Case 54 A bloody vomit

A 67-year-old retired schoolteacher with rheumatoid arthritis presented in shock following a brisk haematemesis during which she vomited coffee grounds and fresh blood with clots. She had no previous history of indigestion, but on direct questioning had been passing melaena for the previous 2 days.

Her rheumatoid arthritis had been difficult to control and affected her hands and wrists the most. She had required gold injections in addition to regular ibuprofen for pain. On examination she was pale with a pulse of 120 beats/min and blood pressure of 90/50 mmHg. Her abdomen was soft with some epigastric tenderness and there was melaena on the examining glove on rectal examination.

What should the initial management comprise?

The patient needs aggressive resuscitation. Oxygen should be commenced by face mask, and venous access gained with large bore cannulae. Intravenous fluids, such as Hartmann's solution should be given to restore a normal blood pressure, and blood sent for cross-matching. A bladder catheter is essential to monitor urine output, particularly in patients who are volume depleted following haemorrhage and on a non-steroidal anti-inflammatory drug (NSAID), which increases the risk of acute renal failure. In elderly patients the rate and amount of fluid administration needs to be carefully monitored lest pulmonary oedema is precipitated. Once resuscitation is underway an assessment is made to establish whether bleeding is ongoing – continued vomiting, melaena or failure to respond to fluid replacement.

What is the likely diagnosis and how should it be proven?

The patient is likely to have a bleeding peptic ulcer. Diagnosis is by endoscopy which, in the presence of bleeding, should be performed without delay.

How should a bleeding duodenal ulcer be managed? What are the indications for surgery, and what non-surgical options are available in patients unfit for surgery?

- Therapeutic endoscopy is now the first line of treatment. The ulcer base, and any visible vessel, is injected with 1:10 000 epinephrine (adrenaline) to stop the bleeding. Endoscopic clips or thermal, laser or argon plasma coagulation may be used where available. A high dose infusion of a proton pump inhibitor, such as intravenous omeprazole, is commenced and continued for 72 h. Endoscopy can be repeated after 24 h to further treat the ulcer if required.
- The indications for surgery have changed since the advent of therapeutic endoscopy and improved results with intravenous proton pump inhibitors. Factors suggesting that surgery may be indicated include continued bleeding in spite of endoscopic treatment, a visible vessel at the ulcer base, transfusion requirements in excess of 4 units in 24 h in a patient over 60, or 8 units in a younger patient. The nature of the surgical intervention has also changed; under-running of the bleeding vessel in the base of the ulcer being preferred to gastrectomy, combined with full medical management including treatment for *Helicobacter*.
- In patients unfit for surgery, or where surgery is not desirable, mesenteric angiography with embolization of the gastroduodenal artery may be appropriate.