

HEMATEMESIS AND MELENA

Introduction

All cases of actual or suspected hematemesis and melena must be assessed in a timely manner within the Emergency Department.

All patients with melena should be admitted

The **Rockall Scoring Chart** helps to stratify (non-variceal bleeding) patients into those who need endoscopy urgently and those where endoscopy may be done within 24 hours.²

Pathophysiology

The four commonest causes are:

1. Peptic ulceration.
2. Erosions: gastritis, esophagitis, duodenitis.
3. Esophageal varices.
4. Mallory Weiss tear.

Other less common causes include:

5. Tumour.
6. A-V malformations.
7. Aorto-enteric fistulae (suspect in **any** patient who has had an aortic graft).
8. Bleeding disorders.

Notes:

- Upper GIT bleeding is manifested by frank hematemesis or “coffee ground” vomitus. This has traditionally been defined as bleeding of the GIT proximal to the ligament of trietz, at the distal end of the duodenum.
- Hematemesis should be considered a potentially life threatening condition, especially if there is associated melena (which will mandate admission).

Clinical Assessment

Important Points of History:

Should include:

1. Alcohol.
2. Drugs, especially:
 - Warfarin, aspirin or NSAID use.
3. Estimate of blood loss.
4. Past history, in particular:
 - Any previous GIT bleeds and diagnosis given for these, particularly variceal bleeding.
 - Liver disease (suspect varices).
 - Aortic graft surgery.
 - Any significant co-morbidities.

Important Points of Examination:

1. ABC, assessment, signs of shock, or postural drop (>20 mmHg)
2. Signs of anemia, (conjunctival pallor generally indicates a Hb of less than 10gms/dl)
3. General and abdominal examination especially for signs suggesting the possibility of variceal bleeding:
 - Chronic liver disease, (jaundice, spider nevi, gynecomastia)
 - Portal hypertension, (splenomegaly, ascites)
4. PR for the detection of melena.
 - It is important to recognize that a negative PR exam for melena does not necessarily rule out a GIT bleed, especially if it is recent. Similarly a lack of overt hematemesis does not necessarily rule out a GIT bleed.
 - If uncertainty remains and clinical suspicion is high, then a NG tube may be placed to look for the presence of fresh upper GIT blood.

The presence of varices is a relative contraindication to an NG tube, but if there is no suspicion of varices / portal hypertension, then it may be considered.

Investigations

1. Blood tests:
 - FBE.
 - U&ES / glucose.
 - LFTs.
 - Clotting profile
 - X-matching of blood (2-4 units according to the clinical picture).
 - FFP and platelets should also be ordered if bleeding is severe or the patient has a coagulopathy.
2. ECG.
3. CT scan
 - If aortic-enteric fistula is suspected, then an urgent CT scan will be required.
4. CXR
5. Occult blood testing:
 - If there is doubt over whether “coffee grounds” represents blood, or if a patient is taking iron tablets causing uncertainty regarding the presence of melena, then samples may be sent to pathology to be tested for the presence of blood.

Management

1. Usual ABC measures.
2. Two large bore IV cannulae placed and appropriate fluid resuscitation commenced.
 - Both lines **must** be of the “pump” set type, so that fluid can be pumped through by hand if necessary.
 - Rapid infusion devices may be necessary in very severe cases.
3. Blood products, as the clinical situation dictates.

It is important to give blood products, FFP and platelets early in any patient at risk from coagulopathy.

At risk patients include those with:

- Chronic liver disease.
- Uremic patients
- Patients with blood dyscrasias, including thrombocytopenia.
- Patients on medications that affect coagulation, aspirin / NSAIDS and in particular those on warfarin.

Any patient with significant GI bleeding who is on warfarin should receive Prothrombinex-HT as early as possible, even without waiting for results of investigations. Recommended dose is 2,000 to 3,000 units (4 - 6 vials)

4. Proton pump inhibitors:

In cases of **bleeding peptic ulcers** intravenous proton pump inhibitor *infusions* have been shown to reduce the risk of ulcer re-bleeding in patients at high risk:³

- Those with endoscopic stigmata of recent haemorrhage (ie visible vessel or clot on ulcer base)
- Those with active bleeding even after endoscopic therapy

Options include:

Somac, (Pantoprazole):

- **Pantoprazole 80 mg IV, as a bolus over 15-30 minutes, then pantoprazole 8 mg/hour by IV infusion, for up to 3 days.**³

Nexium, (Esomeprazole):

- **Esomeprazole 80 mg IV, as a bolus over 15-30 minutes, then esomeprazole 8 mg/hour by IV infusion, for up to 3 days.**³

Omeprazole:

- **Omeprazole 80 mg IV over 15 to 30 minutes, then 8 mg/hour by IV infusion, for up to 3 days**

5. Octreotide:

If **esophageal varices** are the suspected cause give:

- **Octreotide 50 micrograms IV, immediately, then 25 to 50 micrograms per hour by IV infusion for 2 to 5 days.**³

6. Establish monitoring:

Hemodynamic monitoring is important in the compromised patient. The degree of monitoring initiated will depend generally on how unwell the patient is.

It should be noted that attempts at invasive monitoring should never be allowed to delay time to definitive treatment.

The following will need consideration.

- ECG monitoring, (in all cases).
- Urinary catheter.
- CVC may be placed if the patient's clinical condition allows time for this. This procedure however should not delay endoscopy / ICU admission or other more urgent measures.
- Arterial line.

7. **Minnesota tube:**

- Patients with esophageal varices who become severely compromised before they can be transferred to theater may need to have a **Minnesota tube** (or similar) placed.
- Ideally, this will need to be preceded by intubation. (See separate guidelines for Minnesota tube placement).

8. DDAVP:

- This may also be considered for patients on aspirin or NSAIDs to treat thrombocytopathies. It will rarely be needed however and should be discussed with the ICU consultant.
- Adult dose 0.3U/kg (~20units) (= 5 ampoules) slowly IV over 20 minutes.

9. Endoscopic management :

Most ulcers/varices can now be managed endoscopically.

Haemostatic techniques include:³

- Electrocautery

- Heater probes
- Application of clips
- Injection with adrenaline.

The urgency of the endoscopy in non-variceal bleeding may be guided by the clinical Rockall score of the patient.

10. Surgery:

Occasionally surgery will be required if

- There is a visible large vessel bleeding
- The patient remains hemodynamically unstable, despite more conservative management.

11. Follow-up management

- **H. pylori eradication**, (in cases of peptic ulcer disease).
- Proton pump inhibitors.
- Attention to any underlying causative factors, (such as alcohol or NSAID use)

References

1. Sung J.Y “Prospective randomised study of effect of octreotide on rebleeding from oesophageal varices after endoscopic ligation. Lancet 1995; 346:1666-9
2. Rockall TA, Logan RF, Devlin HB, Northfield TC. Risk assessment after acute upper gastrointestinal hemorrhage. Gut 1996; 38:316-21.
3. Gastrointestinal Emergency Therapeutic Guidelines 5th ed 2011.

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