ACUTE UPPER GASTROINTESTINAL BLEEDING: PATTERN OF PRESENTATION AND AETIOLOGY IN A TERTIARY HOSPITAL IN SOUTH-WEST NIGERIA

Aker A, Akande KO and Oke TO

Department of Medicine, College of Medicine, University of Ibadan/University College Hospital, Ibadan, Nigeria

Correspondence Address: Dr. Adegboyega Aker, Department of Medicine, College of Medicine, University of Ibadan/University College Hospital, Ibadan, Nigeria. P.O.Box 28829, Agodi, Ibadan, Nigeria E-mail: adeakere@yahoo.co.uk Telephone: +2348033257211

ABSTRACT

Background: Acute Upper Gastrointestinal Bleeding (UGIB) is an important cause of morbidity and mortality worldwide. Peptic ulcer accounts for about 50%. However, a study from the USA reported a decline in peptic ulcer perforation and bleeding. The aim was to evaluate the pattern of presentation and the aetiology of acute upper gastrointestinal bleeding among Nigerian patients.

Methods: This study was carried out at the Medical Unit of the University College Hospital, Ibadan. Consecutive patients with any or all of haematemesis, melaena or haematochezia were recruited for the study. Demographic data, clinical presentation, history of NSAIDs ingestion, presence of other comorbid conditions were among the information gathered from each patient. The patients were stabilized haemodynamically, after which endoscopy was performed as soon as possible. The data were analyzed using the SPSS statistical software version 15.

Results: There were 123 patients, 96 (78.1%) males and 27 (21.9%) females with a mean age of 47.6±18.0 years (13 - 89 years). Abdominal pain was observed in 72 (58.5%) patients. Haematemesis alone was present in 15 (12.2%), while 29 (23.6%) presented with melaena. Four (3.2%) had haematochezia, while 75 (61%) had both haematemesis and melaena. Dizziness was seen in 82 (66.7%) patients, while 43 (35%) had syncope. The aetiologies are: gastric erosion (56.1%), duodenal ulcer (10.6%), oesophageal varices (7.3%), gastric ulcer (6.5%), gastric angiodysplasia (0.8%). No abnormality was seen in 3 (2.4%) patients.

Conclusion: In this study combination of haematemesis and melaena was the commonest presentation and the commonest aetiology was gastric erosion.

Keywords: Upper gastrointestinal bleeding, Presentation, Aetiology, Tertiary hospital, Nigeria

INTRODUCTION

Acute Upper Gastrointestinal Bleeding (UGIB) is a common emergency condition that constitutes a very important cause of morbidity and mortality worldwide which ranges from 6-13%.1 Acute UGIB is reported to account for about 300,000 and 600,000 hospital admissions annually in the United States2 and the United Kingdom3 respectively. It is about four times as common as bleeding from the lower gastrointestinal tract.4 Although, the causes of
Upper gastrointestinal bleeding: pattern of presentation and aetiology

UGIB differ from one geographical location to the other,5,6 peptic ulcer bleeding is reported to account for close to 50% of all cases, followed by oesophagitis and erosive mucosal disease.7 In the low and middle income countries, it is reported that varices and peptic ulcers account for 45% and 30% of cases respectively.8 It has been observed that the prevalence of peptic ulcer disease had declined in the developed countries and a study from the United States had reported a decline in the rates of peptic ulcer perforation and bleeding.9 This probably has to do with the availability of very potent antiulcer drugs, like the proton pump inhibitors, as well as drugs for the eradication of helicobacter pylori. This same trend is expected in developing countries like ours, because these drugs are also available and are within the reach of most patients. So, the aim of this study was to evaluate the pattern of presentation and current aetiology of acute upper gastrointestinal bleeding in a Nigerian hospital.

MATERIALS AND METHODS

This was a prospective analytical study carried out at the Medical Unit of the University College Hospital, Ibadan. Consecutive patients who presented with any or all of haematemesis, melaena or haematochezia were recruited for the study. Demographic data, clinical presentation, history of NSAID’s ingestion, presence of other comorbid conditions were among the information gathered from each patient. Each patient was examined clinically and triaged. The patients were stabilized haemodynamically, after which endoscopy was performed as soon as possible using Olympus GIF-HQ 190 Exera III Videogastroscope. After an overnight fast, each patient was placed on an adjustable couch, the oropharynx was sprayed with 2% xylocaine spray in a sitting position. In addition, intravenous midazolam 2.5 mg and/or pentazocine 15 mg were administered. However, patients with suspected liver disease did not receive midazolam. The scope was then introduced through a mouth gag with the patient in the left lateral position.

The data obtained from this study were analyzed using the SPSS statistical software version 15.

