

Case 89

A schoolmistress with attacks of abdominal pain

A single woman, an infant schoolteacher aged 45 years, was referred urgently to surgical outpatients by her family doctor. She gave a year's history of attacks of abdominal pain. These were always situated in the right upper abdomen and, on direct questioning, she said these went through to the lower end of her right shoulder blade. She might have two or three attacks of pain one week, then go several weeks in relative comfort. The attacks of pain would last up to several hours, were severe, continuous and made her double up. During these attacks she would be nauseated and would quite often be sick, bringing up recently ingested food. She thought that fatty foods brought on the pain and she was avoiding these. Ordinary painkillers did not help. The last attack, a week ago, was the worst ever, lasted all night and she had a temperature. She called her doctor who gave her an injection of pethidine, with great relief.

She had never noticed going yellow in these attacks, nor any changes in the colour of her urine or stools. Moreover, the doctor's referral letter stated that she was not jaundiced when he visited her in the last attack. She had lost about half a stone in the last year, which she said was due to the fact that she avoided eating large meals. There was nothing of note in her past history; she did not smoke and was a moderate 'social' drinker.

On examination in the clinic she was an intelligent, overweight woman. She was not clinically anaemic or jaundiced. The abdomen was very tender below the right costal margin and it was painful when she took a deep breath with the surgeon's fingers placed there. No masses could be felt and the rest of her examination was essentially normal.

This is a fairly classical story – what is your clinical impression?

The history suggests attacks of biliary colic over the past year, while her last attack suggests an episode of acute cholecystitis, which settled.

What are the typical features of biliary colic?

The pain is severe, often 'worse than having a baby' or 'the worst I have ever experienced'. It is usually situated in the right subcostal region but may be epigastric or spread as a band across the upper abdomen. Radiation to the lower pole of the right scapula (the gallbladder receives its autonomic afferent fibres from the T8 segment) is common, but often needs to be sought from the patient by direct questioning. Characteristically the pain is continuous, and begins an hour or two after a meal. The patient is typically restless and rolls about seeking a comfortable position during the attack. There may be associated vomiting and sweating. Jaundice, with dark urine and clay-coloured stools, is suggestive of associated calculi in the biliary duct system, often impacted at the lower end of the common bile duct. This patient's most recent attack suggests an episode of acute cholecystitis.

What is a simple, safe and reliable investigation to confirm or refute the diagnosis of gallstones?

Abdominal ultrasound. Gallstones in the gallbladder show up as intensely echogenic foci, which cast a typical 'acoustic shadow'. It is much less sensitive in the detection of calculi in the biliary ducts. This woman's ultrasound is shown in Fig. 89.1.

The patient was admitted from the urgent waiting list after this. Her full assessment, including chest X-ray, blood count and liver function tests, was otherwise normal. She underwent a laparoscopic cholecystectomy. Figure 89.2 shows the operative specimen, which has been cut open.

What does the specimen in Fig. 89.2 demonstrate?

The gallbladder wall is considerably thickened and reddened – a typical appearance of cholecystitis. It also

Part 2: Cases

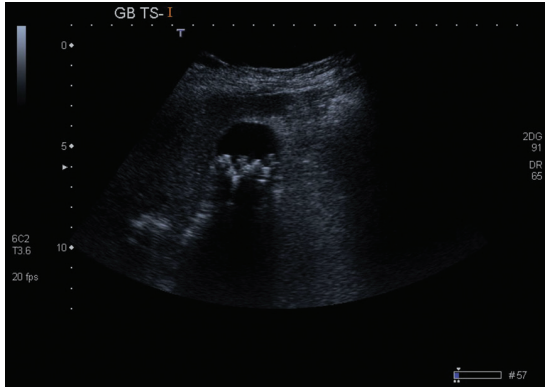


Figure 89.1 Ultrasound a gallbladder.



Figure 89.2 A gallbladder removed at cholecystectomy.

contains multiple stones (see also Case 90, p. 185).

Patients with acute cholecystitis are treated conservatively in the first instance (opiate analgesia, bed rest, intravenous antibiotics and intravenous fluids if necessary), investigated and then have an elective cholecystectomy when things have settled down. In contrast, patients diagnosed with acute appendicitis are taken to theatre for urgent appendicectomy. Can you explain the anatomical reason for this?

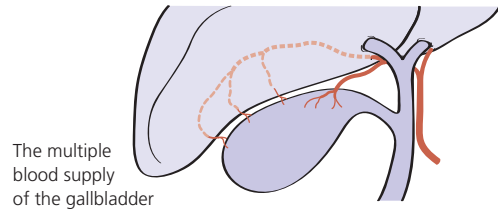
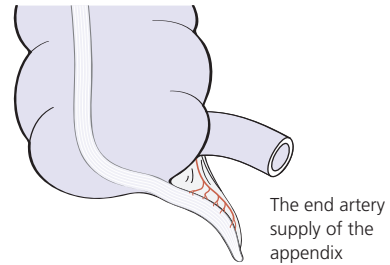


Figure 89.3 Blood supply of (a) the appendix and (b) the gallbladder.

The difference in treatment is a result of the difference between the blood supply of the two organs (Fig. 89.3). The appendicular artery is an end artery – a branch of the ileocolic branch of the superior mesenteric artery, in fact. If this end artery thromboses in the inflammatory process, the entire blood supply to the appendix is lost, the dead tissues are invaded by bacteria within the lumen of the organ and gangrene must result. Untreated, the gangrenous organ will then perforate with either a resulting general peritonitis or with formation of a local appendix abscess.

In contrast, the gallbladder receives not only a blood supply from the cystic artery, derived from the hepatic artery – usually its right hepatic branch – but it also receives numerous small branches from the right hepatic artery that pass to it across its bed in the liver. Gangrene of the inflamed gallbladder is rare and resolution is the usual consequence.