

Endoscopic drainage of a recurrent pancreatic pseudocyst

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Summary: Pancreatic pseudocyst is a significant complication of both acute and chronic pancreatitis. Several methods of cyst drainage have been described. Endoscopic cystogastrostomy is a relatively new technique which is illustrated by the following case report, the first in the UK literature.

Introduction

Endoscopic cystogastrostomy is a new and promising method of dealing with pancreatic pseudocysts. Its use is especially applicable to recurrent cysts and in those patients unfit or unwilling to undergo surgery. A review of the literature shows that it has a morbidity and mortality that is comparable, if not better, than other forms of treatment.

Case report

A 45 year old man presented as an emergency with a 6-week history of epigastric pain, vomiting and weight loss. He had been admitted to hospital on numerous occasions during the preceding 10 years with acute pancreatitis secondary to alcohol abuse. Nine years previously a pancreatic pseudocyst had been drained by operative cystogastrostomy; a cholecystectomy had also been performed. Since that time he had developed diabetes and exocrine pancreatic insufficiency.

Physical examination revealed mild epigastric tenderness. Investigations showed a serum amylase of 520 IU/l (normal 75–300 IU/l), white cell count $10.9 \times 10^9/l$ (normal $4-11 \times 10^9/l$) and on ultrasonography a cyst ($5.6 \times 6.6 \times 6.0$ cm) arising from the antero-superior surface of the pancreatic head, confirmed by computed tomographic (CT) scan (Figure 1). Gastrosocopy at the time of admission revealed extrinsic compression of the stomach but no gastric outlet obstruction.

The patient's symptoms settled with conservative management and he was discharged home. At follow-up 6 weeks later his symptoms had recurred and he was admitted for further investigation. A CT scan again showed a pancreatic pseudocyst and a repeat endoscopy showed the posterior gastric wall of the body and antrum to be pushed forward producing a significant degree of pyloric obstruction.

The cyst dimensions remained unchanged measuring ($5.5 \times 5.3 \times 6.0$ cm).

It was decided that the cyst should be drained and in view of his previous surgery and his reluctance to accept further surgery, endoscopic drainage was considered appropriate. At endoscopic retrograde cholangiopancreatography (ERCP) under intravenous midazolam sedation and antibiotic cover, pancreatography demonstrated an occluded pancreatic duct and cholangiography showed a 7 mm common bile duct with mild compression of the distal end. A 20 mm 'needle-knife' cystogastrostomy was carried out over the most prominent point of cyst distortion of the posterior gastric wall. This produced immediate drainage of the cyst. No post-endoscopic complications were encountered and the following day his symptoms had resolved and he was discharged home. At follow-up 6 months later he remained symptom-free and there was no evidence of cyst recurrence on CT (Figure 2).

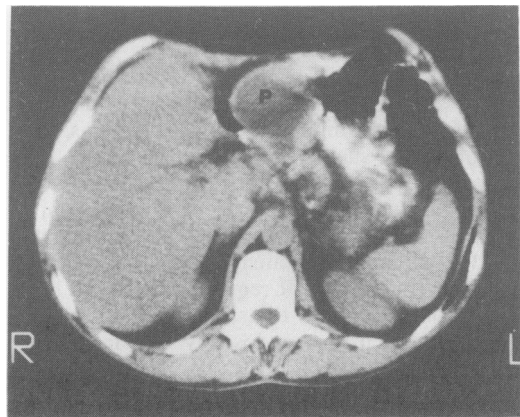


Figure 1 CT scan showing a pancreatic pseudocyst (P) arising from the antero-superior surface of the pancreatic head.

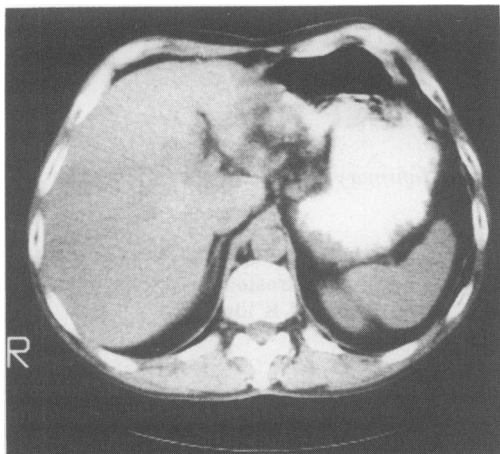


Figure 2 CT scan confirming absence of the pseudocyst 6 months after drainage.

Discussion

Pancreatic pseudocysts complicate 7% and 10% of cases of acute and chronic pancreatitis respectively.¹ Eighty-five per cent of cysts resolve within 2 to 3 weeks, thereafter resolution is uncommon and complications such as bleeding, abscess formation, and intestinal or biliary obstruction necessitate drainage.^{2,3} Operative cystogastrostomy or cystoenterostomy remain the procedures of choice with a morbidity and mortality of 25% and 5% respectively and a 5 to 6% recurrence rate.⁴ These methods, however, require a laparotomy and may be unsuitable for the elderly or the very ill.

Several other methods of drainage are available. External surgical drainage has a significant recurrence rate and a high incidence of pancreaticocutaneous fistulae.² It does, however, remain the treatment of choice for infected pseudocysts and pancreatic abscesses. Percutaneous pseudocyst aspiration under CT or ultrasonographic guidance has recently been used more frequently but recurrence has been high in some studies,⁵ as have complications such as haemorrhage, abscess formation and pancreatitis. The recurrence rate can be reduced if an indwelling catheter is left *in situ*.

Endoscopic cystogastrostomy is a valuable method of internal drainage provided technical expertise is available. It requires the cyst to be in direct contiguity with the stomach and it should bulge prominently at endoscopy thus facilitating

safe drainage. Difficulties may arise when the copious initial escape of fluid may obscure the endoscopist's view and prevent the formation of a large enough cystogastrostomy before the cyst has collapsed.

Possible complications associated with endoscopic drainage are similar to those of transcutaneous drainage. In particular there is the pre-operative inability to distinguish an uncomplicated cyst from an infected pseudocyst or abscess where external drainage may be preferable and in addition infection may be introduced into an uncomplicated cyst.

Endoscopic pseudocyst drainage may be indicated in the following circumstances: (1) patients who are unfit for laparotomy; (2) patients who have undergone previous abdominal surgery; (3) recurrent pseudocyst formation; and (4) reluctance on the part of the patient to accept surgery.

In a review of the literature 24 cases of endoscopic cystogastrostomy have been reported from 9 centres.⁶⁻¹⁴ The pseudocysts resulted from acute pancreatitis in 9 (38%) cases and chronic pancreatitis in 15 (62%) cases. The indications for endoscopic cystogastrostomy were a high risk patient in 5 (21%) cases and the authors' first line treatment in 19 (79%) cases. The results show that in 21 (80%) cases the cysts resolved after endoscopic cystogastrostomy alone, 1 (4%) case needed a second endoscopic cystogastrostomy and 2 (8%) required additional surgical drainage. There were no deaths attributable to the procedure itself, although 2 patients bled and 1 patient developed an infected cyst.

Endoscopic cystogastrostomy is therefore an alternative to surgical drainage provided that it is performed by an endoscopist with considerable ERCP and sphincterotomy experience. Adequate surgical facilities should also be available in the event of bleeding or perforation. The endoscopic technique will undoubtedly undergo modifications.¹⁵ It remains to be determined whether laser cysto-enterostomy is more effective than electrocautery, whether nasocystic drainage facilitates patency of the gastrocystic fistula or whether or not a double pigtail catheter left in place¹⁶ for 3 months and then removed endoscopically is advantageous.

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