

Case 93 A giant abdominal mass



Figure 93.1

A 30-year-old English oil engineer was air evacuated to hospital in London from the Middle East, where he had been working. His accompanying medical notes (supplemented by his own history) stated that he had been admitted to a private clinic as an emergency 10 months previously with a 2-day history of acute abdominal pain. He admitted that this seemed to have followed an alcoholic 'binge' at a party, where he drank a large amount of home-brewed spirit. The pain was extremely severe, generalized and radiated to his thoracolumbar spine. Shortly after arriving at the clinic he underwent a laparotomy. This revealed copious amounts of turbid, slightly blood-stained free fluid. There

were large numbers of white spots scattered over the exposed peritoneal surfaces, especially the greater omentum. There was a mass to be felt through the wall of the stomach, presumably the swollen pancreas, although this was not further explored. The peritoneal cavity was lavaged with warm saline and the abdomen closed.

Next day a blood specimen was sent to the government laboratory and his serum amylase was reported to be grossly elevated to over 1000 units/L. From the notes it was obvious that he had a stormy postoperative recovery, complicated by pulmonary collapse (he was a heavy smoker) and a prolonged paralytic ileus, which required nasogastric aspiration and parenteral nutrition for over a week. However, he slowly recovered and, following 6 weeks of sick leave in England, he returned to office work.

He remained well until about a month ago, when he noticed his belly was getting swollen. This was painless and he felt quite well. However, when the swelling became much greater and when he could now feel a large lump there, he reported back to his local surgeon, who arranged for him to be sent home.

On examination, he was a muscular, somewhat overweight young man, who looked very well. General examination was normal apart from the striking physical signs demonstrated in Fig. 93.1. There was a well healed, fairly recent (i.e. still red), long right paramedian scar. The abdomen looked distended, but palpation showed that this was due to a large mass, outlined with a marker pen, which descended from below the left costal margin to the level of the umbilicus. It was smooth, not tender, did not move with respiration and was distinctly dull to percussion. There was no clinical evidence of free fluid.

What is your clinical diagnosis and what has produced this large mass?

A pancreatic pseudocyst. Following the attack of acute pancreatitis, fluid accumulated in the lesser peritoneal

sac. Presumably the foramen of Winslow* (the epiploic foramen), which is the opening of the lesser sac into the general peritoneal cavity, became sealed off with inflammatory adhesions so that the lesser sac distended to its present size.

The pancreas is a retroperitoneal organ with the gas-filled stomach lying in front of it. Why, then, was this pancreatic pseudocyst dull to percussion?

When small, the cyst is indeed retroperitoneal and is apparently resonant to percussion because of the gas-filled stomach and loops of intestine that lie anterior to it. As it increases in size, the intestine is pushed away and the stomach is tautly stretched over the front of the cyst so that it becomes dull to percussion, as in this instance (Fig. 93.2).

What special investigations are useful in delineating this mass?

It may be demonstrated by abdominal ultrasonography, but the cyst may be obscured by gas within the upper gastrointestinal tract – air is the great bugbear in ultrasonographic examinations. Computed tomography is the investigation of choice and may be enhanced by giving oral contrast so that the stomach outline is clearly delineated. Figure 93.3 is a CT scan showing a transverse section through the abdomen illustrating a large pancreatic pseudocyst (single large arrow) filling the lesser sac and displacing the stomach anteriorly (double arrow).

What is the treatment of this condition?

Follow-up CT scans on patients with acute pancreatitis have shown that small fluid collections in the lesser sac – clinically undetectable – are quite common and absorb spontaneously. It is often possible to drain an obvious pseudocyst percutaneously under ultrasound or CT control. This was carried out in this patient but the cyst filled up again to the same size within a couple of days.

