



UNIVERSITY of
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MEDICAL CENTER

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DEPARTMENT OF IMAGING SCIENCES

Imaging Sciences Interesting Cases

CASE 219

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CLINICAL PRESENTATION: Patient is a 54-year-old white female with history of chronic pancreatitis presenting for evaluation of percutaneous drainage of a liver biloma. Ultrasound imaging of the liver during the procedure was limited, so a CT scan was performed.

IMAGING FINDINGS: Perforated duodenal ulcer with extravasation of air into the peritoneum.

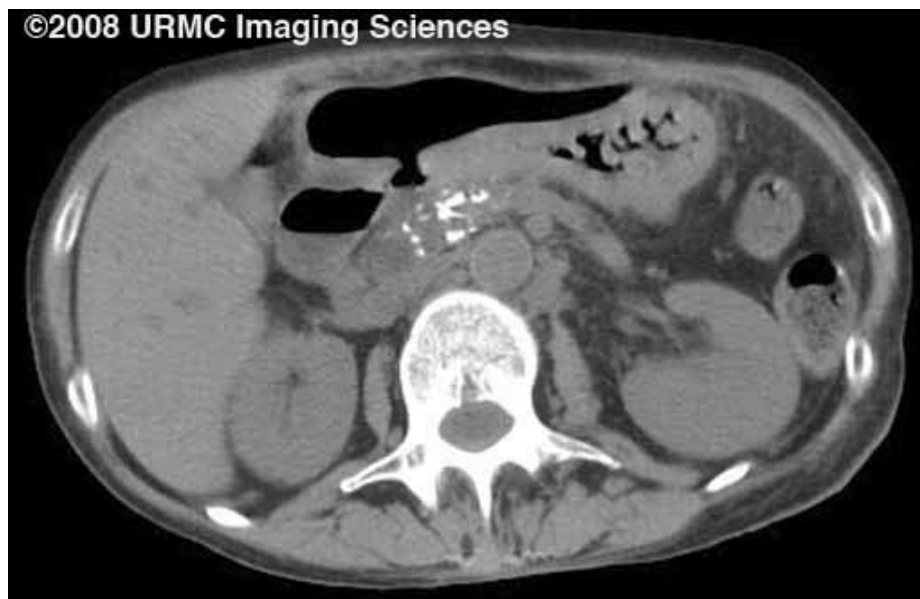


Figure 1: Single axial CT demonstrates an air collection in the anterior abdomen with a visible defect in the adjacent duodenum.



Figure 2.



Figure 3.

Figures 2 and 3: Lateral plain film and fluoroscopic views from an upper GI series demonstrate a large collection of air with extravasation of oral contrast into the cavity.

DIAGNOSIS: Perforated duodenal ulcer

DISCUSSION: Bowel perforation is a potentially severe complication of a duodenal ulcer. The clinical

presentation is of severe abdominal pain with spontaneous onset. If combined with hemorrhage, melena or hematemesis may result. On physical exam the abdomen is rigid with guarding and rebound tenderness due to peritonitis caused by extravasated blood or gastric contents. Bowel sounds are classically decreased. Major risk factors for duodenal ulcers include H. pylori infection and NSAID use. Tobacco and alcohol are smaller risks. The prevalence of duodenal ulcers is approximately 6-15% of the population and the incidence increases with age, perhaps due to increased NSAID use.

Duodenal ulcers may be diagnosed with upper GI evaluation, in which the ulcer crater demonstrates a pooling of abnormal contrast. More recently, endoscopy is being used for direct visualization of the lesions.

Complications include hemorrhage (especially in the posterior third portion of the duodenum), perforation, and bowel obstruction due to stricture/edema. When perforation occurs, surgery is generally the treatment of choice to repair the bowel defect.

REFERENCES:

1. Leung Y. Duodenal ulcers. eMedicine. February 14, 2007. <http://emedicine.medscape.com/article/173727-overview>
2. Johnson C, Schmit G. Mayo Clinic Gastrointestinal Imaging Review. Mayo Clinic Scientific Press, 2005.