Duodenal diverticulum, a diagnostic dilemma

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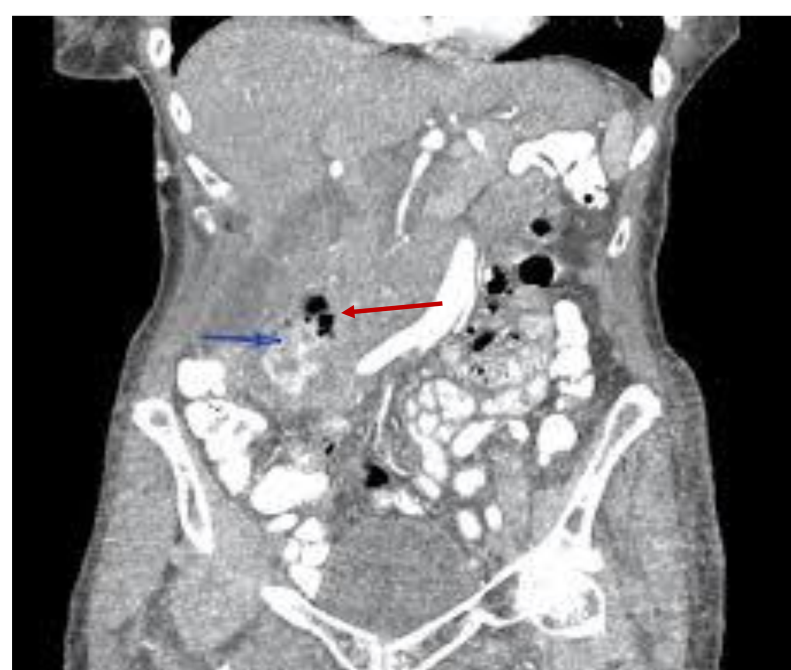
Pancreatitis and peptic ulcer disease are one of the most common causes of abdominal pain is a person presenting with alcohol use disorder and NSAID use. Presence of free air around the duodenum is concerning for perforation. But all extraluminal air is not free air, even in upper abdomen. We describe a case of 60 years old man presenting with pancreatitis with evidence of air and phlegmon around the duodenum, masquerading a surgical emergency.

