis, gastric erosions and erosive gastritis were found in 18.4%. In 12.2% patients no cause of upper GI bleed was found.

Conclusion: Peptic ulcer was found to be the commonest cause of upper GI bleed (34%). Gastric erosions and erosive gastritis were among the less common causes (18.4%).

Key Words: Peptic ulcer; Upper GI bleed

Introduction

Upper gastrointestinal (GI) bleeding remains one of the most common reasons for emergency hospital admission with a GI problem. It has an incidence of 50-150 per 100,000 people per year. It becomes more important in clinical practice due to its high mortality rates ranging between 4 - 14%. 14

Bleeding peptic ulcer, esophageal and gastric varices, erosive gastritis, telangiectasia and Mallory-Weiss tear are among the common causes of upper GI bleeding. In Pakistan, various studies have revealed a diverse data regarding the most common cause of upper GI bleed. Variceal bleeding and erosive gastritis were found to be the commonest causes of upper GI bleeding in most of these studies. Whereas, peptic ulcer was found to be the second commonest cause. 5-8

Khurram et al, during an endoscopic evaluation of 2484 patients with upper GI hemorrhage, found peptic ulcers to be 6th commonest cause of upper GI bleed. 9

Patients and Methods

This prospective descriptive study was carried out in the department of Medicine, Wah Medical College, POF Hospital Wah Cantt during the year 2009 from 1st Jan to 31st December. Patients presenting to this hospital with acute Upper GI bleeding for the first time, were included in this study. Informed consent was obtained from all of them. Patients with prior diagnoses, evaluations, or endoscopies were excluded from this study. All the endoscopies were done within 24 hours of admission.

Results

During the year 2009, a total of 958 patients underwent upper GI endoscopy. Among these, 15.5% patients (n=147) were for the evaluation of first upper GI bleeding. Their age ranged between 13-95 years. Their mean age was 52.8 years. Majority of patients presenting with first upper GI bleeding in this study were males, accounting for 64.6% of patients (n=95). The proportion of females with acute upper GI bleeding was only 35.4% (n=52). Male: Female ratio was 1:0.6 Peptic ulcer disease was the commonest (30.6%). They either had a single or multiple duodenal and / or gastric ulcers. Evidence of portal hypertension in the form of bleeding esophageal and / or gastric varices was evident in 21%. Peptic ulcer as a cause of acute upper GI bleed in combination with non-bleeding lower esophageal varices (LEV) was observed in another 3.4% of patients. Miscellaneous lesions like duodenitis, gastric erosions, and erosive gastritis were found in 18.4% (n=27) of studied group. Out of these, gastric erosions were present in 11.6%. In 12.2% (n=18) patients no cause of upper GI bleed could be found endoscopically (Table 1). The mean age of patients with peptic ulcer was 58.3 years whereas the mean age of patients with LEV was 53.70 years.
Table 1: Causes of Upper GI Bleed (n=147)

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>No(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower esophageal varices</td>
<td>29(19.7)</td>
</tr>
<tr>
<td>Single duodenal ulcer</td>
<td>26(17.7)</td>
</tr>
<tr>
<td>Gastric ulcer</td>
<td>16(10.9)</td>
</tr>
<tr>
<td>Normal</td>
<td>18(12.2)</td>
</tr>
<tr>
<td>Gastric Erosions</td>
<td>17(11.6)</td>
</tr>
<tr>
<td>Portal Hypertensive Gastropathy</td>
<td>8(5.4)</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>7(4.8)</td>
</tr>
<tr>
<td>Erosive Esophagitis</td>
<td>6(4.1)</td>
</tr>
<tr>
<td>Duodenitis</td>
<td>4(2.7)</td>
</tr>
<tr>
<td>Multiple duodenal ulcer</td>
<td>3(2.0)</td>
</tr>
<tr>
<td>Duodenal ulcer with lower esophageal varices</td>
<td>3(2.0)</td>
</tr>
<tr>
<td>Duodenal ulcer, gastric ulcer with lower esophageal varices</td>
<td>2(1.4)</td>
</tr>
<tr>
<td>Gastric Varices</td>
<td>2(1.4)</td>
</tr>
<tr>
<td>Mallory Weiss tear</td>
<td>2(1.4)</td>
</tr>
<tr>
<td>Carcinoma Stomach</td>
<td>2(1.4)</td>
</tr>
<tr>
<td>Carcinoma Esophagus</td>
<td>1(0.7)</td>
</tr>
<tr>
<td>Ampullary Carcinoma</td>
<td>1(0.7)</td>
</tr>
</tbody>
</table>

