

Duodenum perforation after Endoscopic Retrograde Cholangiopancreatography

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Section: Abdominal imaging

Case Type: Clinical Cases

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Patient: 80 years, male

Clinical History:

Duodenal perforation in an old man evaluated for acute abdomen after E.R.C.P.

Imaging Findings:

An 80 year old patient was submitted to endoscopic retrograde cholangiopancreatography (ERCP) to check for stones in the bile duct. The patient was readmitted 2 days after with abdominal pain and low-grade fever. CT was performed with oral and intravenous contrast material. CT scan shows free air (*) diffusely in the peritoneal cavity and retroperitoneum adjacent to both kidneys. CT scan obtained also, extensive free air in the root of the mesentery. Peripancreatic fluid collections are present in combination with the expected inflammatory necrotic changes of the body, head and tail of the pancreas, formation of large retrogastric and paraduodenal fluid collections. Fluid was obtained in both pleural cavities, right pericolic area (descending colon) around the inferior vena cava and mesenteric vessels. There was also gallbladder stone right kidney stone and abdominal aorta atherosclerosis as well as superior mesenteric artery atherosclerosis. The patient recovered within a few days with conservative treatment.

Discussion:

Diagnostic and therapeutic endoscopic retrograde cholangiopancreatography (ERCP) has been performed for approximately 30 years. It is valuable in diagnosis and treatment of pancreatic and biliary disease and has less morbidity than surgery. It is a safe procedure and complication rate is about 10% and death rate about 1.0-1.5%. Perforation of the duodenum or distal duct occurs in 1.3% of the cases usually with sphincterotomy. Free retroperitoneal air has been reported in 29% of asymptomatic patients on a CT scan within 24 hours. This finding may occur due to insufflation of air into the duodenum which can lead to extraluminal air. It can also occur to misdirection of the catheter tip during the cannulation.

The most common reasons for ERCP include the following: to detect gallstones that might be blocking the ducts; Evaluation of pancreatitis; Evaluation of a possible pancreatic cancer; to remove gallstones that are not passing through the ducts into the small intestine; evaluation of jaundice; evaluation of chronic or acute abdominal pain. At the time of the procedure the endoscopist may take biopsies.

Differential Diagnosis List: Duodenum perforation

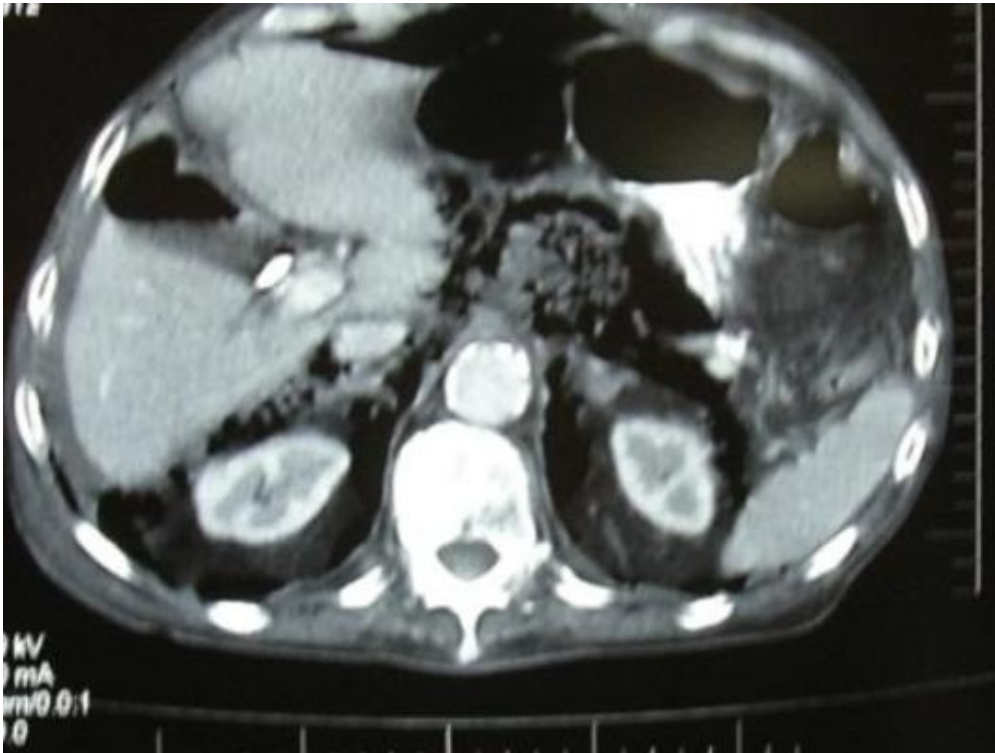
Final Diagnosis: Duodenum perforation

References:

