JOP. J Pancreas (Online) 2008; 9(3):309-312.

CASE REPORT

Isolated Pyogenic Pancreatic Abscess Mimicking a Neoplasm

Vui Heng Chong

Gastroenterology Unit, Department of Medicine, Raja Isteri Pengiran Anak Saleha (RIPAS) Hospital. Bandar Seri Begawan, Brunei Darussalam

ABSTRACT

Context Pancreatic abscesses are uncommon and usually occur in the setting of pancreatitis. Isolated pyogenic pancreatic abscesses without any precipitating events are extremely rare.

Case report A 72-year-old man with a two month history of non-specific abdominal discomfort, distension, anorexia and weight loss was admitted for further evaluation. A computer tomography scan showed a lesion of the pancreatic head suspicious for a malignancy. Unexpectedly, *Klebsialla pneumoniae* was isolated from the aspiration biopsy without any evidence of malignancy. A repeat CT scan four months later showed resolution of the abscess after a six week course of antibiotic.

Conclusion Our case highlights a rare case of isolated pyogenic pancreatic abscess secondary to *Klebsialla pneumoniae* mimicking an underlying pancreatic malignancy. Infective causes should be considered to avoid any unnecessary major surgery.

INTRODUCTION

Pancreatic abscesses are uncommon and usually occur in the setting of pancreatitis especially if complicated by pseudocyts or pancreatic necrosis. Infections outside of this setting are extremely uncommon and have been reported to occur with perforation of the bowel into the pancreas [1, 2]. Imaging findings can be non-specific and resemble malignancies [2]. The case report presents a 72-year-old man who was diagnosed with *Klebsiella pneumoniae* isolated pancreatic head abscess mimicking a malignancy.

CASE REPORT

A 74-year-old man was admitted for evaluation of a two-month history of abdominal discomfort, distension, anorexia and loss of weight. There was no history of any fever. He had been having some difficulty defecating, often passing only a small amount of feces. Apart from the weight loss, there were no warning symptoms. System reviews were unremarkable. His past medical history included long standing type II diabetes mellitus, hyperlipidemia, previous fracture of the neck of the femur and mild depressive disorders. His medications included statins, oral hypoglycemic agents and multivitamins. On examination, he was afebrile, comfortable and did not have features of significant weight loss. The abdomen was generally distended but not tender. There was no organomegaly. The rest of the examination was unremarkable.

Blood tests showed poorly controlled diabetes with a random blood sugar level of 23.8 mmol/L (reference range: 3.5 to 6.0 mmol/L) and an elevated erythrocyte sedimentation rate of 93 mm/h (reference range: 0-10 mm/h). The liver function test was normal apart from hypoalbumenia of 22 g/dL (reference range: 35-40 g/dL). The results of the routine blood tests, which included a full

blood count and a thyroid function test, together with serum calcium, amylase, urea, and electrolytes, were all normal. Chest radiography and ultrasound of the abdomen were normal. In view of the history of abdominal pain and constipation, he underwent an endoscopy. Upper GI endoscopy showed pangastritis with gastric atrophy in the antrum and body. A biopsy for *Helicobacter pylori* was negative. A colonoscopy was normal. A computer tomographic (CT) scan of the abdomen and pelvis was requested and this showed a 3 cm ill-defined lesion with low central attenuation measuring approximately 2 cm located at the head of the pancreas (Figure 1). The rest of the pancreas appeared normal. The adjacent intra-pancreatic common bile duct and the pancreatic duct were normal. There was no evidence of vessel or lymph node involvement. The clinical suspicion was that of pancreatic head neoplasm. Serum carbonic anhydrase 19-9 (CA 19-9) was elevated (133 IU/mL; reference range: 0-34 IU/mL). Serum carcinoembryogenic antigen (CEA) was normal.