Discussion

Peptic ulcer has been described as the commonest cause of upper GI bleeding accounting for about 20-50% cases of acute severe upper GI bleed. While gastro esophageal variceal bleed is responsible for 5-30% cases and esophagitis causes upto 2-10% of upper GI bleed. \(^4,6,10,11\). In the present study 30.6% cases of duodenal and or gastric ulcers were the only cause of upper GI bleed. In 3.4% patients, bleeding duodenal or gastric ulcer was present alongwith non bleeding lower esophageal varices. The overall frequency of peptic ulcer as the major cause of bleeding was 34%. It is comparable to other studies.\(^12,13\). However, present study findings, do not coincide with some local studies describing causes other than peptic ulcer as the major cause of upper GI bleed.\(^14-17\) Adam T et al in a study done at Pakistan Institute of Medical Sciences found that esophageal varices were responsible for bleeding in 44.4% cases and peptic ulcer accounted for only 19.7% cases of acute upper GI bleed. \(^7\) In the present study all the patients were naïve, i.e. without any prior diagnosis or admission contrary to the above mentioned study.Khurram M et al in a study of 2484 patients from DHQ teaching hospital, Rawalpindi, found erosive gastritis, esophage gastroduodenitis and duodenitis in 15.6%, 15.3% and 14.3% cases respectively, being the main causes of upper GI bleed. Endoscopy was unremarkable in 24% patients presenting with upper GI bleed. They found peptic ulcer in only 8.3% cases. \(^9\) The mean age of patients included in their study was 38.8 +/- 12.6 years which was much lower than mean age of our patients. This probably explains why the number of patients with erosive gastritis, gastroduodenitis and duodenitis were high in this study as compared to peptic ulcer patients which are likely to be seen with advancing age as was the case in our study. Najam un Nasir et al in a study from Mayo Hospital Lahore also found esophageal varices (54%) to be the commonest cause of acute upper GI bleed. But their overall prevalence of peptic ulcer (32%) matched present study(34%).\(^14\)

While the incidence of peptic ulcer and its complications is declining, hospitalization rates and ulcer complications are on an increase, especially in the elderly population. \(^18\) The mean age of GI bleed patients with peptic ulcer is 5 years higher than mean age of patients with GI bleed secondary to LEV. In peptic ulcer patients, 66.66% were above 50 years of age and 48.88% patients were above 60 years of age. Whereas only 22.58% of patients with LEV were above 60 years of age. The rise in the ulcer complications in the elderly is most likely due to longer life expectancy in the modern world. Longer life expectancy is associated with higher incidence of both rheumatological and cardiovascular problems and consequently an increased use of nonsteroidal anti-inflammatory drugs(NSAIDs) including aspirin in this population.\(^19\)

The discrepant results of the present study, as compared to some local studies, can partially be explained by the place of study, i.e. POF Hospital Wah, the only tertiary care hospital in the area catering a local population of about 6 lakhs. Most of the patients of acute upper GI bleed, whether minor or major, do report to the hospital and undergo upper GI endoscopy within 24 hours. This may represent the true frequency of different causes of upper GI bleed. Whereas in other parts of the country, patients have
options of going to various nearby private/governmental health facilities and hence there is a chance that many of the patients with relatively smaller bleeds which are due to peptic ulcer may not undergo endoscopy. It is well established that about 80% of the ulcer bleeds stop spontaneously without an intervention and may go unnoticed. Variceal bleed is usually more severe and catastrophic and usually patients always reach a tertiary care hospital where they would undergo endoscopy in majority of cases.

**Conclusion**

The incidence of GI bleed in patients with peptic ulcer increases with increasing age.

**References**