

## Upper Gastro - intestinal Haemorrhage.

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### INTRODUCTION

Upper gastro-intestinal (GI) haemorrhage is an important and potentially life threatening medical emergency. It is a complication of a wide variety of disorders (see Table 1). An endoscopic study in Lilongwe (1) of 100 consecutive patients with haematemesis and / or melaena found that the principal causes were oesophageal varices (45%), duodenal ulcer (16%), gastritis / erosions (9%), gastric ulcer (7%) and gastric carcinoma (5%). Almost 70% of those with oesophageal varices had *Schistosoma mansoni* infection. Intense transmission of *S.mansoni* occurs in Lilongwe district and Karonga, and in these areas oesophageal varices from portal hypertension will be a relatively common cause of upper GI haemorrhage. In other parts of the country where transmission of *S.mansoni* is less intense, the cause of upper GI bleeding may be different.

### CLINICAL ASSESSMENT

The assessment of the patient with upper GI bleeding involves obtaining answers to some pertinent questions:-

1. The actual occurrence of a gastro-intestinal bleed. Haematemesis (vomit which contains red blood or coffee-ground-like material) is usually unmistakable. However, it is occasionally difficult to distinguish haematemesis from haemoptysis. Other sources of confusion include bleeding from the mouth or nasopharynx, especially if the blood is swallowed and then vomited. Melaena is the passage of black or red-black stools and should be confirmed by observation or rectal examination. Certain medications, such as iron, blacken the stools and can cause confusion. Occasionally, acute severe bleeding presents with sudden collapse and hypotension without obvious haematemesis and melaena. Overactive bowel sounds may provide a clue to this diagnosis before bleeding is apparent.

2. Assessment of blood loss  
It is important to try and guess the amount of blood loss because this dictates transfusion requirements and the need for urgent investigation and possible surgery. Some useful information is obtained from the history. A large bleed should be suspected if there is :-

(a) haematemesis with melaena which implies considerably greater blood loss than haematemesis or melaena alone;

(b) a large haematemesis with clots, although the patient's account may be inaccurate;

(c) frequent melaena stools which are red-black in colour;

(d) a feeling of faintness or actual syncope. Physical examination provides the most useful information about severity of bleeding, with attention paid to the pulse, blood pressure (BP) and jugular venous pressure (JVP). The shocked patient with cold peripheries, thready pulse and low BP has obviously lost a lot of blood. However, after a large bleed a patient may have a normal pulse and BP while resting in bed, but in the erect position the pulse rises and the BP falls. An invisible JVP when the patient lies flat is an indication of hypovolaemia and implies a significant bleed. If the patient has a visible JVP on resting and no postural change in pulse or BP, it is unlikely that there has been a large bleed. In hospitals that can perform laboratory studies, useful information can be obtained from the full blood count and blood urea. The haemoglobin is of little value in assessing acute blood loss as it takes some hours for haemodilution to occur; it is of more value in assessing chronic blood loss. However, a raised white cell count with neutrophilia and thrombocytosis are often found soon after a major bleed. A high blood urea is also good evidence of a major bleed; this occurs because of poor renal perfusion and a high protein load delivered to the liver from blood in the GI tract.

3. The source of bleeding  
The history is unreliable for determining the exact source of bleeding, although it may provide some help. For example, epigastric pain suggests peptic ulcer, vomiting followed by haematemesis suggests the Mallory-Weiss syndrome, and a history of liver disease suggests oesophageal varices. On examination the presence or absence of splenomegaly is useful in determining whether the bleeding originates from varices or not. In Lilongwe (1), 40 of 44 patients with splenomegaly were bleeding from varices, while only one out of 38 patients without a palpable spleen had variceal bleeding. The presence of ascites, liver flap, spider naevi or mental confusion will also suggest liver disease and probable variceal bleeding. An epigastric mass and signs of metastatic disease will suggest gastric carcinoma. Petechiae in the skin or mucous membrane point to a bleeding diathesis.

The only reliable way to determine the source of bleeding is to perform endoscopy, preferably as

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soon as possible after admission. This form of investigation is currently only available at the central hospitals. Single-contrast barium meal examination will not provide much information, especially in the absence of screening facilities. In the district hospital it is best to work on the assumption that bleeding originates from oesophageal varices if there is splenomegaly, and, in the absence of a palpable spleen, that bleeding comes from the stomach or duodenum.

