

## Answer to medical quiz: Images

The first image (Fig.-1) is of abdominal ultrasound showing- pancreas is ill defined with indistinct margin. Multiple fluid collections (hypo echoic areas) are seen in front of pancreas and a large collection is seen medial to pancreas - suggesting pancreatitis with pseudo cyst formation. The second image (Fig.-2) is of CT scan of abdomen confirming the necrotizing pancreatitis with formation of pseudo cyst /abscess in pancreas, lesser sac and left psoas. Chest x-ray (Fig.-3) shows widening of mediastinum with left pleural effusion. CT scan of the chest showing (Fig.-4) - low attenuation areas of fluid density in the mediastinum, suggesting pseudo cyst formation in the mediastinum with bilateral pleural effusion.

### **Diagnosis:**

Necrotizing pancreatitis with pancreatic pseudocyst extending into mediastinum.

### **Review: Mediastinal extension of Pancreatic pseudocyst**

Pseudocyst formation is a common complication of both acute and chronic pancreatitis. Most pseudocysts occur in peripancreatic area and very rarely do they reach the mediastinum. Pancreatic pseudocysts are cystic cavities encased by reactive granulation or fibrous tissue, in or around the pancreas. The presence of a well-defined wall distinguishes a pseudocyst from an acute fluid collection seen in acute pancreatitis.

Pseudocyst can complicate 7% to 15% of episodes of acute pancreatitis and 20% to 25% of cases of chronic pancreatitis. Spontaneous resolution occurs in more than 50% of cases but complications can occur in up to 5% to 40% of cases as reported in various studies. Common complications include infection, intracystic hemorrhage, enlargement, and mass effect causing bile duct or bowel obstruction and formation of internal or external fistula.

It is postulated that mediastinal pseudocysts are caused by rupture of the pancreatic duct posteriorly into the retroperitoneal space. The pancreatic fluid then tracks through the diaphragmatic hiatuses into the mediastinum. Diaphragmatic openings for the esophagus and aorta are the most common sites of entry into the posterior mediastinum.

Symptoms are primarily the result of compression or invasion of mediastinal structures and patients may

present with dysphagia, pseudoachlasia, odynophagia, dyspnea, weight loss, and/or chest pain. The diagnosis of mediastinal pseudocyst should be suspected in a patient presenting with any of the above symptoms with a history of acute or chronic pancreatitis.

A chest radiograph may be nondiagnostic but can show retrocardiac opacity or widening of mediastinum. Definitive diagnosis can be made by a CT scan showing a thin-walled low attenuation cystic mass extending from the body of pancreas into the mediastinum. Contrast-enhanced CT scan has a very high sensitivity and can provide the details regarding the location as well as the anatomic relation of the pseudocyst to the surrounding structures. Magnetic resonance imaging and magnetic resonance cholangiopancreatography (MRCP) can help identify the connection between the mediastinal and abdominal pseudocyst in cases where it is not so evident on CT scan. MRCP has similar sensitivity to ERCP and has the advantage of providing images of the ducts in their natural state because it does not involve the distension of the ducts by the injected contrast media. Endoscopic ultrasound is increasingly being used in evaluating cystic lesions of the pancreas given its advantages in delineating intracystic contents and wall structures. An elevated amylase level in the aspirated fluid from a mediastinal pseudocyst confirms the diagnosis.

Spontaneous regression of mediastinal pseudocysts is rare. The treatment options for this entity are dictated by the severity of symptoms, the size of the pseudocyst, the ductal anatomy, and the surgical expertise available. Medical management is supportive and includes bowel rest, nutritional support, and somatostatin analogues. The drug acts by inhibiting pancreatic secretions and thus facilitates closure of pancreatic fistula. Transcutaneous external drainage can be combined with CT-guided stent placement. With the advancement in endoscopic techniques, endoscopic drainage is becoming the standard of care. Endoscopic internal drainage options available are ERCP with transpapillary duct drainage combined with endoscopic stent placement or transmural drainage. Transmural drainage can be achieved by transgastric, transesophageal, or transenteric approaches. Endoscopic ultrasound is increasingly being used to guide transmural internal drainage of mediastinal pseudocyst.

([www.ncbi.nlm.nih.gov](http://www.ncbi.nlm.nih.gov) > MedGenMed > v.9(2); 2007)