

Necrotizing pancreatitis: peripancreatic necrosis alone

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Section: Abdominal imaging

Area of Interest: Abdomen Gastrointestinal tract

Pancreas

Procedure: Contrast agent-intravenous

Imaging Technique: CT

Special Focus: Acute Inflammation Abscess Case Type:
Clinical Cases

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Santiago YM, Albertz-Arévalo N.

Patient: 62 years, female

Clinical History:

62-year-old woman who complained of epigastric and left upper quadrant pain radiating to the back. On examination, there was jaundice of skin and mucous membranes. Blood tests showed elevated acute phase reactants, total bilirubin, transaminases, alkaline phosphatase, lactate dehydrogenase and amylase.

Imaging Findings:

Initial CT shows multiple acute necrotic collections (ANCs), affecting retroperitoneal spaces: left anterior pararenal space, with upper extension to subphrenic space and lower extension until iliac fossa, affecting left paracolic gutter, posterior pararenal space and left psoas muscle. There was also involvement of mesenteric fat.

It's worthy of mention that in spite of the extension of the collections, the pancreatic gland was not affected.

CT was repeated four weeks later. There were enhancing walls of these collections after intravenous contrast administration, which is indicative of walled-off necrosis (WON).

For treatment, three drainage tubes (28F) were placed because of the high density and abundant detritus of the collections. One of them was placed in the left anterior pararenal space. The other two were placed in the left paracolic gutter.

Incidentally, the patient had a L4-L5 lumbar orthosis for anterolisthesis and extensive bilateral pleural effusion, which produced overlying pulmonary atelectasis.

Discussion:

Acute pancreatitis is often diagnosed in emergency radiology services. It is important to properly characterize it because of the clinical consequences for the patient. In 2012 the new classification of Atlanta was made [1]. We are using it in the explanation of this case.

We can differentiate two types of pancreatitis [2]: oedematous or interstitial and necrotizing pancreatitis.

Oedematous pancreatitis is the most common. It is characterized by a diffuse enlargement of the pancreatic gland

due to inflammatory oedema. Some inflammation of peripancreatic fat and adjacent fluid collections can be seen.

Necrotizing pancreatitis can show pancreatic necrosis alone (the most uncommon type), necrosis of only the peripancreatic tissues (as this case) or both (most frequent). All its variants have a worse prognosis than oedematous pancreatitis.

Necrotic pancreatic gland is characterized by unenhancing tissue and heterogeneous density.

Peripancreatic collections seen in necrotizing pancreatitis of less than 4 weeks of evolution are called acute necrotic collections (ANCs), as this patient presented in the first CT. 4 weeks later, this collections become walled-off necrosis (WON), as seen in the second scan.

Therefore, the patient presents acute necrotizing pancreatitis with extrapancreatic involvement, sparing the pancreatic gland.

Characterization of necrotizing pancreatitis is a very important issue. Necrotizing pancreatitis involving only the peripancreatic tissue presents better prognosis than pancreatitis with affected parenchyma [3]. However, this kind of pancreatitis is frequently underdiagnosed because it's frequently confused with oedematous pancreatitis with peripancreatic fluid collections.

Differential Diagnosis List: Necrotizing acute pancreatitis with peripancreatic necrosis alone., Necrotizing pancreatitis, Interstitial pancreatitis, Spontaneous bacterial peritonitis

Final Diagnosis: Necrotizing acute pancreatitis with peripancreatic necrosis alone.

References:

