



UNIVERSITY of
ROCHESTER
MEDICAL CENTER

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DEPARTMENT OF IMAGING SCIENCES

Imaging Sciences Interesting Cases

CASE 28

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CLINICAL PRESENTATION: Patient is 29-year-old male with abdominal pain and history of pancreatitis with pseudocyst.

IMAGING FINDINGS: Pancreatitis with necrosis of at least two-thirds of the pancreas and development of multiple adjacent intrahepatic pseudocysts.

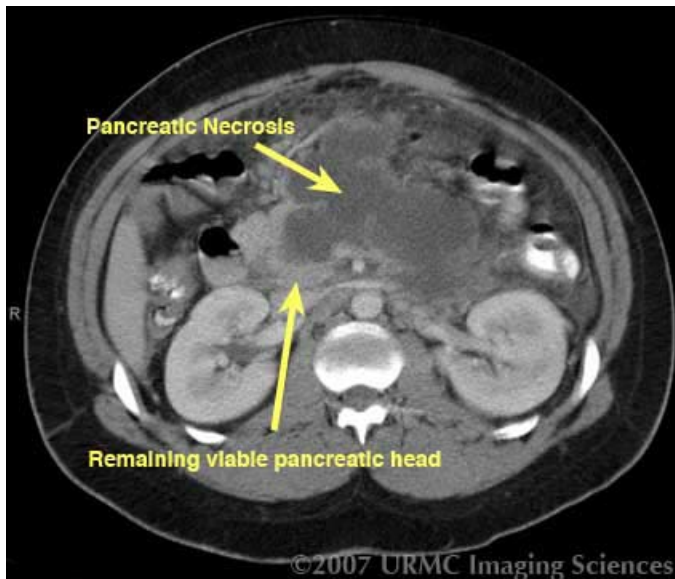


Figure 1. Axial CT image demonstrates necrosis of the pancreatic body with residual normal, enhancing pancreatic head.

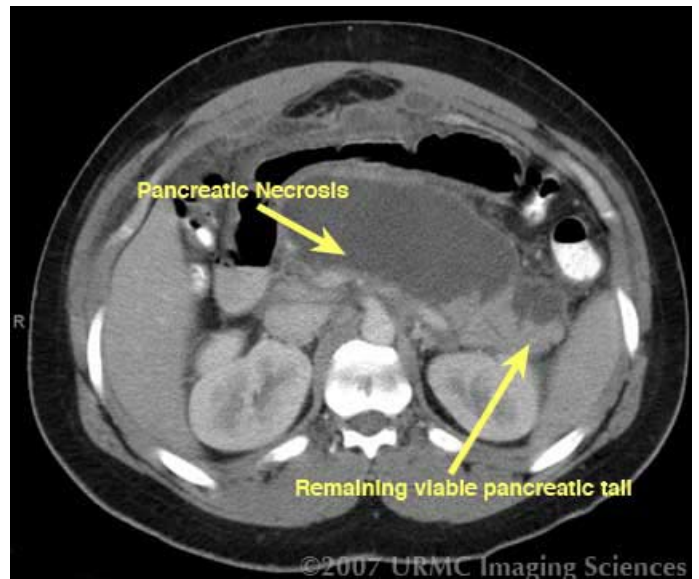


Figure 2. Axial CT image demonstrates necrosis of the pancreatic body with residual normal, enhancing pancreatic tail.

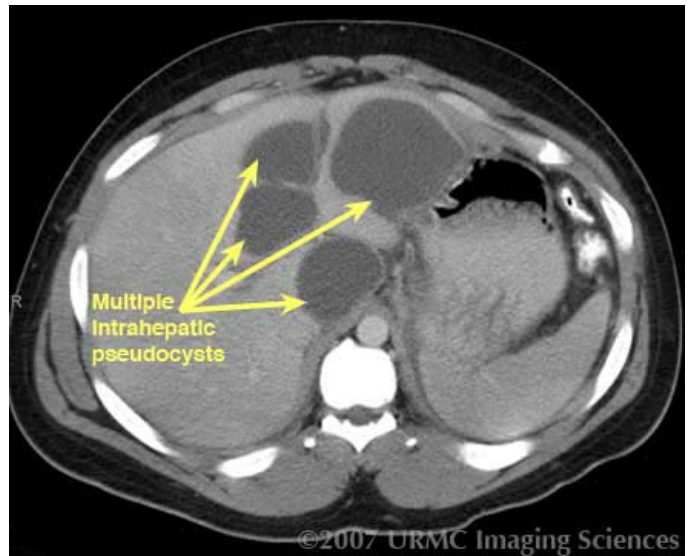


Figure 3: Axial CT image demonstrates intrahepatic pseudocysts.