In about 10 - 15% of patients investigated by early endoscopy, no bleeding site will be identified. Many of these patients will have bled from a superficial lesion which has healed, and no further action is required. If bleeding recurs, then it is possible that a peptic ulcer or a rare cause of bleeding has been missed, and repeat endoscopy should be performed.

### IMMEDIATE MANAGEMENT

Most patients with upper GI bleeding will have stopped bleeding by the time they reach hospital, and only a minority will bleed again. Management is divided into resuscitation, monitoring, and measures to stop bleeding. In each patient, a combined medical/surgical approach is the counsel of perfection, although this can only be achieved in central hospitals.

#### Resuscitation

- (i) Intravenous infusion. It is sensible to set up an intravenous infusion of saline or dextrose in all admitted patients, and to get blood grouped and cross-matched. In shocked patients two large intravenous cannulae are inserted, and a gelatin infusion (Gelofusine or Haemocoel) is administered. The availability of blood in Malawi is the limiting factor in good patient care. Ideally, if the patient is shocked 4 units of blood should be transfused, and if the patient is also anaemic then one unit is needed for every gram of Haemoglobin below 10.0 g/dl. In practice this is almost impossible to achieve.
- (ii) Other measures. Oxygen is given if there is shock. It is worth giving Vitamin K intravenously/ intramuscularly if there is evidence of liver disease. Sedation should be avoided.

#### Monitoring

This is best done by careful attention to pulse rate, BP, postural changes and JVP. A rise in the pulse rate and drop in systolic blood pressure indicate re-bleeding; there may be associated features of sweating, cold peripheries and increased bowel sounds. Melaena is not a good guide to continued or recurrent bleeding as it can persist for days after one episode of upper GI bleeding. A nasogastric tube causes annoyance and agitation and is unreliable in determining whether bleeding is continuing.

#### Measure to stop the bleeding

- (i) Medical. There is no specific medical treatment for upper GI bleeding. The patient should be rested in bed and given a light diet once there are no signs of active bleeding. A variety of non surgical techniques to stop or prevent further bleeding in peptic ulcer are being evaluated (eg H<sub>2</sub> - receptor

antagonists, tranexamic acid, laser coagulation, endoscopic injection of adrenaline), but their place in routine clinical practice is unclear. In bleeding oesophageal varices, measures such as emergency injection sclerotherapy, balloon tamponade with a Sengstaken- Blakemore tube, intravenous vasopressin and intravenous metoclopramide are useful; betablockers are not given at this stage of the management. In Malawi, these aforementioned measures are generally not available.

- (ii) Surgical. There are no firm rules about when a patient with upper GI bleed requires surgery. The most usual indication will be a large bleed or a recurrent bleed from a peptic ulcer. Patients with bleeding varices will usually be managed medically, but if bleeding is uncontrollable and the expertise is available distal oesophageal transection is the option of choice.

### FOLLOW UP

When the bleeding has stopped, the patient has been resuscitated, and a diagnosis established, follow up measures are instituted. If the patient is anaemic, oral iron is given. If a peptic ulcer has been found, treatment should be given to heal the ulcer; in the absence of H<sub>2</sub>- receptor antagonists a large ulcer may require elective surgery. If the patient has taken aspirin or nonsteroidal anti-inflammatory drugs, these are stopped with advice never to use them again. If the patient has oesophageal varices, praziquantel is given for *S. mansoni* (presumed or proven) and propranolol 40mg - 80 mg twice a day is given indefinitely to reduce the risk of further bleeding (2).

### REFERENCES:

- (1) Harries AD and Wirima JJ. Upper gastrointestinal bleeding in Malawian adults and value of splenomegaly in predicting source of haemorrhage. *E Afr Med J* 1988; 66: 97-99.
- (2) Kire CF Controlled trial of propranolol to prevent recurrent variceal bleeding in patients with non-cirrhotic portal fibrosis. *BMJ* 1989; 298: 1363-5.

**TABLE 1. CAUSES OF UPPER GASTRO- INTESTINAL BLEEDING.**

<u>Oesophagus</u>	Oesophagitis / ulcer Varices Mallory-Weiss syndrome
<u>Stomach</u>	Gastritis / erosions Ulcer Tumours (carcinoma,, lymphoma, leiomyoma, Kaposi's sarcoma)
<u>Duodenum</u>	Duodenitis Ulcer
<u>Rare causes</u>	Vascular malformations Aneurysms Malignant pancreatic tumours Hereditary haemorrhagic telangiectasia Pseudoxanthoma elasticum Bleeding disorders