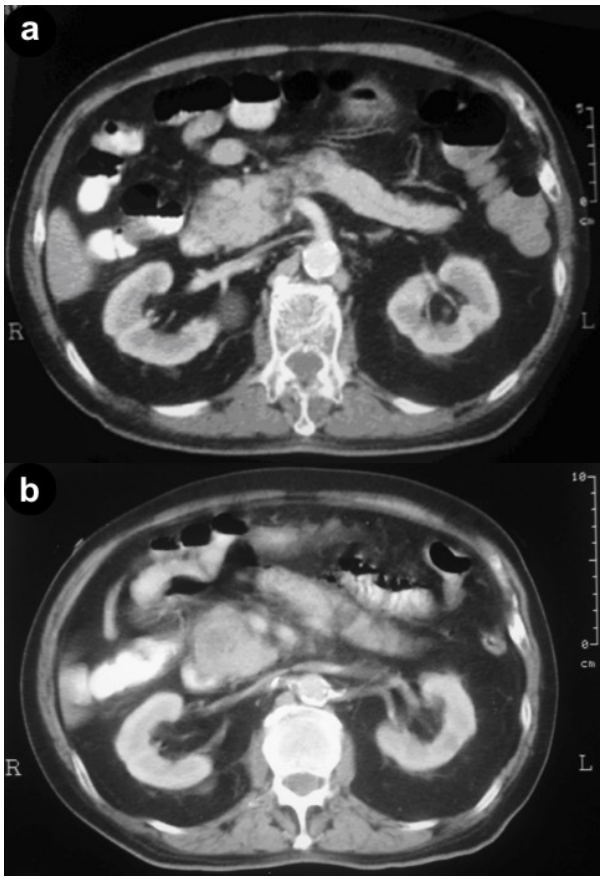

Figure 1. a. CT scan showing an ill defined poorly enhancing lesion located at the head of pancreas lesion suggestive of head of pancreas tumor. **b.** Hypodense area measuring approximately 2 cm located at the centre of the lesion with the rest of the pancreas appearing normal.

Based on the CT findings, the condition was deemed resectable and the option of curative surgical resection was discussed with the patient and his relatives. However, in view of his age, the family members were reluctant to proceed with surgery without further confirmation of the malignant status. Therefore, a biopsy of the lesion was organized. Using a 21 gauge spinal needle, a CT scan-guided percutaneous aspiration biopsy was performed. Surprisingly, only a few milliliters of purulent fluid was aspirated and this was sent for cytology and culture. Cytology showed inflammatory cells without evidence of malignancy. A culture yielded *Klebsiella pneumoniae* which was sensitive to most antibiotics tested. The patient was started on intravenous imipenem (1 g *tid*) for two weeks and continued with an additional four weeks of penicillin. A repeat CT scan six months post-discharge showed resolution of the pancreatic head lesion. He is well after two years of follow-up.

DISCUSSION

Pancreatic infections are commonly associated with complications resulting from pancreatitis. It is still associated with significant mortality despite improvement in medical care. It is possible that our patient may have had low grade pancreatitis with the resulting complication. However, apart from the lesion in the pancreatic head, the rest of the pancreas appeared completely normal on CT scan. Isolated pancreatic abscesses are less common and are often due to tuberculosis [3, 4]. The clinical presentations and imaging findings are non-specific and resemble underlying malignancy. Diagnosis still requires histopathological examinations [5]. However, such cases have been reported mainly from endemic areas for tuberculosis. Apart from complications resulting from pancreatitis, pyogenic pancreatic abscesses

have been reported to occur in association with foreign body perforations or seedlings from the adjacent organs [1, 2, 6]. There are very few reports of fish bone perforations of the gastric wall into the pancreas leading to abscess formation. All of these cases were initially suspected to be pancreatic malignancies. Pancreatic abscess secondary to duodenal diverticulum perforation has also been reported [7]. Our patient did not have any diverticuli noted during the endoscopy. However, it is possible that a small diverticulum could have been missed since a a side viewing duodenoscopy was not carried out. Furthermore, the CT scan did not show any evidence of perforation.

Isolated pyogenic pancreatic abscesses without any underlying etiology are extremely rare and have mainly been reported with *Salmonella* infections [8, 9]. The only risk factor for our patient was poorly controlled diabetes mellitus. There was no evidence of any biliary disease or either acute or chronic pancreatitis from the history and examinations. Our patient also did not give any history to suggest foreign body ingestion. Similar to other reports of pancreatic abscess mimicking malignancy, our initial diagnosis was tumor of the pancreatic head, especially with the elevated CA 19-9. an isolated pancreatic abscess was diagnosed when the fluid aspirate yielded only *Klebsiella pneumoniae.* Radiological imaging in our patient did not show evidence of abscesses in other locations and the colonoscopy did not show any evidence of colonic pathology such as diverticular disease. It is very likely that the pancreatic involvement occurred by means of hematogenous spread during a transient episode of bacteriemia which had been resolved before presentation. Poor diabetes control is known to cause compromised immunity resulting in increased risk for infections [10]. Infections without obvious sources are particularly common among patients with diabetes mellitus. Our own experience with liver abscesses shows that diabetes mellitus is an important risk factor for abscesses without other etiologies. We did consider the possibility of an infection co-existing with an underlying malignancy; however, it was very unlikely that this was the case in our patient. A repeat CT scan done four months post discharge showed complete resolution of the abscess and the patient has remained in good health in the two years of follow-up.