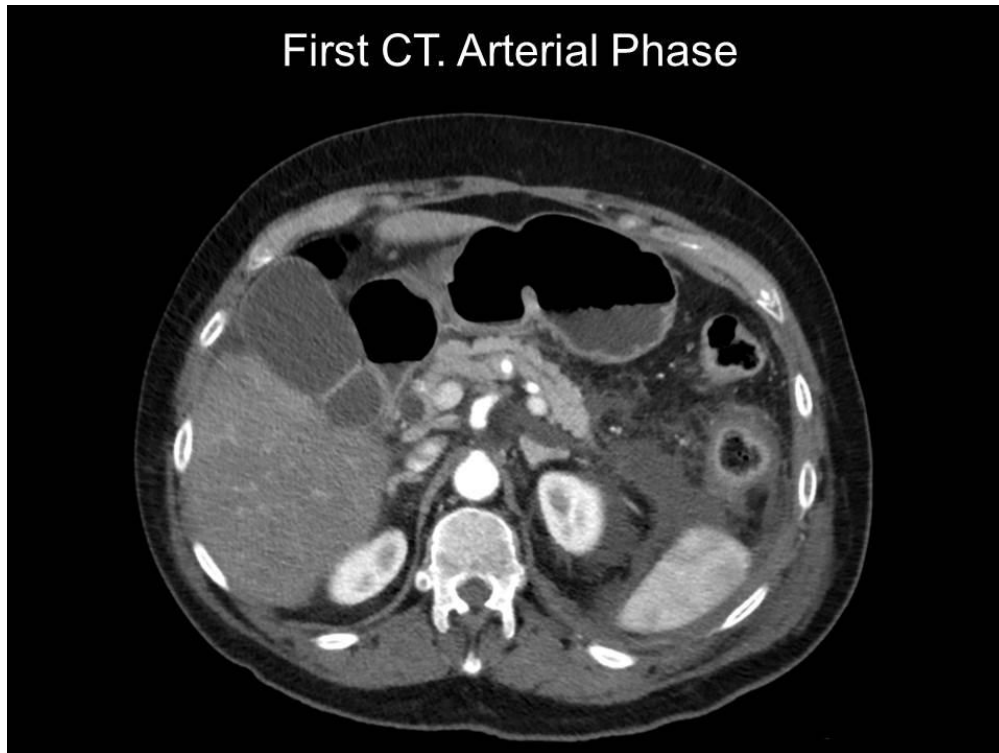
Bollen TL. (2012) Imaging of acute pancreatitis: update of the revised Atlanta classification. Radiol Clin North Am 2012 May;50(3):429–45 (PMID: [22560690](#))

Banks PA, Bollen TL, Dervenis C, Gooszen HG, Johnson CD, Sarr MG, et al. (2013) Classification of acute pancreatitis—2012: revision of the Atlanta classification and definitions by international consensus. Gut 2013 Jan 1;62(1):102–11. (PMID: [23100216](#))

Thoeni RF. (2012) The Revised Atlanta Classification of Acute Pancreatitis: Its Importance for the Radiologist and Its Effect on Treatment. Radiology 2012 Mar 1;262(3):751–64 (PMID: [22357880](#))

Figure 1

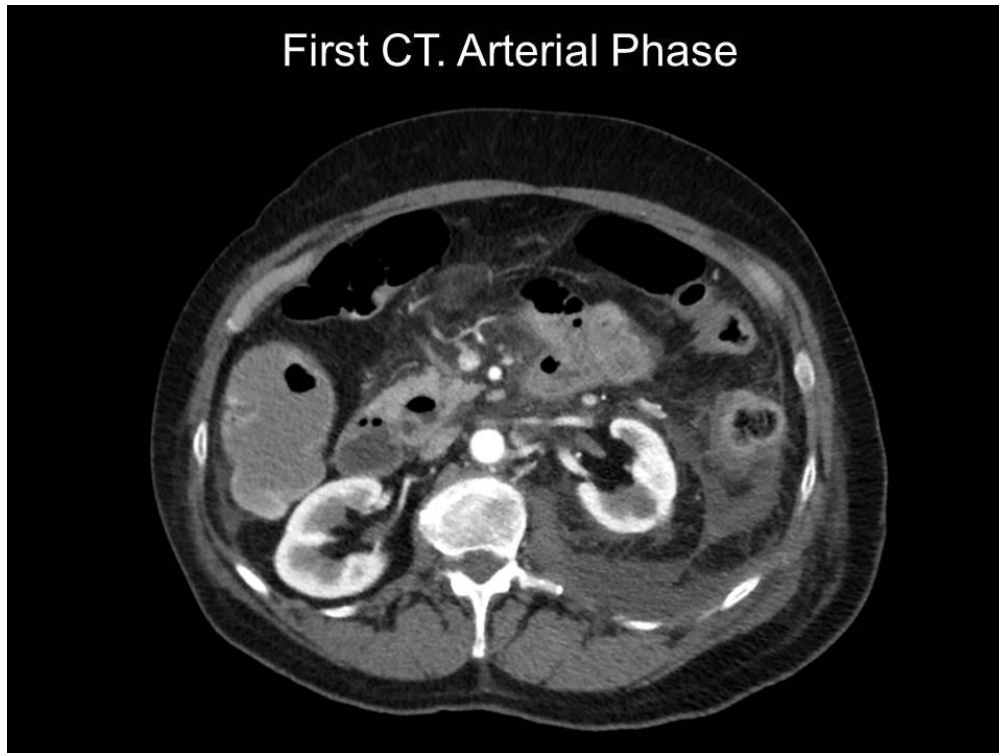
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Description: Acute necrotic collections (ANCs), affecting retroperitoneal spaces: left anterior pararenal space, with upper extension to subphrenic space. **Origin:** Delgado-Moraleda JJ, Brugger S. Hospital La Fe, Valencia, Spain.

