Death from a sharp stone. A fatal case of haemobilia

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Summary
A case of fatal gastrointestinal haemorrhage due to haemobilia as a direct result of cholelithiasis is described. Erosion of a branch of the cystic artery by a stone was shown to be the source of the bleeding at post-mortem. The features of the haemobilia syndrome are discussed.

Introduction
Bleeding into the biliary tract, due to either trauma or disease, results in blood entering the duodenum along with bile, and is called haemobilia. A case is reported of fatal haemobilia in which erosion of a branch of the cystic artery by a gall-stone was shown at post-mortem to be the source of bleeding.

Case report
A 73-year-old female was admitted with a 3-day history of severe episodic right hypochondrial and epigastric colicky pain, along with nausea, flatulence and vomiting of black fluid and, subsequently, fresh blood. There was a 3-day history of dark urine; the faeces had been black as the patient was taking oral iron. A similar episode of pain lasting one week had occurred one year previously. The only other significant history was of hiatus hernia for 10 years.

Examination revealed a jaundiced, apyrexial woman with tenderness in the right hypochondrium and epigastrum, but no guarding. There were no signs of hypovolaemia or of chronic liver disease. No abdominal organs or masses were palpable.

Investigations were as follows: Hb 10·5 g/dl; WBC 6·0 x 10^9/l; plain abdominal X-rays, unremarkable. Barium meal examination suggested a lesser curve gastric ulcer, and treatment was commenced with cimetidine and antacids. Her condition stabilized until 30 hr after admission, when she died suddenly. Liver function tests, returned after death, revealed a pattern consistent with extrahepatic biliary obstruction. At post-mortem the gall-bladder wall was thickened and oedematous and the lumen contained several multifaceted mixed stones. The stones had caused ulceration of the mucosal lining and part of the wall to erode a branch of the cystic artery (Fig. 1). Blood had filled the gall-bladder and distended the cystic and common bile ducts, entering the duodenum at the ampulla of Vater, accounting for the considerable quantity of fresh blood throughout the small intestine. There was no gastric or duodenal ulcer.

Discussion
The origin of bleeding in haemobilia has been estimated from Sandblom's data as liver in 53%, bile duct in 22%, gall-bladder in 23% and pancreas in 2% (Bismuth, 1973). Trauma accounts for 55% of all cases of haemobilia, while gall-stones account for only 10% (Sandblom, 1973). Macroscopic haemorrhage in gall-stone disease is rare with only 50 recorded cases (Sandblom, 1973); the usual mechanisms are erosion of the cystic artery by impacted stone, associated haemorrhagic cholecystitis, or penetration of an adjacent viscus. Erosion of the gall-bladder mucosa to reveal arterial bleeding points appears to be most unusual.

The features of haemobilia are not constant. Typically they are biliary colic and jaundice associated with haematemesis and/or melaena. A previously normal gall-bladder may be palpably distended. Fibrinolytic activity in bile may lead to clot lysis and thus intermittent gastrointestinal haemorrhage with relief of pain and jaundice (Grove, 1961).

Mortality is proportional to the delay in controlling the haemorrhage, making early diagnosis important. Untreated, most patients die; overall mortality remains high at 25% (Sandblom, 1973). Diagnostic aids are numerous, but none is completely satisfactory. Barium meal examination which may show an impression on the first part of the duodenum caused by a swollen supraduodenal portion of the common bile duct (Taylor and Dawson, 1978); endoscopy, sometimes in association with endoscopic retrograde cholangiography (Bismuth, 1973); percutaneous transhepatic cholangiography showing...
Fig. 1. There is a fibrous thickening of the chronically inflamed gall-bladder. Ulceration of the lining has eroded the wall of the blood vessel, leading to a massive haemorrhage into the gall-bladder lumen (Elastic Van Gieson, × 25).

defects due to blood clots in the biliary ductal system (Myers, Haupt and Birkhead, 1973); and selective arteriography of the coeliac axis and superior mesenteric artery have all been successfully used in some cases, but have been normal or misleading in others.

Treatment of haemobilia is surgical, the operative procedures varying according to the site of the bleeding.

The diagnosis of haemobilia should be suspected in a patient presenting with gastrointestinal haemorrhage in association with features of cholelithiasis.

References


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