

Aetiology Of Upper Gastrointestinal Bleeding In North-Eastern Nigeria: A Retrospective Endoscopic Study

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Citation

S Mustapha, N Ajayi, A Shehu. *Aetiology Of Upper Gastrointestinal Bleeding In North-Eastern Nigeria: A Retrospective Endoscopic Study*. The Internet Journal of Third World Medicine. 2008 Volume 8 Number 2.

Abstract

BACKGROUND: Acute upper gastrointestinal bleeding (UGIB) is a common life threatening emergency resulting in a large number of hospital admissions. Endoscopy done within the first 24 hours of bleeding has been shown to be the most reliable means of establishing the source of upper gastrointestinal haemorrhage. **AIMS AND OBJECTIVES:** The aim of this study is to determine the causes and outcome of patients with UGIB presenting at two tertiary hospitals in north-eastern Nigeria.

MATERIALS AND METHODS

: The study was carried out at the University of Maiduguri Teaching Hospital and the Federal Medical Centre Gombe, both located in north-eastern Nigeria. The records of 106 patients who underwent endoscopy for upper GI bleeding over a period of 6 years (2003-2008) were retrospectively analysed. **RESULTS:** A total of 106 patients were studied. Seventy-four (69.8%) were males while 32 (30.2%) were females. Their ages ranged from 14 to 75 years with a mean of 41.2 (± 15.1 SD) years. Oesophageal varices were the most frequent cause of bleeding (45.3%) followed by erosive mucosal disease (23.7%) and peptic ulcer disease (16.9%). Gastric cancer and Mallory-Weiss syndrome were rare with each accounting for 1.9% of the cases. In 11 (10.4%) patients no source of bleeding could be identified. Nineteen patients died giving a mortality rate of 17.9%. All the mortalities were recorded among those with variceal bleeding. **CONCLUSION:** Oesophageal varices are the commonest cause of upper gastrointestinal bleeding in this environment and responsible for most the mortalities associated with this condition.

INTRODUCTION

Acute upper gastrointestinal bleeding (UGIB) is a common life threatening emergency resulting in a large number of hospital admissions. It accounts for over 300,000 annual hospital admissions in the United States¹. In spite of the development in new techniques such as endoscopic intervention, the overall mortality rate in remains around 10% in most studies reported in the literature^{2,3,4}. Endoscopy done within the first 24 hours of bleeding has been shown to be the most reliable means of establishing the source of upper gastrointestinal haemorrhage. Several studies have been done in western countries to determine the causes of UGIB^{5,6,7,8,9}. Peptic ulcer disease and erosive mucosal disease have found to be the commonest causes of UGIB. Few studies have been done in Nigeria to determine the causes of upper gastrointestinal bleeding¹⁰.

The aim of this study is to determine the causes and outcome of patients with UGIB presenting at two tertiary hospitals in north-eastern Nigeria.

MATERIALS AND METHODS

The study was carried out at the University of Maiduguri Teaching Hospital and the Federal Medical Centre Gombe, both located in north-eastern Nigeria. The records of 106 patients who underwent endoscopy for upper GI bleeding over a period of 6 years (2003-2008) were retrospectively analysed.

The data which were collected from endoscopy records and patients' case records included demographic characteristics, clinical presentation, history of ingestion of NSAIDs and alcohol, endoscopic findings and outcome of management.

Statistical analysis was performed using the SSPS programme (Version 13). The chi square test was used to assess the significance of difference between variables. A p value of ≤ 0.05 was considered significant.

RESULTS

A total of 106 patients were studied. Seventy-four (69.8%) were males while 32 (30.2%) were females. Their ages

Aetiology Of Upper Gastrointestinal Bleeding In North-Eastern Nigeria: A Retrospective Endoscopic Study

ranged from 14 to 75 years with a mean of 41.2 (± 15.1 SD) years. Majority of the patients (67.1%) presented with haematemesis and malaena. Haematemesis alone was reported in 31 (28.2%) patients while 3 (2.8%) had haematochezia. Majority of the patients (59.4%) were endoscoped within 24 hours while in others it was delayed for between 2 to 7 days. Previous history of peptic ulcer disease was found in 8 (7.7%) of the patients. Sixty-one (57.5%) patients had underlying illness. Of these, 54 (50.9%) had chronic liver disease, out of which 35 (33.0%) had clinical evidence of hepatic decompensation (ascites or asterix). Four (3.8%) patients had renal disease, 2 (1.9%) had hypertensive heart disease and 1 (0.9%) had stroke.

The aetiologic spectrum of UGIB is shown in Table 1. Oesophageal or gastric varices secondary to portal hypertension were the most frequent cause of bleeding (45.3%) followed by erosive mucosal disease (23.7%) and peptic ulcer disease (16.9%). In 11 (10.4%) patients no source of bleeding could be identified. The source of bleeding was identified more often in patients who underwent endoscopy within 24 hours of the onset of bleeding compared to those who had it later ($p < 0.001$).

The use of NSAIDs was recorded in 28 (26.4%) patients. Among the 25 patients with erosive mucosal disease, 19 (76%) had a history of NSAID ingestion prior to the onset of bleeding, and history of alcohol ingestion was recorded in 2 of these patients.