Figure 2

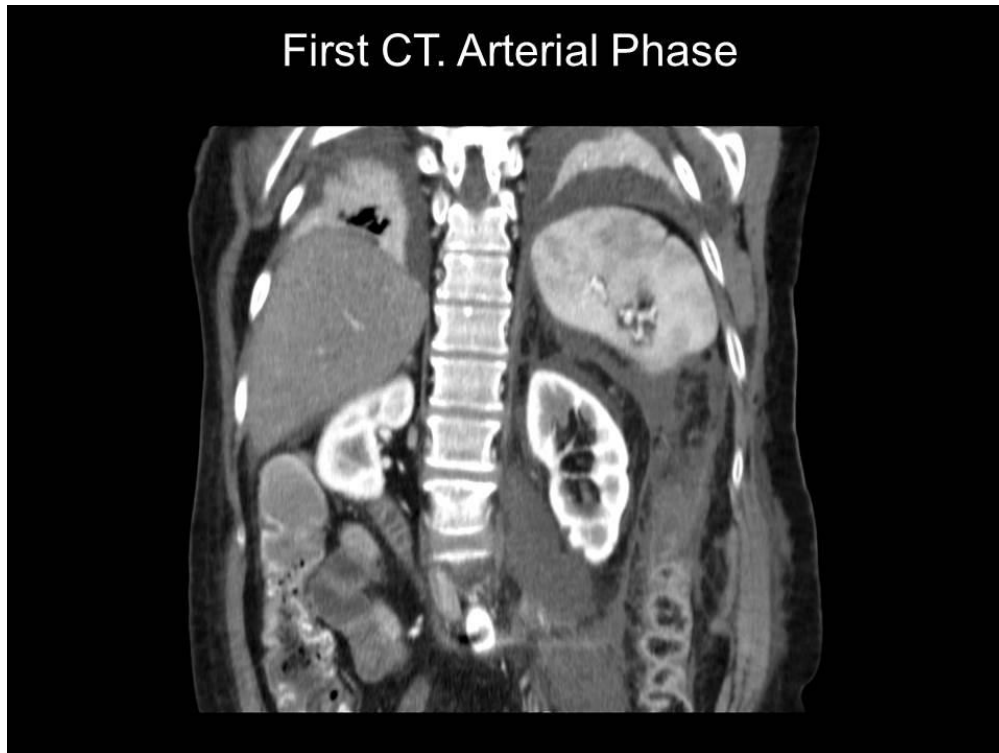
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Description: Acute necrotic collections (ANCs), affecting retroperitoneal spaces: left anterior pararenal space and lower extension until iliac fossa, affecting left paracolic gutter, posterior pararenal space and left psoas muscle. **Origin:** Delgado-Moraleda JJ, Brugger S. Hospital La Fe, Valencia, Spain.

Figure 3

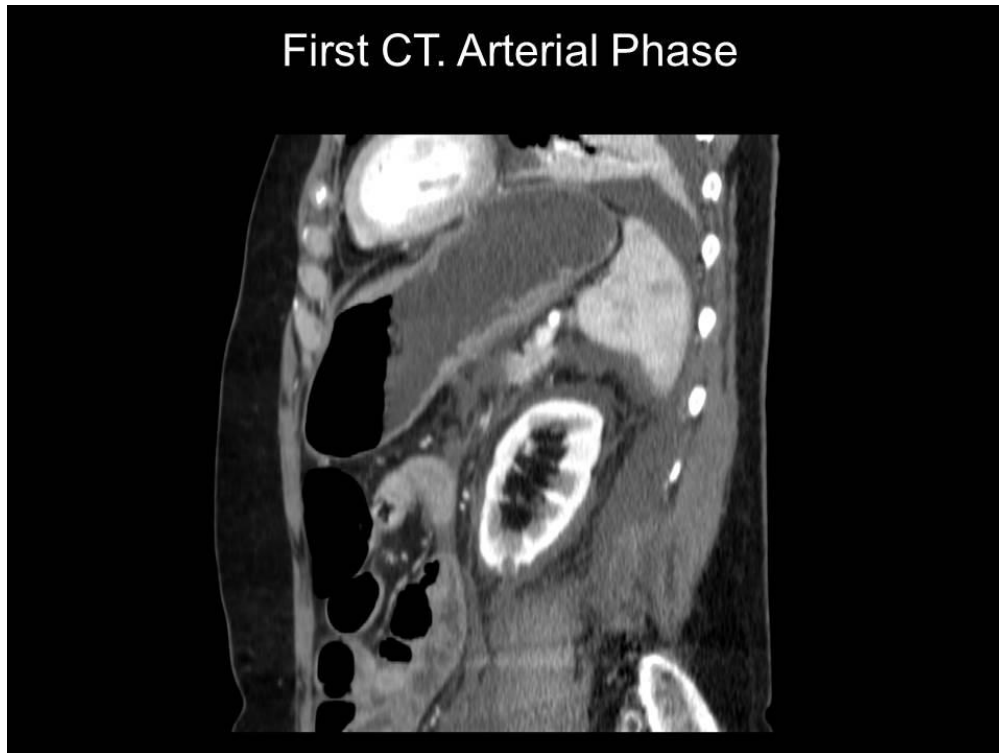
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Description: Acute necrotic collections (ANCs) on left anterior pararenal space, with upper extension to subphrenic space and lower extension until iliac fossa, affecting left paracolic gutter, posterior pararenal space and left psoas muscle. **Origin:** Delgado-Moraleda JJ, Brugger S. Hospital La Fe, Valencia, Spain.