RESULTS

A total of 123 patients comprising, 96 (78.1%) males and 27 (21.9%) females were recruited into the study, which gives a male to female ratio of 3.5:1. The mean age of the patients was 47.6±18.0 years with a range of 13 - 89 years. This study shows that 72 (58.5%) patients presented with abdominal pain, while 17 (13.8%) patients had abdominal swelling. Haematemesis alone was present in 15 (12.2%) patients, while 29 (23.6%) patients presented with melaena. Four (3.2%) patients had haematochezia and a total of 75 (61%) patients presented with both haematemesis and melaena. Weight loss was present in 45 (36.6%) patients,

Table 1: Clinical presentation of patients

<table>
<thead>
<tr>
<th>Presentation</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abdominal pain</td>
<td>72</td>
<td>58.5</td>
</tr>
<tr>
<td>Abdominal swelling</td>
<td>17</td>
<td>13.8</td>
</tr>
<tr>
<td>Haematemesis alone</td>
<td>15</td>
<td>12.2</td>
</tr>
<tr>
<td>Melaena alone</td>
<td>29</td>
<td>23.6</td>
</tr>
<tr>
<td>Haematemesis &amp; Melaena</td>
<td>75</td>
<td>61.0</td>
</tr>
<tr>
<td>Haematochezia</td>
<td>4</td>
<td>3.2</td>
</tr>
<tr>
<td>Weight loss</td>
<td>45</td>
<td>36.6</td>
</tr>
<tr>
<td>Early satiety</td>
<td>21</td>
<td>17.1</td>
</tr>
<tr>
<td>Dizziness</td>
<td>82</td>
<td>66.7</td>
</tr>
<tr>
<td>Syncope</td>
<td>43</td>
<td>35.0</td>
</tr>
</tbody>
</table>

while 21 (17.1%) patients reported early satiety. (Table 1)

Dizziness was noted in 82 (66.7%) patients and out of which 55 (67.1%) had both haematemesis and melaena, compared with 46.3% of those without dizziness (p=0.02). Syncope was observed in 43 (35%) patients, out of whom, 74.4% had both haematemesis and melaena, compared with 52.6% of those without syncope. This was also significant (p=0.01). These two symptoms pointed to the severity of blood loss. (Table 1)

The mean Packed Cell Volume (PCV) in those with dizziness was 21.9±8.0 % (range 9.0-44.0%), compared with 27.1±8.0% (range 10-42%) in those without dizziness. There was significant difference between the two groups (p=0.00). The mean PCV in those with syncope was 20.4±8.1% (range 10-44%), compared with 25.5±8.9% (range 9-44%) in those without syncope. This was also significant (p=0.00). Use of NSAID’s was reported by 66 (53.7%) patients and out of these, 59.1% presented with both haematemesis and melaena, compared with 61.4% in
those without NSAIDs ingestion. But, this was not statistically significant.

The results also showed that, 68 (55.3%) patients received at least 1 unit of blood. One of the patients had 8 units of blood transfused as a result of massive upper GI bleeding with haemodynamic instability, and this was the highest blood transfusion carried out in this study.

With respect to the aetiology of the UGIB, the results showed that gastric erosion (56.1%) was the commonest cause, followed by duodenal ulcer (10.6%), oesophageal varices (7.3%) and gastric ulcer (6.5%). Gastric angiodysplasia which is a rare cause

**DISCUSSION**

The male predominance observed in this study is similar to findings of other studies conducted in this region and other regions of the world. The mean age of 47.6±18.0 yrs found in this study is slightly higher than the findings of Ajayi et al. in Kano, which is in the North-West region of Nigeria. It is also higher than the findings of Shennak et al. among Jordanian patients. However, the mean age is lower than that reported by Olokoba et al. in Ilorin (Nigeria), Bhutta et al. in Pakistan and Zaltman et al. in Brazil.

In this study, combined haematemesis and melaena was the commonest presentation (61%). This is similar to the findings of Ajayi et al., Zaltman et al. and Kashyap et al. However, Olokoba et al. found melaena to be the commonest presenting symptom in a similar study, while Jaka et al. reported haematemesis as the main symptom.

Although, haematochezia which is passage of fresh blood or clots per rectum is more indicative of a lower gastrointestinal bleeding, it was found in four (3.2%) of our patients. Even though, it is said to connote massive UGIB when present, none of these four patients presented in shock, but three of them had packed cell volume (PCV) below 20%.

Gastric erosion was the leading cause of UGIB in this study which is similar to the finding of Ajayi et al. in Ekiti. However, some studies conducted in the Northern part of Nigeria reported duodenal ulcer as the commonest cause of UGIB. Although, all these studies were hospital based and so, might not represent what actually obtained in the community, it is worthy of note that, majority of patients with symptoms of UGIB are likely to present to the hospital.

Gastric erosion connotes a break in the gastric mucosa which does not extend beyond the muscularis mucosae and major blood vessels, but it has been reported to be the cause of acute UGIB by endoscopy in 16% of patients. The predisposing factors to gastric erosion are NSAIDs ingestion, stress-related medical conditions and alcohol. Of these factors, NSAIDs ingestion is the most common. It has been found that, 40-60% of patients who take NSAIDs develop gastric erosion at any given time, whereas 15-30% develop ulcers. In our study, NSAIDs ingestion was recorded in 53.7% of the patients and this might be causally related to the high prevalence of gastric erosion observed in our patients.