There was no significant difference in the mean ages of the patients with different causes of UGIB ($p = 0.671$) (Table 2). Overall, significantly more males had UGIB than females ($p = 0.012$).

Due to lack of facilities for interventional endoscopy at our centres, all the patients were treated conservatively with fluid replacement, parenteral H_2 receptor blocker or proton pump inhibitor, antacids and blood transfusion as appropriate. Two patients with continuous bleeding from duodenal ulcer had successful surgery. After stabilization, patients requiring further treatment were referred to centres with interventional endoscopy facilities.

Nineteen patients died giving a mortality rate of 17.9%. All the mortalities were recorded among those with variceal bleeding. The presence of hepatic decompensation correlated significantly with higher mortality rate ($p = 0.020$).

Figure 1

Table 1: Aetiological pattern of upper gastrointestinal bleeding

Aetiology	Frequency	Percentage
Oesophageal varices	48	45.3
Gastric erosion	14	13.2
Duodenal ulcer	10	9.4
Gastric ulcer	8	7.5
Oesophagitis	6	5.7
Duodenitis	5	4.7
Gastric cancer	2	1.9
Mallory- Weiss syndrome	2	1.9
No lesions detected	11	10.4

Figure 2

Table 2: Mean ages of patients with different causes of UGIB

Cause of UGIB	Mean age (years)
Oesophagitis	31.7
Mallory-Weiss	34.5
Oesophageal varices	40.1
Gastritis	41.3
Duodenal ulcer	41.4
Gastric ulcer	44.9
Gastric cancer	50.0
No lesions detected	42.0

DISCUSSION

Our study showed that varices were the commonest cause of UGIB accounting for 45.3% of all patients. Other studies conducted in Nigeria and other African countries have similarly reported varices as the major cause of UGIB^{10, 12}. This is contrary to the findings of most western studies

where peptic ulcer disease has been identified as the commonest cause of UGIB^{5,6,8,9}. This difference might be explained by the high prevalence of chronic liver disease which in turn is as result of the endemic nature of hepatitis B virus in Nigeria and other sub-Saharan African countries.

Erosive mucosal disease (oesophagitis, gastritis and duodenitis) accounted for 23.7% of cases with gastritis being the commonest representing 13.2% of all cases of UGIB. These findings are similar those reported from Europe, India and South America where erosive mucosal disease was identified as the second commonest cause of UGIB^{9,11,13}. On the other hand, peptic ulcer disease which has been identified as the commonest cause of UGIB in the west^{5,6,7,8,9,10} was the third commonest cause in our study, accounting for 16.9% of cases with duodenal ulcer (9.4%) being more common than gastric ulcer (7.5%). Mallory-Weiss syndrome and gastric cancer were the other causes of UGIB identified in this study, each with an incidence of 1.9%. The incidence of Mallory-Weiss syndrome is lower than the 7% reported in Western studies. This may be related to difference in alcohol use between the two populations.

No source of bleeding could be identified 10.4% of our patients. This is similar to a finding reported from India¹¹. It is however higher than the figures reported from the west⁹. This might as result of fact that patients in the western countries tend to have endoscopy earlier following UGIB. Mucosal lesions are well known to heal quickly and generally the time interval between the bleeding episode and endoscopy is well known to influence endoscopic diagnosis. In the present study we found that the source of bleeding was established more often in those who underwent endoscopy within 24 hours of the bleeding episode than those who had it later ($p < 0.001$).

The mean age of our patients was 41.2 years which is lower than the age reported in western studies. This could just be a reflection of the generally older population of the west. In addition the age of our patients was not significantly associated with increased incidence of UGIB or higher mortality. The two-fold increase in the number of males with UGIB compared to females in this study is similar to what was reported in other studies^{2,9}. This might be explained by the higher prevalence of alcohol consumption among males.

The use of NSAIDS is well known risk for upper gastrointestinal bleeding. This fact is confirmed by our findings that 26% of all the patients had taken NSAIDS prior

to the onset of bleeding. Among patients with erosive mucosal disease, 76% of them had ingested NSAIDS before the onset of bleeding indicating that NSAIDS induce bleeding primarily through mucosal erosion.

The overall mortality rate was 17.9%. This is significantly higher than the mortality rate of about 10% reported in most western studies^{5,6,7,8,9}. The non-availability of endoscopic therapy at our centres may have contributed to the higher mortality. It is noteworthy that all the mortalities were recorded in patients with variceal bleeding. Patients with variceal usually have severe underlying disease and coagulation disorders making the control of bleeding difficult. In fact the clinical evidence of hepatic decompensation significantly correlated with higher mortality.

In conclusion, varices are the commonest cause of upper gastrointestinal bleeding in this environment and responsible for most of the mortalities in UGIB. Endoscopy was able to identify the bleeding site in most patients and diagnostic accuracy of endoscopy was related to the time lapse between the onset of bleeding and endoscopy. Therefore, early endoscopy, preferably within 24 hour of the onset of bleeding, is recommended.

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Aetiology Of Upper Gastrointestinal Bleeding In North-Eastern Nigeria: A Retrospective Endoscopic Study

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