Figure 4

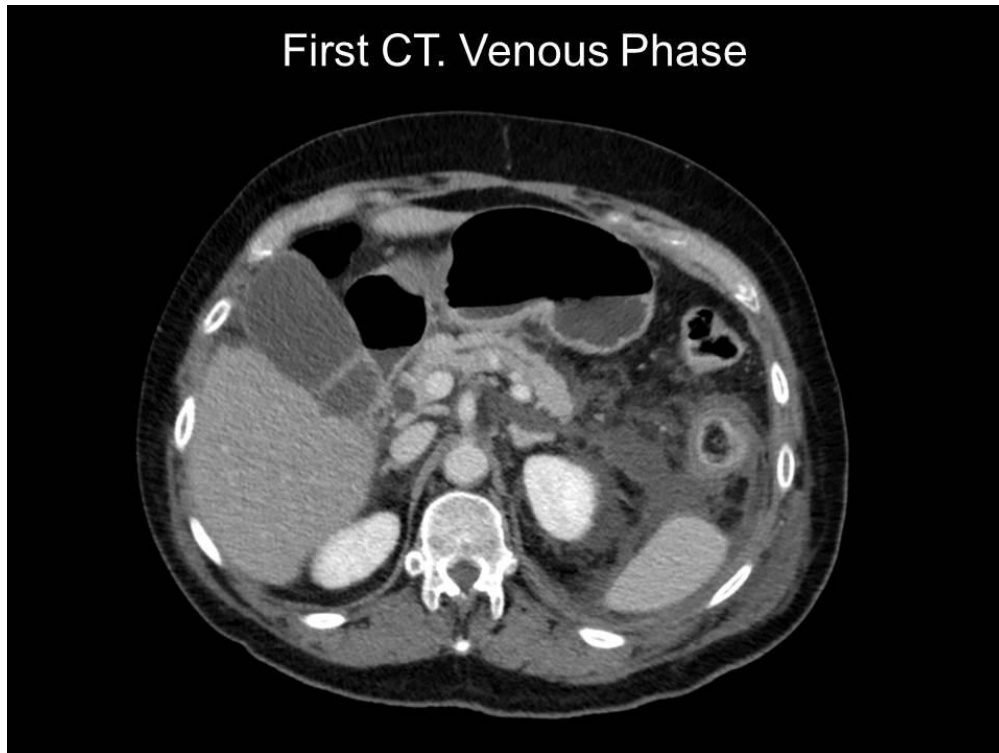
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Figure 5

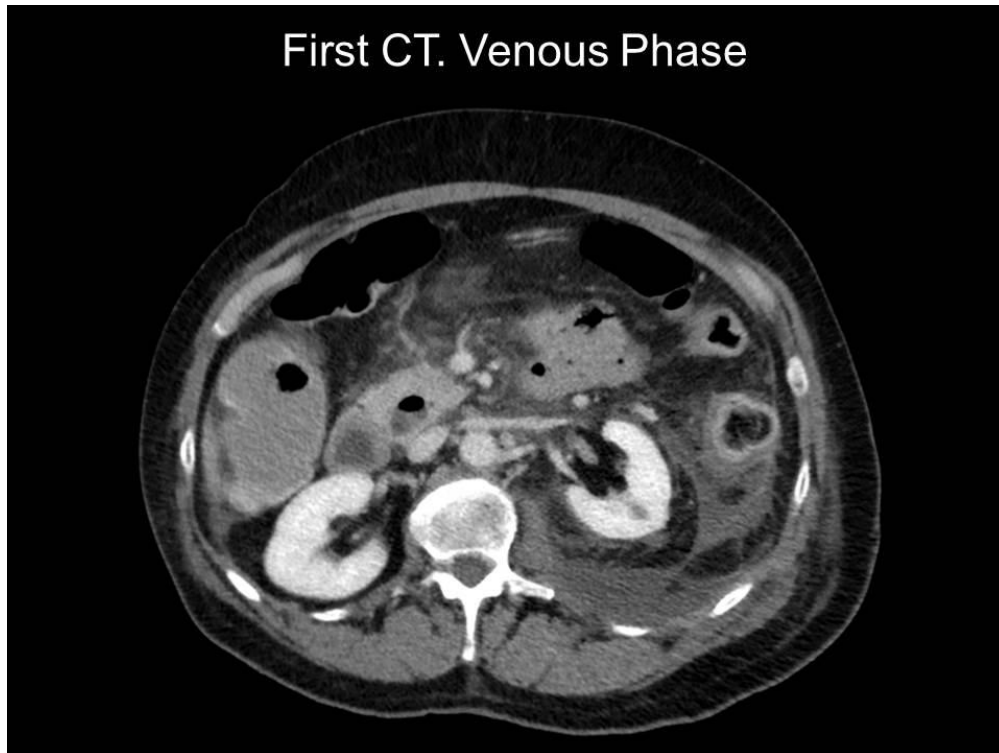
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Figure 6

