

Case Report

Palliative open cystogastrostomy for giant pancreatic pseudocyst in pancreatic malignancy – a rural experience

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ABSTRACT

Pancreatic pseudocysts are common sequelae of pancreatitis, but rarely occur in the context of pancreatic malignancy. Giant pseudocysts are another uncommon phenomenon and are defined as those greater than 10 centimetres in diameter. These may cause mass effect with obstructive symptoms warranting surgical intervention, which nowadays typically involves endoscopic drainage. We report a 70-year-old man presenting with gastric outlet obstruction secondary to giant pancreatic pseudocyst on the background of unresectable pancreatic ductal adenocarcinoma. In the absence of locally available specialised endoscopic services and in accordance with the patient's preference for local care, a palliative open cystogastrostomy was performed at a rural Australian hospital. Drainage of over two litres of cyst fluid allowed for significant improvement in pain, oral intake, and vomiting at follow-up. This case describes the rare coexistence of giant pancreatic pseudocyst and pancreatic malignancy, and highlights that open cystogastrostomy remains a safe and effective option in selected patients. Patient-centred decision-making that factors in patient goals, symptom burden, and local resource availability is especially important in rural settings and life-limiting disease.

Keywords: Pancreatic pseudocyst, Pancreatic malignancy, Open cystogastrostomy, Rural surgery, Abdominal surgery

INTRODUCTION

Pancreatic pseudocysts are the most common cystic lesion of the pancreas, mostly associated with pancreatitis and seldom occur in malignancy.^{1,2} Giant pseudocysts are rare and occur when they reach a diameter over 10 cm, leading to mass effect causing pain and obstructive symptoms necessitating drainage.^{3,4} Cystogastrostomy describes the internal decompression of a retrogastric cyst into the stomach. Currently, minimally invasive approaches, including endoscopic drainage, are the preferred approach due to reduced patient morbidity and high long-term success rates.⁵ While less commonly performed, surgical drainage has a role in selected patients, such as recurrent pseudocysts, difficult location of cysts, or reduced access to endoscopic interventions.

In this report, we describe a giant pseudocyst occurring in a patient with known pancreatic malignancy who underwent palliative open cystogastrostomy in a rural Australian hospital. The patient provided informed consent for publication of the case.

CASE REPORT

A 70-year-old male was referred to the General Surgery Unit of a rural Australian hospital with a giant pancreatic pseudocyst causing gastric outlet obstruction on the background of pancreatic ductal adenocarcinoma.

He was diagnosed seven months prior with borderline-resectable pancreatic ductal adenocarcinoma and had undergone neoadjuvant chemotherapy. Restaging imaging four months later demonstrated radiological peritoneal

progression consistent with metastatic disease, thereby precluding curative resection. At this time, a new large, well-defined fluid collection was identified within the lesser sac of the upper abdomen (Figure 1). This measured 146 mm by 118 mm by 137 mm (width by depth by height) and was separate from the primary pancreatic tumour. The patient was experiencing symptoms consistent with gastric outlet obstruction, including severe abdominal pain, nausea and vomiting with associated anorexia and weight loss. Given the presence of unresectable disease, management was undertaken with palliative intent. Due to the unavailability of specialised endoscopic services at this rural hospital and the patient's strong preference to be treated locally (rather than transfer to a metropolitan service), a semi-urgent open cystogastrostomy was planned.

