

Case Report

Ruptured Pancreatic Pseudocyst: Extension into the Thigh

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A pancreatic pseudocyst may rupture into the peritoneal cavity, an abdominal viscus, or the retroperitoneum with extension in either a supradiaphragmatic or subdiaphragmatic direction [1–6]. Pseudocyst extension has been reported in the pelvis, mediastinum, pleural space, and even the neck [1, 3, 5, 6]. We present a case in which a pancreatic pseudocyst ruptured into the retroperitoneum and dissected along the iliopsoas muscle into the left thigh as far as the knee.

Case Report

A 62-year-old man was admitted with acute abdominal pain and a serum amylase in excess of 12,000 units. A diagnosis of acute pancreatitis was made and the patient was treated conservatively for several days during which the pain gradually subsided. Sonography revealed edema and enlargement of the pancreas and cholelithiasis. CT showed moderate edema of the pancreas with some areas of loss of pancreatic outline. Since the patient was not on medication and had no history of alcohol abuse, a diagnosis of pancreatitis caused by gallstones was made. A cholecystectomy was performed. A postoperative CT revealed a large phlegmon involving the body and tail of the pancreas without evidence of a discrete pseudocyst. The patient was discharged in stable condition.

Approximately 1 month after discharge, the patient was readmitted with marked edema of the left thigh. A clinical diagnosis of deep venous thrombosis was made. Venography confirmed a small thrombus in the popliteal vein. When treatment with heparin failed to reduce the swelling, a follow-up CT was performed. This showed a pancreatic pseudocyst with extension into the left lower quadrant of the abdomen, the left hemipelvis, the left gluteal region, and the left thigh as far as the knee (Fig. 1). Examination of aspirated fluid from the thigh revealed an amylase content greater than 12,000 units. Surgical

drainage of the pseudocyst was performed through the lesser sac and left lower quadrant. Drains were placed into the pseudocyst cavity, the retroperitoneum, and the left upper thigh.

The patient improved steadily as the size of the thigh decreased. Serial outpatient CT scans showed gradual resolution of the pseudocyst. The patient's last CT scan, made approximately 5 months after his initial presentation, revealed essentially complete resolution of the pseudocyst. There was only mild enlargement of the body of the pancreas with slight loss of the pancreatic outline.

Discussion

With rupture of a pancreatic pseudocyst, pancreatic fluid dissects along the anatomic pathways and boundaries that provide the path of least resistance. The lesser sac and the anterior pararenal space are the most common sites of extra-pancreatic fluid collection [4, 5]. When rupture of a pseudocyst occurs into the anterior pararenal space, further extension of fluid into the iliopsoas compartment may occur [4]. The inferior portion of the anterior pararenal space communicates freely with the posterior pararenal space that borders the iliopsoas compartment and allows an alternate path for spread of proteolytic fluid [4]. The iliopsoas compartment passes beneath the inguinal ligament where the fascial boundaries join the fascia lata of the thigh and provide a conduit into the lower extremity [7]. Fascial investments of the superior gluteal arteries provide additional pathways to the buttocks and hips. Thus, fluid is readily able to dissect along the gluteal, quadriceps, and sartorial fascial planes, eventually terminating within the tendinous insertions anterior to the patella [7].

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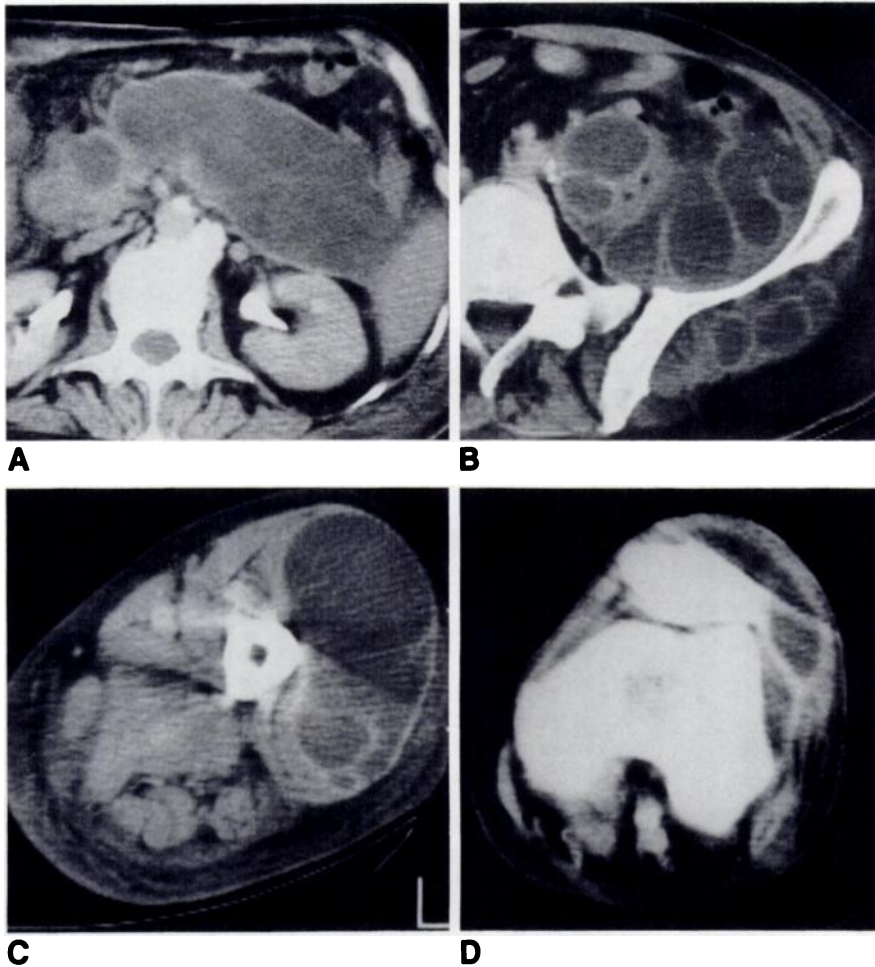


Fig. 1.—CT scans in patient with ruptured pseudocyst of pancreas with extension into left thigh as far as the knee.

A, CT of abdomen shows large bilobed pancreatic pseudocyst extending from medial edge of duodenum to spleen. Smaller component in pancreatic head should not be mistaken for a dilated common bile duct.

B, CT scan of pelvis shows multiple cystic structures within left hemipelvis and posterior of iliac bone.

C, CT scan of lower thigh shows a large focal extension of pseudocyst along anterolateral muscles.

D, CT of knee shows inferior extent of pseudocyst about retinaculum of knee.

Reports of extrapancreatic fluid collections extending into the pelvis and involving the groin or scrotum have been made [4–6]. We were unable to find previous reports on extension of pancreatic pseudocysts into the thigh. The extension of the pancreatic pseudocyst to the level of the patella in this case was proved by CT, by the presence of an elevated amylase level of the aspirate taken from the thigh, and by reduction of the lower-extremity swelling after surgical drainage of the pseudocyst. There was no involvement of the leg distal to the knee by either CT or clinical examination. The fluid extension may have been arrested at the time of readmission or perhaps, as has been suggested, an equilibrium may have been established between the volume of secretions produced in the pancreas and the amount of secretions absorbed from the fluid collection [5].

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