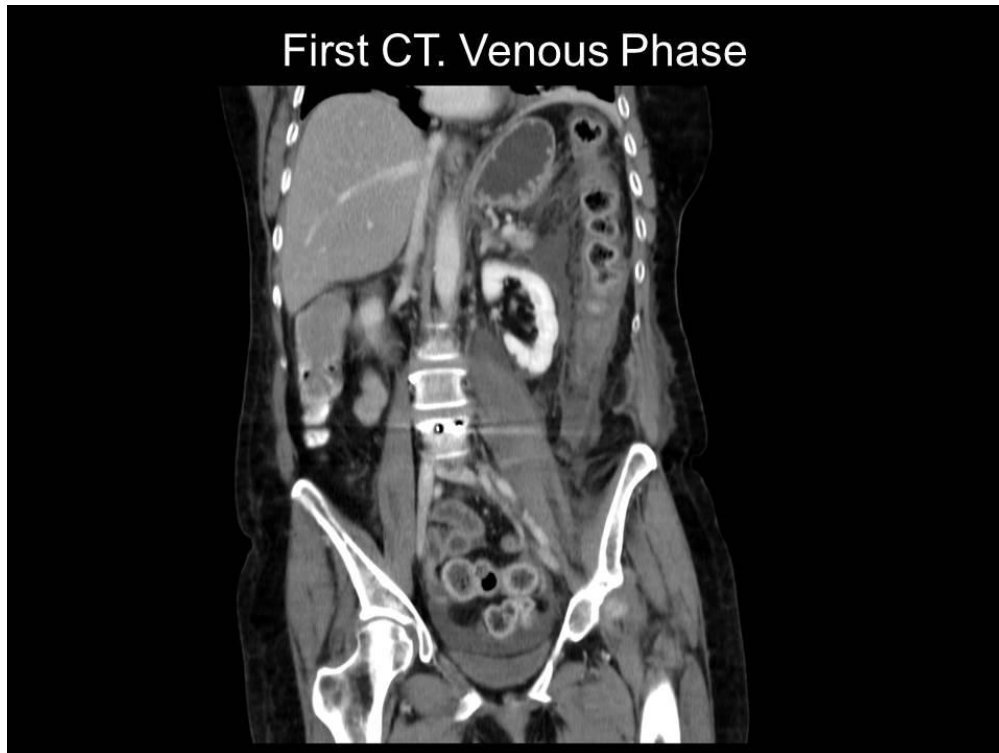
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Figure 7

