International Surgery Journal
Charutha R et al. Int Surg J. 2024 Sep;11(9):1542-1545
http://www.ijsurgery.com
pISSN 2349-3305 | eISSN 2349-2902

DOI: https://dx.doi.org/10.18203/2349-2902.isj20242458

Case Report

Cervical extension of pancreatic pseudocyst an unusual entity

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Received: 30 June 2024
Revised: 08 August 2024
Accepted: 21 August 2024

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ABSTRACT

Pancreatic pseudocyst is a common complication that occurs following acute or chronic pancreatitis. Although the common location of pseudocyst is lesser sac, extension of pseudocyst can occur into mesentery, retroperitoneum, inguinal region, pleura and lung. Extension of pseudocyst into mediastinum and cervical spaces is extremely rare. Mediastinal extension of pseudocyst is a rare occurrence reported in fewer than 100 cases. Cervical extension of pseudocyst is even rarer. Due to the rarity of the condition, there is a lack of uniform treatment protocols which poses a challenge in the management of this condition. Here we report a rare case of bilateral cervical extension of ruptured pseudocyst and its management.

Keywords: Pseudocyst, Mediastinum, Pancreas

INTRODUCTION

A pancreatic pseudocyst is a localised peripancreatic amylase/lipase-rich fluid collection encapsulated by a fibrous wall, presenting more than 4 weeks after an episode of acute pancreatitis Foster et al, Kim et al and O'Connor et al.[1-3] Pancreatic pseudocysts can occur in the setting of both acute and chronic pancreatitis with incidences of 5- 15% and 30-40%, respectively by Ajmera and Judge, Rosso et al.[4,5]

Out of all the complications caused by pancreatic inflammation, thoracic and cervical pseudocysts are very rare. They may present with symptoms like chest pain, dysphagia, nausea and vomiting, dyspnea, cough and hemoptysis. Cross-sectional imaging (CT and MRI) is diagnostic of mediastinal extension of a pancreatic pseudocyst.

The radiologist should have a high index of suspicion in patients with the appropriate clinical history for the prompt diagnosis. Management is individualised and includes watchful waiting, medical management, endoscopic/percutaneous drainage, or surgical drainage.

CASE REPORT

A 44 year old gentleman chronic alcoholic presented with an abdominal lump since 8 months along with recent onset abdominal pain, and vomiting since 4 days. Patient had history of similar episodes of pain and vomiting in the past suggesting history of acute pancreatitis.

On clinical examination there was a swelling in epigastrium measuring about 12×10 cm extending to the periumbilical region and left hypochondrium nontender, immobile with ill-defined margins. There was a significant rise in serum amylase and lipase levels.

CECT abdomen with pancreatic protocol was suggestive of 13×14×24 cm collection in the lesser sac posterior to stomach reaching inferiorly upto right iliac fossa likely suggestive of pseudocyst of pancreas, communicating with main pancreatic duct, which had developed after an attack of acute pancreatitis as suggested by the history.

Patient was being managed conservatively in view of acute pancreatitis.

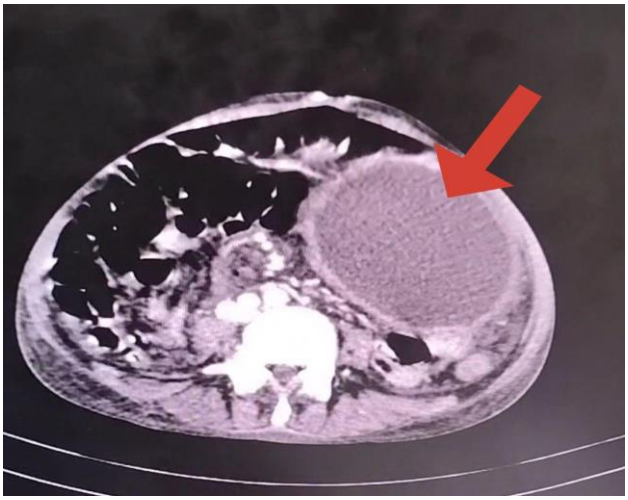

Figure 1: Axial section of contrast enhanced CT abdomen showing pseudocyst.

