

Duodenal Ulcer Complicated by Pneumobilia after Chronic Use of Prednisone

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Background

- Peptic ulcer disease is a common gastrointestinal condition characterized by erosions or defects in the mucosal lining of the duodenum.
- Pneumobilia, the presence of air within the biliary tree, is a rare complication that can occur due to various etiologies, including duodenal ulcers.
- We present a case of a patient on steroids who developed pneumobilia secondary to a complicated duodenal ulcer.

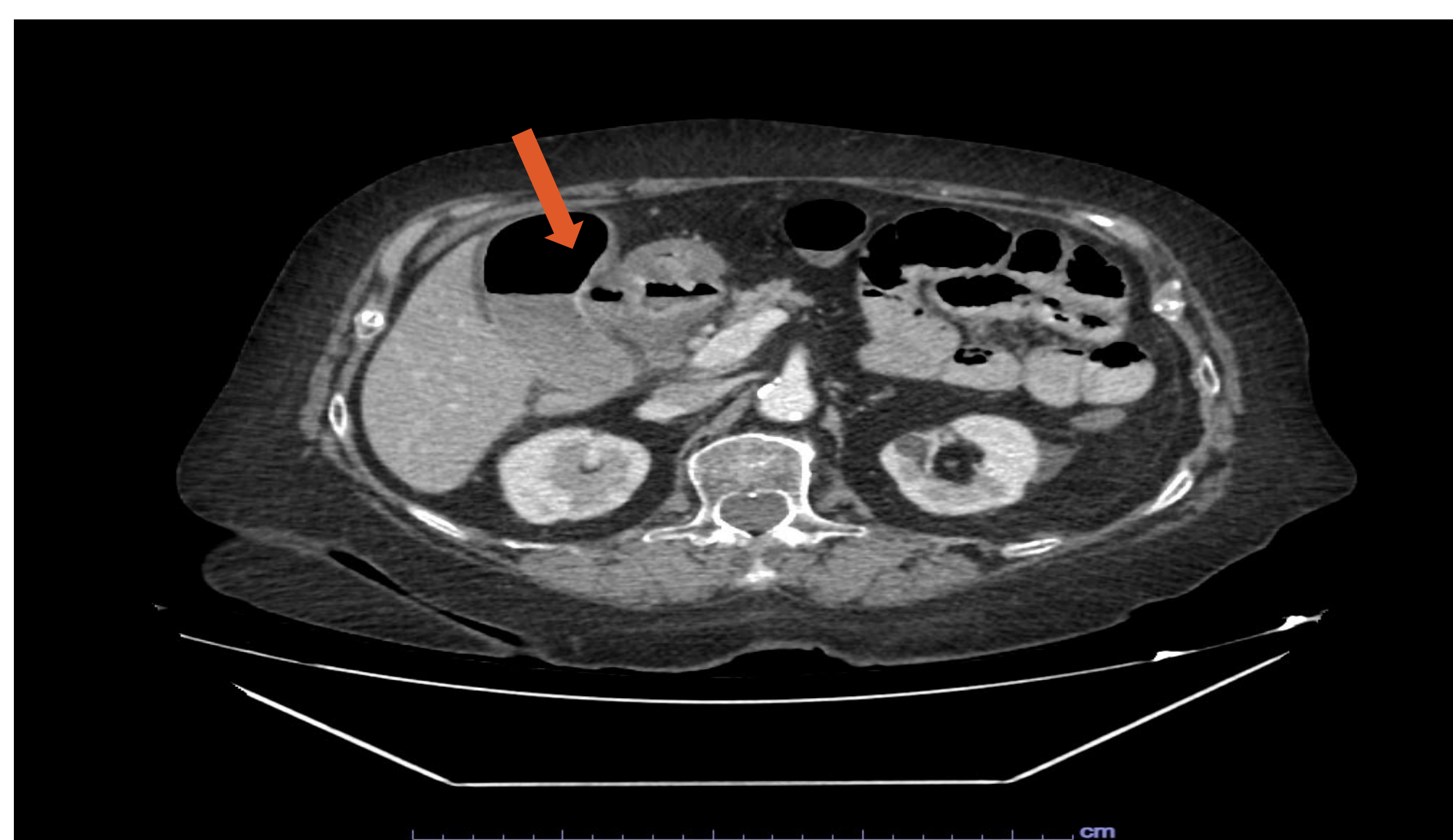
Case Presentation

- 80-year-old female with restrictive lung disease on chronic prednisone, sigmoid diverticulitis c/w perforation s/p exploratory laparotomy and sigmoid colon resection with colostomy bag who came in due to reduced ostomy output for 5 days.
- No abdominal pain, nausea, fevers, or chills. Vital signs were stable and laboratory findings were significant for WBC 12.7.
- CTAP revealed wall thickening and mild inflammation around the gastric pylorus and the first portion of the duodenum indicating possible ulceration, pneumobilia possibly due to gallbladder and duodenum fistula.
- Gastroenterology consulted, upper endoscopy revealed non-bleeding duodenal ulcer. The ulcer was likely due to the chronic use of high dose steroids for the lung disease. The ulcer then eroded into the gallbladder causing a fistula.
- General surgery consulted and partial cholecystectomy and cholecystoduodenal fistula repair with Graham patch was performed..

Case Presentation

- A biliary drain was placed.
- Patient was extubated but found to be in acute hypoxic respiratory failure.
- ABG revealed respiratory acidosis with carbon dioxide retention.
- She was transferred to the ICU and put on BiPAP.
- Stress dose steroids were started along with metronidazole and ceftriaxone for the fistula.
- The drain continued to leak bile for multiple days.
- Plan was for ERCP and stent placement
- Patient was high risk due to recent duodenal repair. The drain remained in place for another week and ERCP outpatient was planned.
- During her stay in the hospital, her respiratory status continued to worsen.
- Patient declined any surgical procedures and decided on comfort measures after which she passed away.

Figures



CT Abdomen and Pelvis:

Wall thickening and mild inflammation around the gastric pylorus/1st portion of the duodenum with suggestion of ulceration, Pneumobilia and gas in the gallbladder lumen (orange arrow)

Discussion

- PUD causes multiple complications including obstruction and perforation.
- Biliary-enteric fistulas (BEF) on the other hand are an uncommon complication seen with PUD. Around 90% of BEF cases are caused by a gallstone disease while only 6% are due to PUD.
- Symptoms caused due to the fistula are rare and mostly diagnosed incidentally on imaging.
- Endoscopic findings of an ostium in the duodenum draining bile is considered the gold standard. First line of treatment is medical management to heal the ulcer as that treats the fistula.
- Surgery should be reserved to patients with severe symptoms or complications.
- While PUD leading to pneumobilia is very rare, it should be a consideration as it has high mortality and morbidity.

References

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