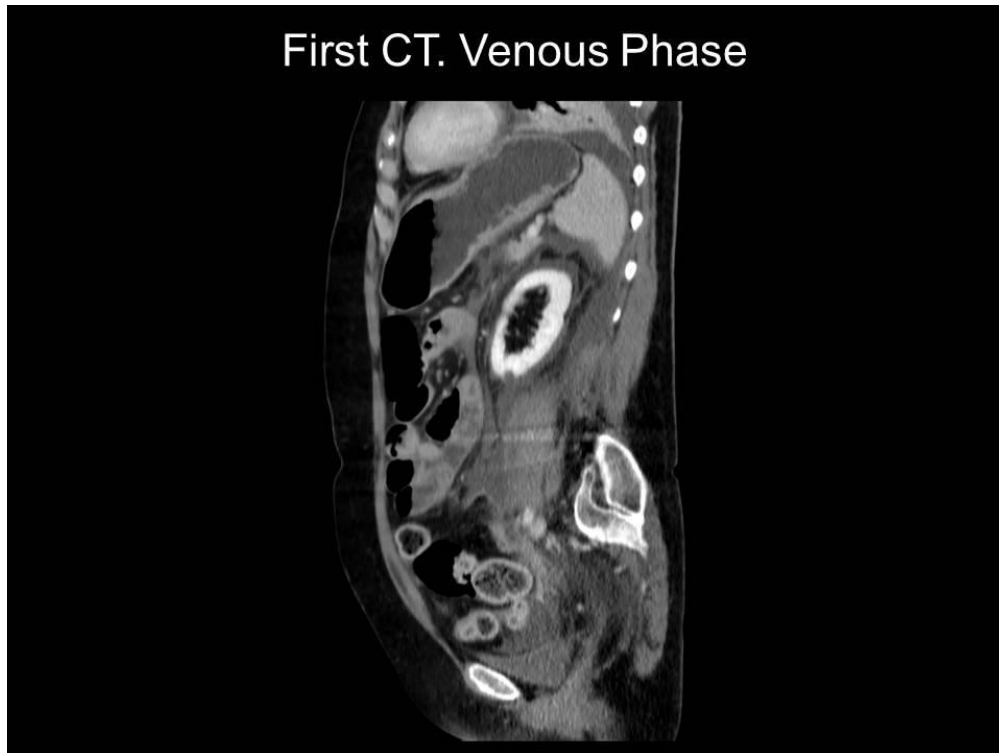
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Figure 8

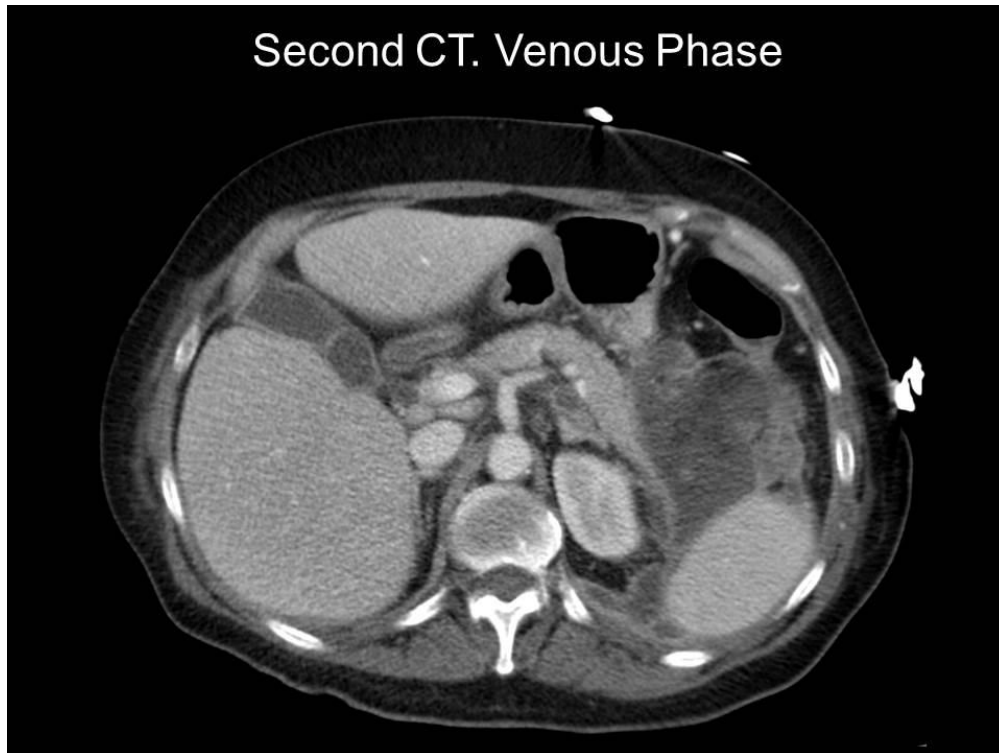
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Figure 9