He was therefore submitted to laparotomy. The stomach was found to be tensely stretched over a massive cyst and cystgastrostomy was performed (Fig. 93.4). In this, the anterior wall of the stomach was incised, a trocar

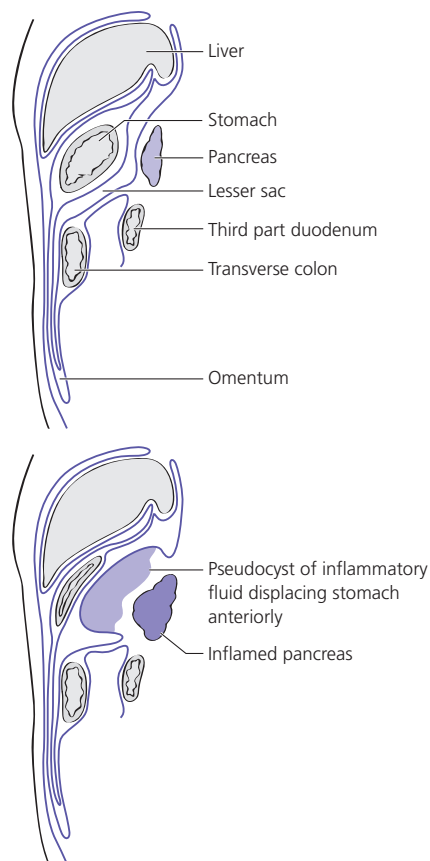


Figure 93.2 (a) A small cyst in the lesser sac does not disturb the other organs around it. (b) As it enlarges it, it displaces the stomach.

passed through the posterior wall of the stomach into the cyst mass, several litres of turbid, whitish fluid aspirated and an anastomosis made between a 5 cm incision through the posterior wall of the stomach and the underlying cyst wall. The incision in the anterior wall of the stomach was then closed.

In the original operation notes mention was made of white spots scattered over the peritoneal cavity. What were these? How are the three digestive enzymes produced by the exogenous secretion of the pancreas correlated with three features of acute pancreatitis?

- The spots are areas of fat necrosis.

*Jacob Winslow (1669–1760), Danish, Professor of surgery and anatomy, Jardin du Roi, Paris.

Part 2: Cases

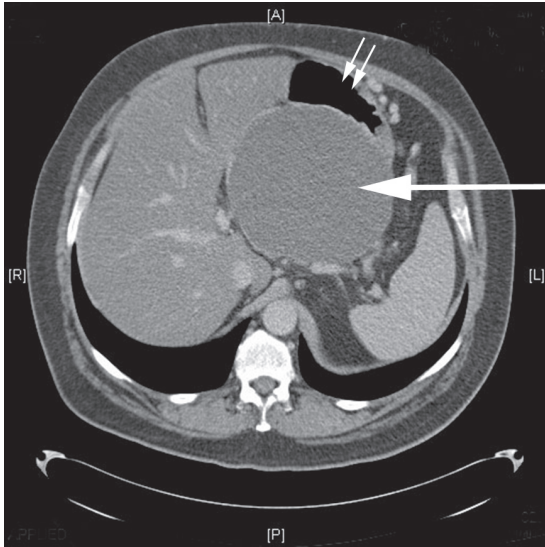


Figure 93.3 CT scan of a transverse section through the abdomen showing a large pancreatic pseudocyst (single large arrow) displacing the stomach (double arrow).

- Liberated lipase breaks down intra-abdominal fat into fatty acids. These react with serum calcium to produce these little spots, which represent deposits of calcium soaps.

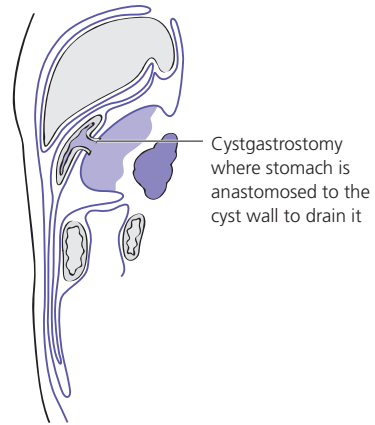


Figure 93.4 Cystgastrostomy.

- The liberated pancreatic amylase in the peritoneal cavity is absorbed and accounts for the very considerable rise in the serum amylase – a useful aid to diagnosis of this condition. This patient had a massive increase in his serum amylase level, even though the test was carried out after the event.
- The liberated and activated pancreatic trypsin accounts for the autodigestion of the pancreas, which is the basic pathology of acute pancreatitis.