Figure 2: Coronal section of contrast enhanced CT scan of chest and abdomen showing fluid in the mediastinum extending into the abdomen through the esophageal hiatus (red arrow).

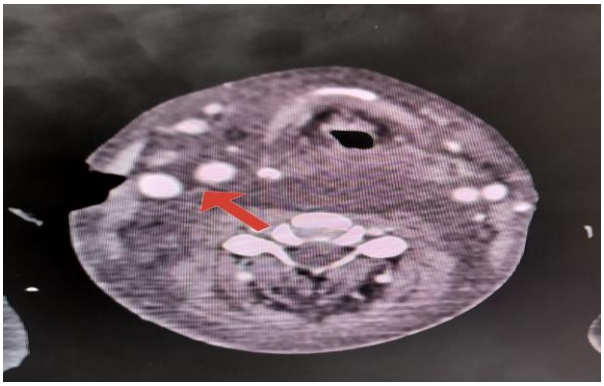

Figure 3: Axial section of contrast enhanced CT of neck showing fluid collection involving retropharyngeal and parapharyngeal space with extension to anterior cervical space causing separation of right internal jugular vein and carotid artery.

On the 4th day of admission, the patient developed sudden onset neck swelling, fever and dyspnea, X ray chest and neck was suggestive of bilateral pleural effusion (left more than right) with tracheal displacement to left side. CECT neck and thorax revealed evidence of rupture of pseudocyst through the esophageal hiatus into bilateral pleural cavities and mediastinum with contiguous extension of collection into retropharyngeal and prevertebral spaces. Urgent left sided Intercostal drainage was done which drained 500cc dark brownish fluid and surgical tracheostomy was performed and subsequently incision and drainage of the retropharyngeal and parapharyngeal spaces was done. The accumulated fluid was dark brown in colour and biochemical analysis showed significantly raised amylase and lipase. Patient was resuscitated and managed with iv fluids, IV antibiotics and total parenteral nutrition. After stabilisation the patient underwent endoscopic Main pancreatic duct stenting following which the pleural effusion and the pseudocyst gradually resolved, ICD was removed on day 10, tracheostomy closed and the neck incisions were also sutured and the recovery was uneventful.

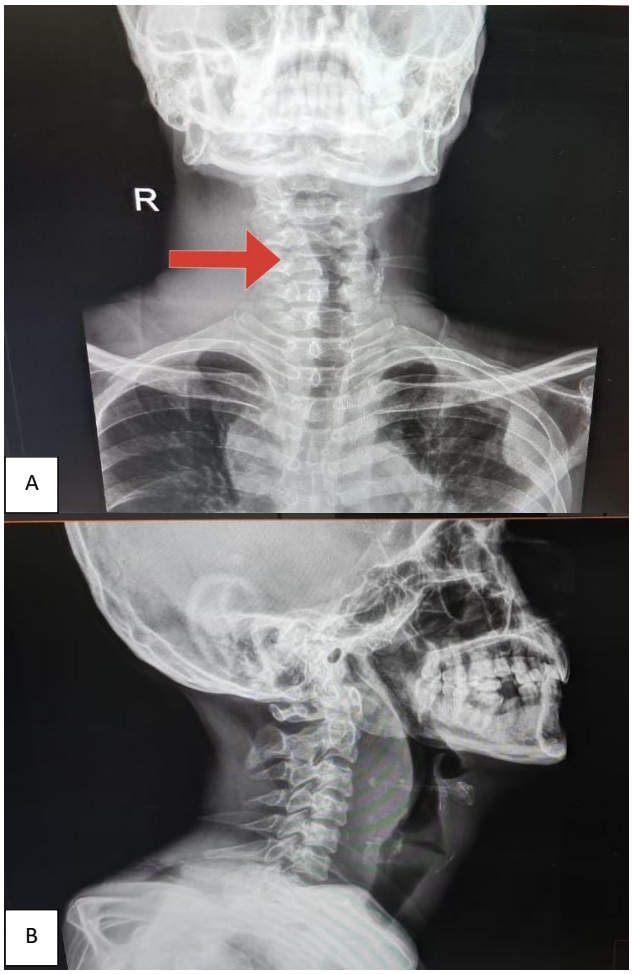

Figure 4 (A and B): Radiograph of neck anteroposterior and lateral showing anterior and lateral displacement of airway and widening of prevertebral shadow.