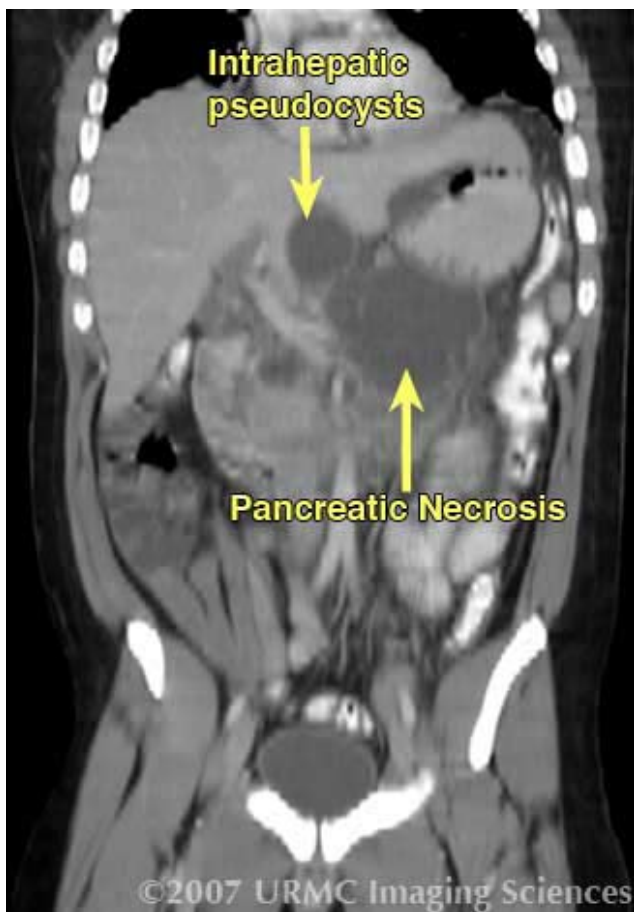


Figure 4: Coronal CT image demonstrates pancreatic necrosis with adjacent intrahepatic pseudocysts superiorly.

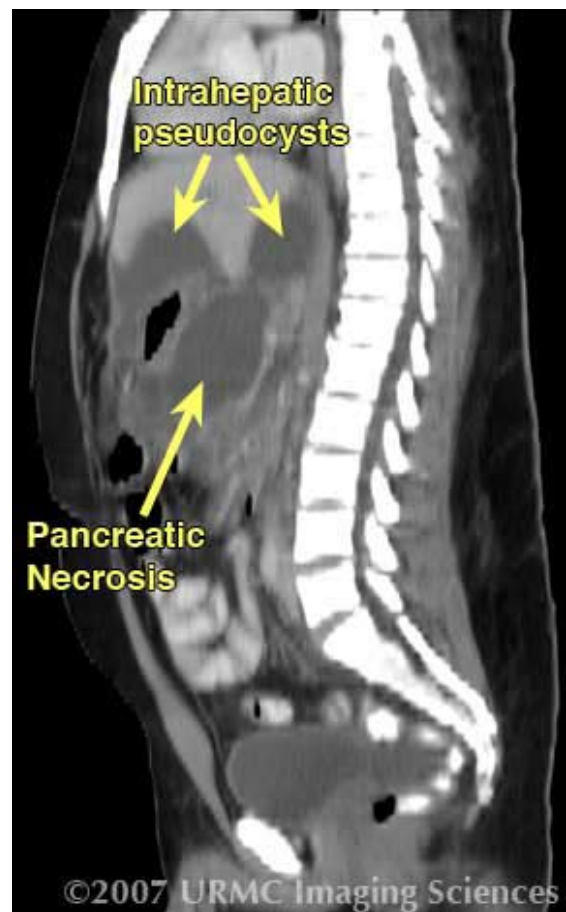


Figure 5: Sagittal CT image demonstrates pancreatic necrosis with adjacent intrahepatic pseudocysts superiorly.

DIAGNOSIS: Acute Pancreatitis with pancreatic necrosis and intrahepatic pseudocysts.

DISCUSSION: Acute pancreatitis often presents with upper abdominal pain with tenderness and rebound, vomiting, anorexia, fever, tachycardia and leukocytosis. Diagnosis is made with detection of elevated pancreatic enzymes in the blood and/or urine. Inflammatory changes damage pancreatic acinar tissue and disrupt ducts, leading to pancreatic enzyme leakage. The most common causes of acute pancreatitis are gallstone passage and alcohol abuse. Rare causes include post-ERCP or trauma, drugs, infection, hyper-

triglyceridemia, tumor and vascular etiologies. Dynamic contrast enhanced CT is the standard for imaging acute pancreatitis. CT can demonstrate major complications of pancreatitis and guide interventions. Mild acute pancreatitis may not be seen with CT.

Pancreatic necrosis is liquefied, nonviable parenchyma. An unenhanced area of parenchyma during arterial phase of contrast administration is diagnostic of necrosis. Normal unenhanced pancreas usually measures 30 to 50 Hounsfield units (HU) and increases to 100 to 150 HU with intravenous contrast. The pancreas and spleen usually have similar attenuation. Necrotic tissue is more easily infected. Necrotizing pancreatitis is associated with more severe disease and increased mortality.

Acute fluid collections of pancreatic enzymes usually develop at the periphery of the pancreas but are sometimes parenchymal. There is no fibrous or inflammatory capsule, differentiating them from pseudocysts. They usually occur in the anterior pararenal space or lesser sac. These fluid collections are low attenuation and poorly defined on CT.

Pseudocysts are rounded pancreatic fluid collections with an enhancing capsule seen on contrasted CT. Pseudocysts are most often peripancreatic, but may also be seen throughout the abdomen, in the mediastinum and pelvis. They take about six weeks to form.

Other findings include abscesses, hemorrhage from vascular or bowel erosion, and vascular complications including pseudoaneurysms and venous thromboses. Pancreatic ascites can be seen as well.

REFERENCES:

1. Balthazar E, Freeny P, VanSonnenberg E. Imaging and intervention in acute pancreatitis. *Radiology*. 1994 Nov;193(2):297-306. [PubMed]
2. Webb W, Brant W, Major N. *Fundamentals of Body CT*. Philadelphia: Saunders Elsevier, 2006.