**Table 2:** Endoscopic findings in the patients

<table>
<thead>
<tr>
<th>Finding</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gastric Erosion</td>
<td>69</td>
<td>56.1</td>
</tr>
<tr>
<td>Duodenal ulcer</td>
<td>13</td>
<td>10.6</td>
</tr>
<tr>
<td>Oesophageal varices</td>
<td>9</td>
<td>7.3</td>
</tr>
<tr>
<td>Gastric ulcer</td>
<td>8</td>
<td>6.5</td>
</tr>
<tr>
<td>Gastric tumour</td>
<td>4</td>
<td>3.3</td>
</tr>
<tr>
<td>Gastric polyps</td>
<td>3</td>
<td>2.4</td>
</tr>
<tr>
<td>Duodenitis</td>
<td>3</td>
<td>2.4</td>
</tr>
<tr>
<td>Normal endoscopy</td>
<td>3</td>
<td>2.4</td>
</tr>
<tr>
<td>Barrett's oesophagus</td>
<td>2</td>
<td>1.6</td>
</tr>
<tr>
<td>Oesophageal erosion</td>
<td>2</td>
<td>1.6</td>
</tr>
<tr>
<td>Erosive gastroduodenitis</td>
<td>2</td>
<td>1.6</td>
</tr>
<tr>
<td>Duodenogastric reflux</td>
<td>2</td>
<td>1.6</td>
</tr>
<tr>
<td>Oesophageal ulcer</td>
<td>1</td>
<td>0.8</td>
</tr>
<tr>
<td>Gastric angiodysplasia</td>
<td>1</td>
<td>0.8</td>
</tr>
<tr>
<td>Sliding hiatus hernia</td>
<td>1</td>
<td>0.8</td>
</tr>
</tbody>
</table>

of UGIB was seen in 1 (0.8%) patient. No abnormality was seen in 3 (2.4%) patients.

Alcohol ingestion was noted in 43 (35%) patients. Features of chronic liver disease observed in the patients were jaundice (11.4%), distended abdominal wall veins (8.9%) and ascites (20.3%). Associated co-morbidities observed in the patients were systemic hypertension in 24 (19.5%) and diabetes mellitus in 10 (8.1%) patients.
In another study conducted by Mustapha et al in North-East Nigeria, oesophageal varices were found to be the commonest cause of UGIB, which was attributed to the high prevalence of HBV related chronic liver disease. It is also possible that because variceal bleeding tends to be more severe than other common causes of UGIB, patients with this type of bleeding are likely to present to the hospital and even early.

The finding of our study is also contrary to the findings of studies conducted in other parts of the world. In a study conducted among Jordanian patients by Shennak et al, duodenal ulcer was reported as the commonest cause. In comparison to our study, the sample size in this study was bigger.

In another study conducted by Kashyap et al, duodenal ulcer was also reported to be the commonest cause. In Brazil Zaltman et al found peptic ulcer disease to be the commonest cause of UGIB in a retrospective study of 324 patients. However, this study was retrospective compared to our own.

Our study also showed that 2.4% of the patients had normal endoscopy with no source of bleeding detected. This is lower than the 3.5% reported by Tijjani et al and the 10.4% reported by Mustapha et al. This is likely to be related to the delay in carrying out upper gastrointestinal endoscopy. For various reasons, majority of our patients had endoscopy done much later than 24 hours post admission to the hospital. It is said that the sensitivity of upper endoscopy at locating the source of bleeding is 90-95% and this decreases as the duration from the time of onset of bleeding increases.

Gastric angiodysplasia which is a vascular lesion was seen in only 0.8% of the patients in this study. This supports the belief that vascular lesions are an uncommon cause of UGIB. They have been found to be associated with lower GI and occult bleeding more than UGIB. Also, these lesions have been found to be associated with chronic renal failure, and were reported to be the cause of bleeding in patients with renal insufficiency than in those with normal renal function. In our study, renal function was not performed on our patients and so, we could not comment on the predisposing factor for the gastric angiodysplasia found in one of these patients.

Also, hiatus hernia which was found in 0.8% of our patients is not known to cause UGIB on its own but, it has been reported that Cameron ulcers could be seen in about 5% of patients with hiatal hernias and these could cause life threatening haemorrhage and anaemia. Although, Cameron ulcers were not seen at endoscopy in this particular patient. It is however, possible that the lesions had healed or were missed during endoscopy.

Other findings in our study, like gastric polyps and Barretts oesophagus are not known to cause UGIB. It is possible that these findings were incidental and that the actual causes of the bleeding were either missed at endoscopy or had healed.

CONCLUSION

This study revealed that combination of haematemesis and melaena was the commonest presentation in patients with acute UGIB in this environment. This was seen more frequently in men than in women. The commonest aetiology was gastric erosions followed by the role of NSAIDs consumption and its association with upper GI bleeding requires further evaluation.

REFERENCES

14. Tijjani BM, Borodo MM and Samaila AA. Endoscopic Findings in Patients with Upper Gastrointestinal Bleeding in Kano, North-Western Nigeria. Nigerian Hospital Practice 2009; 4: 3-4