DISCUSSION

Thoracic pancreatic pseudocysts and pancreatico-pleural fistulas are rare complications of acute and chronic pancreatitis. They are triggered by disruption of the pancreatic duct. pancreatic fluid penetrates diaphragmatic orifices (usually the aortic or esophageal hiatus) and extends into mediastinum. Further, it either transforms into a pleural fistula or a mediastinal pseudocyst.[7,8] To the best of our knowledge, there have been fewer than 100 cases of mediastinal pancreatic cyst expansion reported in the literature.[9] While the precise incidence is unknown, the frequency of pancreatic pleural fistulas in patients with pancreatitis is estimated to be 0.4% to 4.5%.[10,11] Approximately 80% of cases of pancreatico-pleural fistulas are associated with mediastinal pseudocysts.[12]

Further extension of pseudocysts into cervical spaces can result in dysphagia, dyspnoea and can present as neck swelling. In the presented case, mediastinal extension of the pseudocyst was seen through the esophageal hiatus with further extension to the retropharyngeal and parapharyngeal spaces of neck and patient developed acute onset bilateral diffuse neck swelling along with dysphagia due to mass effect on the oesophagus because of extension of pseudocyst fluid into retropharyngeal and prevertebral spaces. Cross-sectional imaging plays an important role in the diagnosis of a mediastinal/retropharyngeal extension of pseudocyst.

Mediastinal pseudocyst must be differentiated from a paravertebral abscess. Pseudocysts extending to the neck can be misdiagnosed as a retropharyngeal or prevertebral abscess at the preliminary examination.[7,12] Hence detailed clinical history and examination is of utmost importance.

The pseudocysts may extend from the groin to the mediastinum.[13] Extension of pancreatic necrosis into the mediastinum, which is extremely rare, is possible via the aorta or the esophageal hiatus, through the diaphragmatic crura, or through erosion in the diaphragm according to Moncada et al infections progressing to the mediastinum follow three routes: the anterior cervical space, the retropharyngeal space, and the carotid space. All these anatomic spaces were involved in our patient (Figure 3).[14] Therefore, a retrograde mechanism of extension from the mediastinum to the neck could be suggested. The diagnosis of our patient was established with the aspiration of cyst fluid for amylase level, as reported by others.[15]

Management depends on several factors including the primary symptoms of the patient, location, extension of the lesion and its relation to major mediastinal and cervical structures.[6] A large proportion of pancreatic pseudocysts resolve without operative intervention and only require conservative medical management. In asymptomatic patients and patients with small lesions, medical management with octreotide may be useful. More than half of the conservatively-managed patients (57%) had their pseudocysts resolved within a six-months follow-up period. Drainage of the fluid can be performed using percutaneous or endoscopic techniques. It has been reported that the recurrence rate is lower following endoscopic drainage compared with percutaneous drainage techniques. Most researchers reported that the main indicators of complications and poor prognosis are the size of the cysts and the duration since the onset of cyst development. Percutaneous external drainage comprises percutaneous placement of a drainage pigtail catheter into the pseudocyst fluid cavity under US (ultrasonography) or CT guidance. Complications following percutaneous drainage include haemorrhage, infection and fistula formation. Surgical drainage or excision is limited to pseudocysts that fail to resolve by the above techniques or when they become complicated.[7]

CONCLUSION

Cervical extension of pancreatic pseudocyst is a rare compilation of pancreatitis with an atypical presentation and potentially catastrophic complications. A High index of suspicion is required to prompt imaging and diagnosis. Treatment requires case based multidisciplinary approach.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: Not required

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Cite this article as: Charutha R, Joshi MA, Joshi S. Cervical extension of pancreatic pseudocyst an unusual entity. Int Surg J 2024;11:1542-5.