PR bleeding

With Dr Cherry Koh, Colorectal Surgeon at Royal Prince Alfred Hospital

Case - you are a JMO on the ward called by nursing staff to review a patient who has had some rectal bleeding.

1. Initial questions over the phone
   - Is the patient stable? Observations especially HR and BP
   - How much has the patient passed and frequency of PR bleeding?

2. Common causes of PR bleeding
   1. Haemorrhoids
      - Very common but a diagnosis of exclusion
      - Can be more significant as patients in hospital can be on heparin/clexane
   1. Diverticular disease
   2. Angiodysplasia
   3. Ischaemic colitis or other colitis (e.g. Crohn's disease) - less common
   4. Malignancy
   5. Much less commonly rapid transit from upper GI bleeding e.g. peptic ulcer disease

3. What types of questions would help distinguish these causes of PR bleeding?
   - Anal canal type bleeding e.g. fissure/haemorrhoids
     - Occurs at end of bowel motion, bright red, small volume and always occur with bowel motion
   - Colonic sources of bleeding - diverticular or angiodysplasia bleeding
     - Patients can have blood independent of bowel motions.
     - Sudden onset and offset of bleeding
     - Abdominal discomfort and feeling 'faint on toilet' due to vasovagal response at time of passing motion can occur in patients with right sided angiodysplasia as the blood is irritative and causes a rapid transit and colonic distension

4. How to differentiate an upper from a lower GI bleeding?
   - For haematemesis to present with PR bleeding is uncommon
   - Upper GI bleeding tends to present with melaena but bright red PR bleeding can occur when there is rapid transit, which is invariably associated with tachycardia/hypotension
   - Ask about a history of heavy alcohol use/vomiting (associated with Mallory Weiss tears) or risk factors of peptic ulcer disease e.g. NSAIDs
   - A disproportionately elevated urea:creatinine ratio may also suggest the patient is breaking down and absorbing blood in the GI tract.
5. **What are the features to look for on examination?**
   - End of bed exam: Looks anxious, shut down, pale, cold/clammy hands (lost significant amount of blood)
   - Vital signs: If hypotensive/tachycardic
   - Abdomen: Any tenderness/peritonism. Tenderness may suggest underlying colitis. Pulsatile mass (for an aortoenteric fistula, but very rare)
   - Digital Rectal Exam: perianal pathology or fissure, any obvious haemorrhoids (generally not palpable), review any melaena/PR bleeding on glove.

6. **What investigations?**
   - FBC and G+H:
     - Urgent G+H necessary if there is a history of significant quantity of bleeding (e.g. toilet bowl full of blood and clots) or frequency (passing a motion every 30min or every hour with bleeding due to osmotic/cathartic effect of blood in the colon)
     - Crossmatch not always required unless significant quantity/frequency and haemodynamically unstable.
   - EUC/CMP: useful for assessing urea:creatinine ratio
   - LFTs: suggest alcohol history, evidence of liver disease
   - Coagulation: to assess bleeding risk

7. **Management of PR bleeding**
   - 90-95% rectal bleeding will resolve by itself
   - Initial principles include resuscitation (large bore IV access, fluids and blood products)
   - Reversing coagulopathy
   - **Does the patient need admission? (in ED setting)**
     - For minor bleeding (history consistent with anal canal type bleeding) many do not need admission unless they are old/frail or have comorbidities, anticoagulation where risk of rebleeding is high.
     - For patients with ?colonic sources of bleeding most need admission for monitoring, and often discharged for subsequent colonoscopy.
     - Heavy bleeders, especially those with haemodynamic instability need admission and urgent colonoscopy
   - **General Principles of Ward Management**
     - Stool chart (important to assess severity of bleeding)
     - Strict fluid balance
     - Diet (Clear fluids still OK while awaiting possible colonoscopy)
     - Frequent review - if ongoing and heavy bleeding consider escalating

8. **Specific management of different types PR bleeders**
   - **Torrential/massive PR bleeders:**
     - These patients are unstable, tachycardic, hypotensive. They respond to fluids but continue to bleed
     - Requires interventional CT angiogram which detects bleeding at a minimum 1mL/min and treats via embolisation.
     - As blood is irritant and has an osmotic pull within the colon need 80-100mL/hr PR bleeding to get a positive CT angiography result
   - **Significant PR bleeders:**
     - These patients have sudden onset bleeds with clots e.g. passing a bowel motion every 30min-2hrs.
     - Admit and observe these patients. Most stop spontaneously.
Most related to diverticular disease/angiodysplasia.

Withhold blood thinners and outpatient colonoscopy can be done to confirm diagnosis.

Concern with bowel prepping these patients is that the bowel preparation can disrupt the clot and trigger more bleeding/morbidity.

**Slow PR bleeders:**

- e.g. 100mL once to 3 times a day.
- Bleeding at this rate will not show up on CT angiography.
- Alternative is a red cell scan which is more sensitive (can detect bleed of 0.1mL/min) but less specific
- Patients also have to be stable as they need to lie in scanner for 4-6hrs to detect bleeding
- Red cell scan relies on GI motility to propel the bleed to define the outline of the bowel to determine its location, hence it is more difficult to localise small bowel bleeds as the location of small bowel is not fixed
- Semi-elective colonoscopy in the hospital with good bowel prep (4L glycoprep) is an alternative, which allows clear inspection and the surgeon can then clip/inject site of bleeding. These colonoscopies can be quite difficult.
- Final resort is combined interventional/colonoscopy approach (Hybrid theatre) where the SMA/IMA can be injected with agents to provoke bleeding e.g. vasodilators, urokinase etc and the bleeding site can then be clipped/embolised.

*Useful tip: When doing a colorectal surgery consult about a patient with PR bleeding in ED/on the wards, the common things a registrar/fellow will want to know are:*

- **Patient factors:** age, reason for admission, current medications (antiplatelet therapy, aspirin, warfarin or dabigatran, heparin/clexane), surgical history (previous laparotomy or bowel surgery, haemorrhoid history)
- **Onset and type of bleeding:** very small episode in setting of constipation or a very large PR bleeding episode with haemodynamic instability (pale, hypotensive, tachycardic?)
- **Note view of bleeding:** bright red bleeding typical of anal canal bleeding or offensive smelling, tar like melaena?