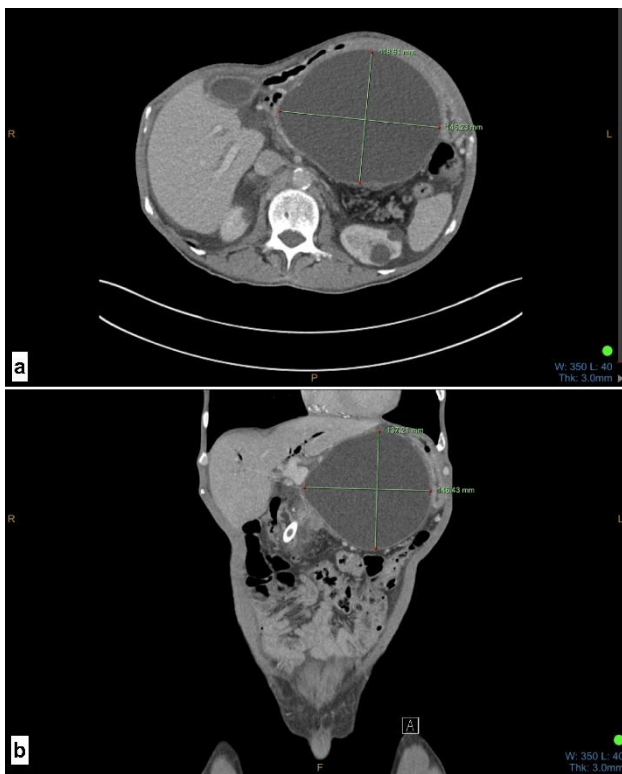


Figure 1 (a and b): Axial and coronal views of abdominal computed tomography (CT) demonstrating giant pseudocyst causing gastric outlet obstruction.

A gastroscopy was first performed revealing a stomach filled with food contents and the impression of the pseudocyst at the lesser curvature. The gastric contents were suctioned, and the stomach was subsequently insufflated. A laparotomy via a transverse incision was performed and the stomach was entered at the anterior aspect of the greater curvature. Cystogastrostomy was formed with an incision in the posterior wall of the stomach, drainage of over two litres of serous fluid, then marsupialisation of the pseudocyst with polypropylene sutures. The patient discharged against medical advice three days post-operatively, however his recovery was

uneventful and symptomatically was greatly improved. He was followed up in the outpatient setting for one month and reported significant improvement of pain, resumption of normal bowel habits and reduced vomiting.

DISCUSSION

Pseudocysts are formed due to pancreatic ductal interruption, typically in the setting of recurrent inflammation, causing extravasation of pancreatic enzymes and development of a collection confined by a non-epithelialized wall. These rarely occur in combination with malignancy.^{1,2}

Giant pseudocysts (>10 cm) are similarly an uncommon phenomenon with only case reports or series in the available literature.^{3,4} While small pseudocysts can be managed conservatively with observation, it is recommended that those >6 cm in diameter or persisting for >6 weeks should be drained, especially if causing symptoms such as abdominal pain, vomiting, or biliary or gastrointestinal obstruction.^{4,5}

Drainage can be approached percutaneously, endoscopically or surgically (laparoscopic or open) and is based on pseudocyst size and location, patient symptoms and comorbidities, as well as surgeon expertise and equipment availability. While open surgical drainage was once considered gold-standard for pseudocyst decompression, there is increasing evidence to support a minimally invasive endoscopic approach.^{5,6} This can occur via endoscopic retrograde cholangiopancreatography (ERCP) with stent placement in the pancreatic duct or transmurally under endoscopic ultrasound (EUS) guidance for pseudocysts adherent to the stomach or duodenal wall with an AXIOS™ stent (Boston Scientific, Marlborough, MA).⁶ Hao et al's systematic review and meta-analysis from 2021 reports similar efficacy of laparoscopic and endoscopic pseudocyst drainage in terms of success and recurrence, while the endoscopic approach was associated with reduced operative time, intraoperative blood loss and hospital length of stay. However, there remains a lack of high-quality evidence (i.e. prospective randomized control trials) to clearly support its use over surgery.⁶ In the context of pancreatic malignancy, the decision to perform surgical drainage warrants careful consideration. In patients with potentially resectable disease, internal drainage procedures may risk tumour dissemination and compromise subsequent oncological resection. In this case, radiological progression with peritoneal metastases confirmed unresectable disease, and intervention was undertaken with palliative intent to relieve obstructive symptoms.

CONCLUSION

In this case, the patient opted for management in the rural setting, where access to interventional radiology and therapeutic endoscopy is limited. Open surgical cystogastrostomy remains a viable option in selected

patients with favourable retrogastric pseudocyst position to improve patient symptoms and quality of life while advocating for shared decision making and patient centred care.

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