Brody JM, Leighton DB, Murphy BL, Abbott GF, Vaccaro JP, Jagminas L, Cioffi WG (2000) CT of Blunt Trauma Bowel and Mesenteric Injury: Typical Findings and Pitfalls in Diagnosis. RadioGraphics 20:1525-1536. Radiographics / "Radiology Journal". (PMID: [11112806](#))

Figure 1

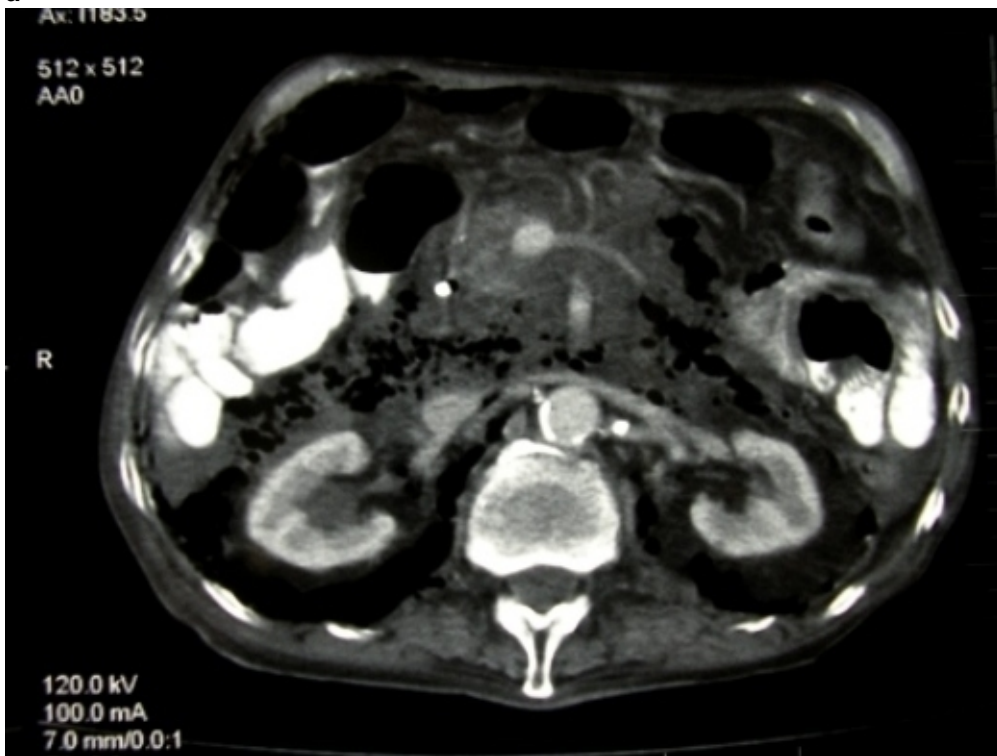
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Description: free air in the peritoneal cavity adjacent to kidneys. **Origin:**