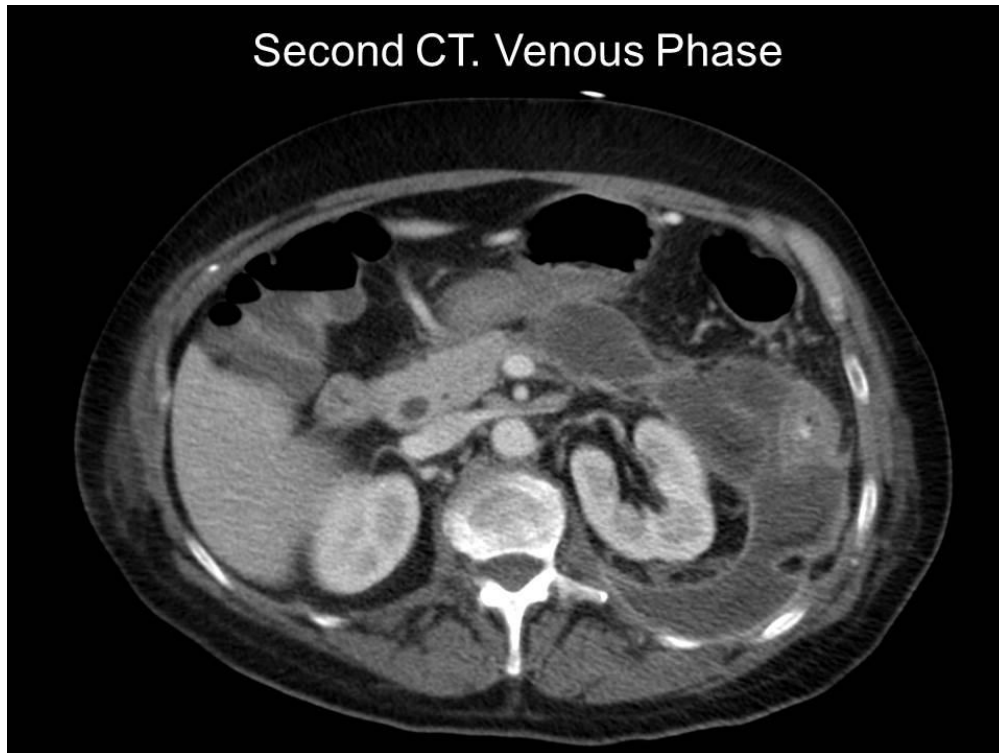
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Description: CT is repeated four weeks later. The walls of these collections show an enhancing wall after intravenous contrast administration, which is indicative of walled-off necrosis (WON). **Origin:** Delgado-Moraleda JJ, Brugger S. Hospital La Fe, Valencia, Spain.

Figure 10

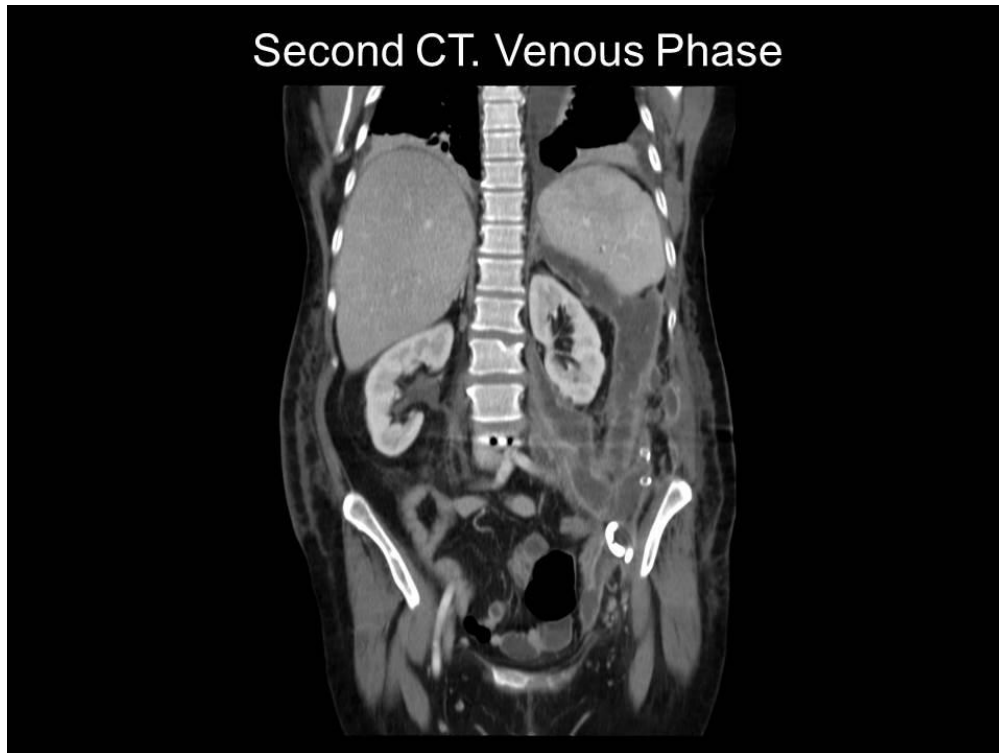
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Figure 11