The use of endoscopic ultrasound (EUS) for both diagnosis and treatment would be the modality of choice for managing a case such as ours. EUS has been shown to be very sensitive and specific for the diagnosis of pancreatic lesions especially with the use of fine needle aspiration cytology. Furthermore, it has therapeutic uses with a low risk for complications. Therefore, all pancreatic head lesions should be biopsied, particularly using EUS. Even when EUS-guided fine needle aspiration cytology is performed for a pancreatic head lesion, the risk for tumor seeding does not pose a problem as Whipple surgery includes resection of the biopsy area. In our case, we had used the CT-guided percutaneous technique as we did not have the possibility of performing EUS at that time. With the introduction of contrast-enhanced EUS, differentiation between malignant and non-malignant disorders can now be made with more precision. It may even obviate the need for biopsy in the future and avoid unnecessary interventions. However, in a center such as ours where the expertise of EUS is not available, surgery may need to be considered in a pancreatic head lesion, even if it later turns out to be infective in origin.

In conclusion, our case highlights a rare case of isolated pyogenic pancreatic abscess secondary to *Klebsiella pneumoniae* mimicking an underlying pancreatic malignancy. Infective causes should be considered to avoid any unnecessary major surgery.

Received January 11th, 2008 - Accepted February 5th, 2008

Keywords Adenocarcinoma, Abscess, *Klebsiella pneumoniae*

Conflict of interest The author has no potential conflicts of interest

Correspondence
Vui Heng Chong
Gastroenterology Unit
Department of Medicine
Raja Isteri Pengiran Anak Saleha (RIPAS) Hospital
Bandar Seri Begawan
Brunei Darussalam
Phone: +673-877.8218
Fax: +673-224.2690
E-mail: chongvuih@yahoo.co.uk

Document URL: http://www.joplink.net/prev/200805/06.html

References

1. Goh BK, Jeyaraj PR, Chan HS, Ong HS, Agasthian T, Chang KT, Wong WK. A case of fish bone perforation of the stomach mimicking a locally advanced pancreatic carcinoma. Dig Dis Sci 2004; 49:1935-7. [PMID 15628728]

2. An CH, Kim KH, Kim JS, Kim JI. Pancreatic abscess caused by gastric perforation. ANZ J Surg 2007; 77:709. [PMID 17635297]

3. Liu Q, He Z, Bie P. Solitary pancreatic tuberculous abscess mimicking pancreatic cystadenocarcinoma: a case report. BMC Gastroenterol 2003; 3:1. [PMID 12521381]

4. Saluja SS, Ray S, Pal S, Kukeraja M, Srivastava DN, Sahni P, Chattopadhyay TK. Hepatobiliary and pancreatic tuberculosis: a two decade experience. BMC Surg 2007; 7:10. [PMID 17588265]

5. Chaudhary A, Negi SS, Sachdev AK, Gondal R. Pancreatic tuberculosis: still a histopathological diagnosis. Dig Surg 2002; 19:389-92. [PMID 12435910]

6. Hu J, Sheu MH, Yang WC, Li JC, Ng YY. Peritonitis and pancreatic abscess in a CAPD patient. Perit Dial Int 2002; 22:430-1. [PMID 12227410]

7. Safioleas M, Stamatakos MK, Mouzopoulos GJ, Karampali E, Iannescu R, Chantzikonstantinou K, Kostakis A. Pancreatic abscess due to perforation of duodenal diverticulum. Chirurgia (Bucur) 2006; 101:523-4. [PMID 17278646]

8. Arya M, Arya PK. Pancreatic abscess caused by s. typhi. Indian J Med Microbiol 2001; 19:18-9. [PMID 17664800]

9. Garg P, Parashar S. Pancreatic abscess due to Salmonella typhi. Postgrad Med J 1992; 68:294-5. [PMID 1409199]

10. Eliashiv A, Olumide F, Norton L, Eiseman B. Depression of cell-mediated immunity in diabetes. Arch Surg 1978; 113:1180-3. [PMID 309322]