Figure 2

a

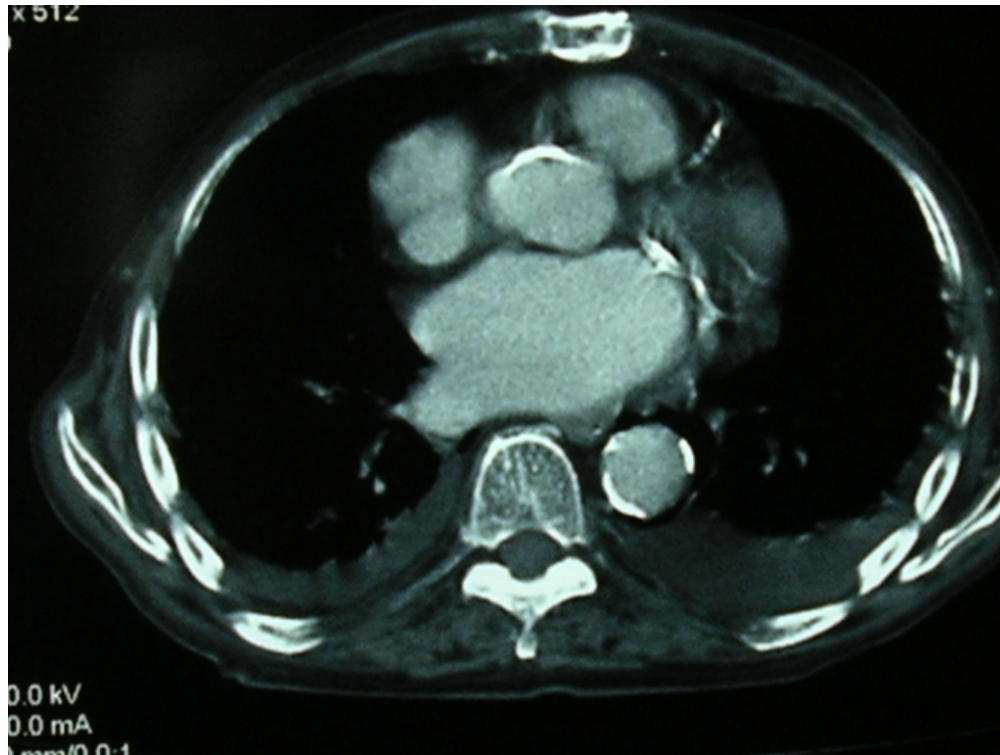


Description: peripancreatic edema, inflammatory process of pancreas. **Origin:**

Figure 3

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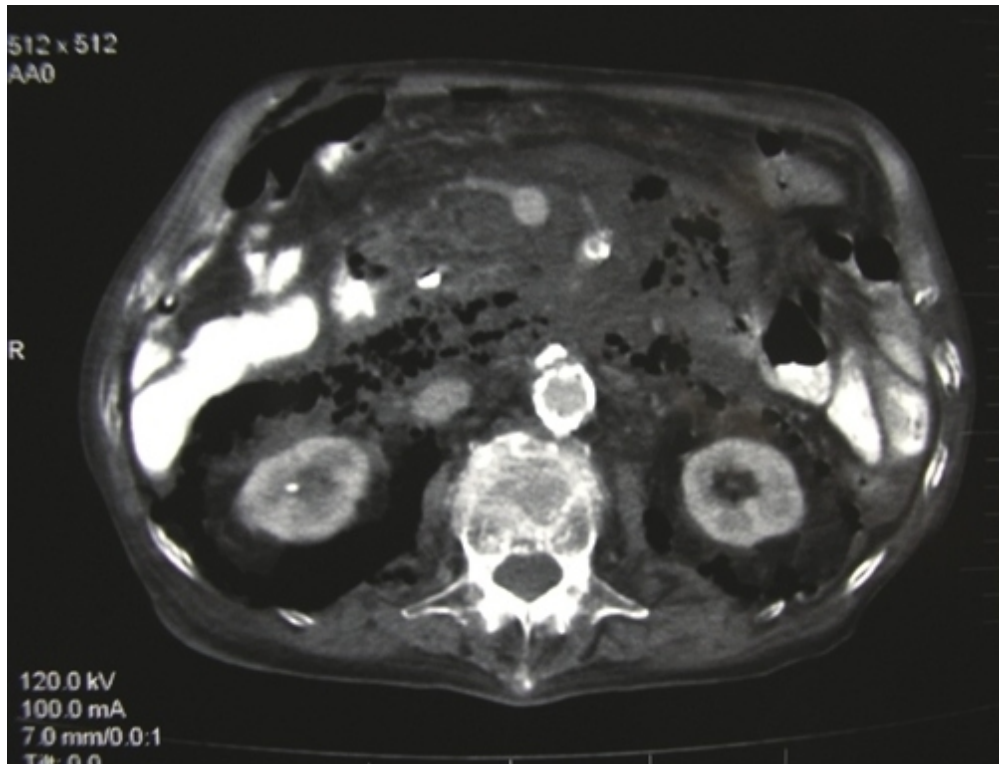
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Description: fluid in both pleural cavities **Origin:**

Figure 4

a



Description: pericolic fluid collection, right kidney stone, aorta atherosclerosis. **Origin:**