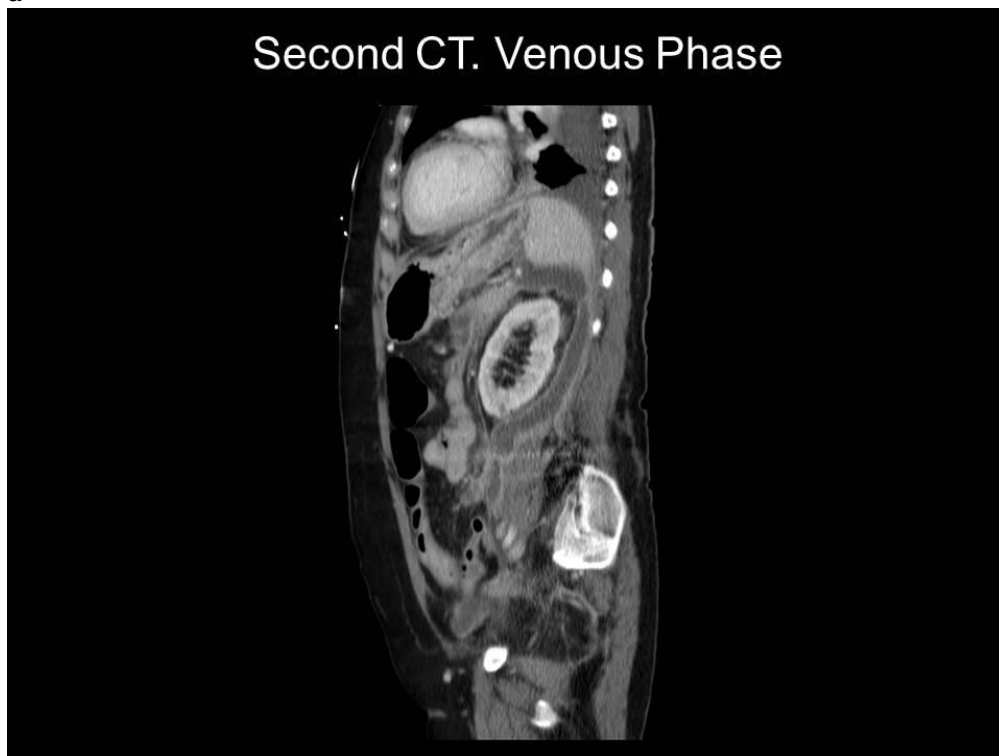
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Figure 12

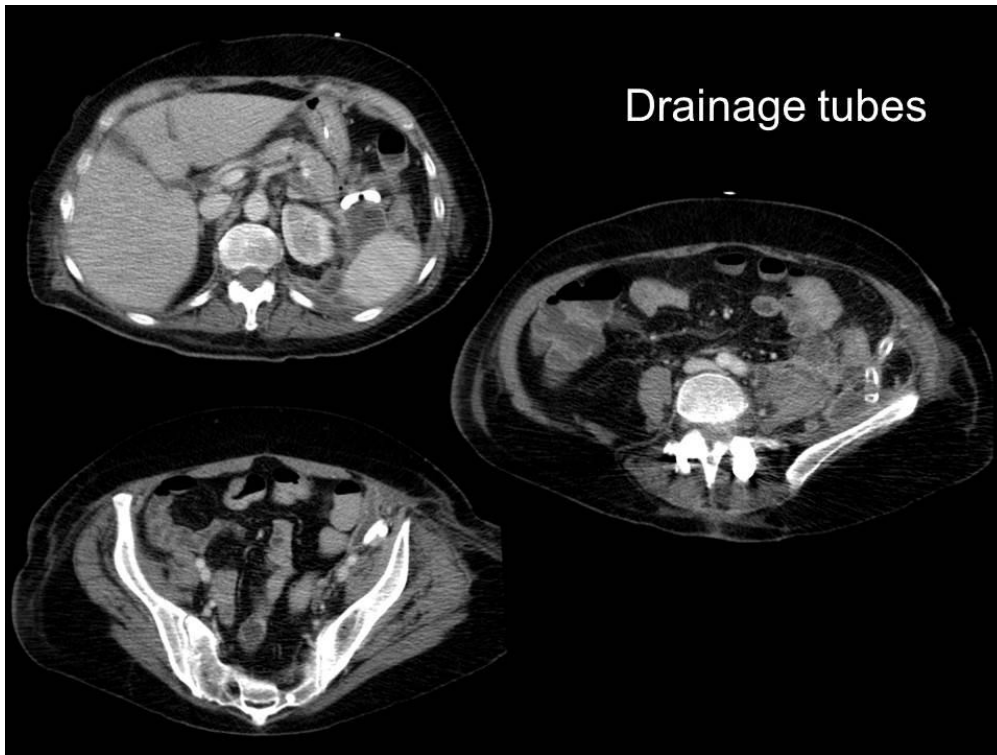
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Figure 13

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Description: For treatment, there have been placed three drainage tubes. One of them is placed in the left anterior pararenal space. The other two are placed in left paracolic gutter. **Origin:** Delgado-Moraleda JJ, Brugger S. Hospital La Fe, Valencia, Spain.