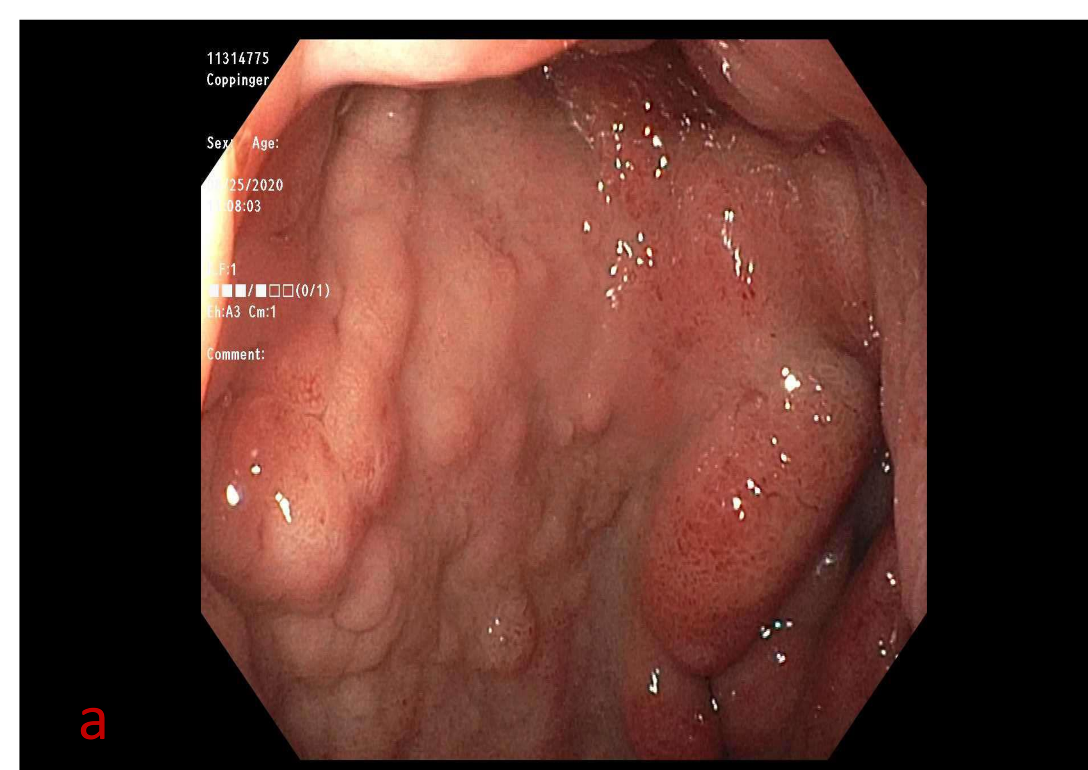
DISCUSSION

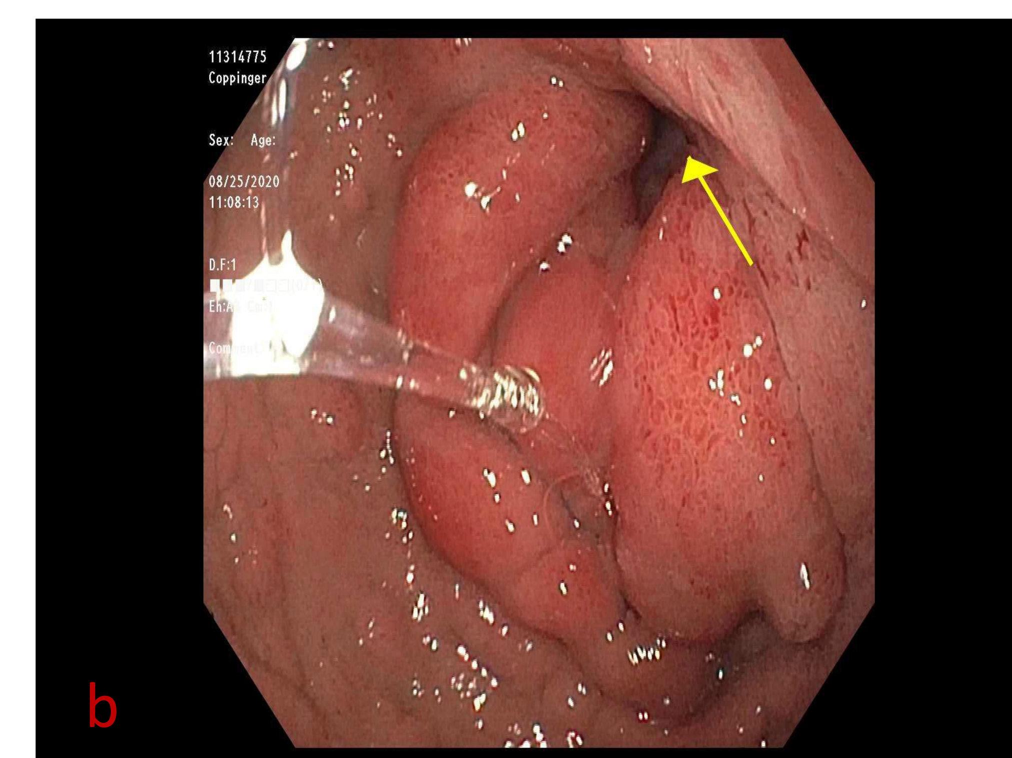
- Duodenal is the most common site of diverticula in the small bowel.[1,2]
- Less than 1% of the duodenal diverticula become symptomatic[1].
- Identified more often now due to use of oral contrast CT scans and MRI of abdomen.
- Usually present as outpouching of the duodena mucosa extraluminally into the head of pancreas / on the medial side of the duodenum[1].
- Can raise concern for free air seen extraluminally and distract from the other primary pathologies[1].
- Not seen on regular endoscopy unless have a wide mouth. Better seen with side viewing scopes and diagnosis may be challenging in presence of bowel edema.
- Since symptomatic diverticula are rare, other possible causes of symptoms must be evaluated.
- Management depends on the location, number of diverticula, extent of inflammation and presence/ absence of pancreatic-biliary complications
- Preferably managed conservatively but rarely may need surgical intervention.



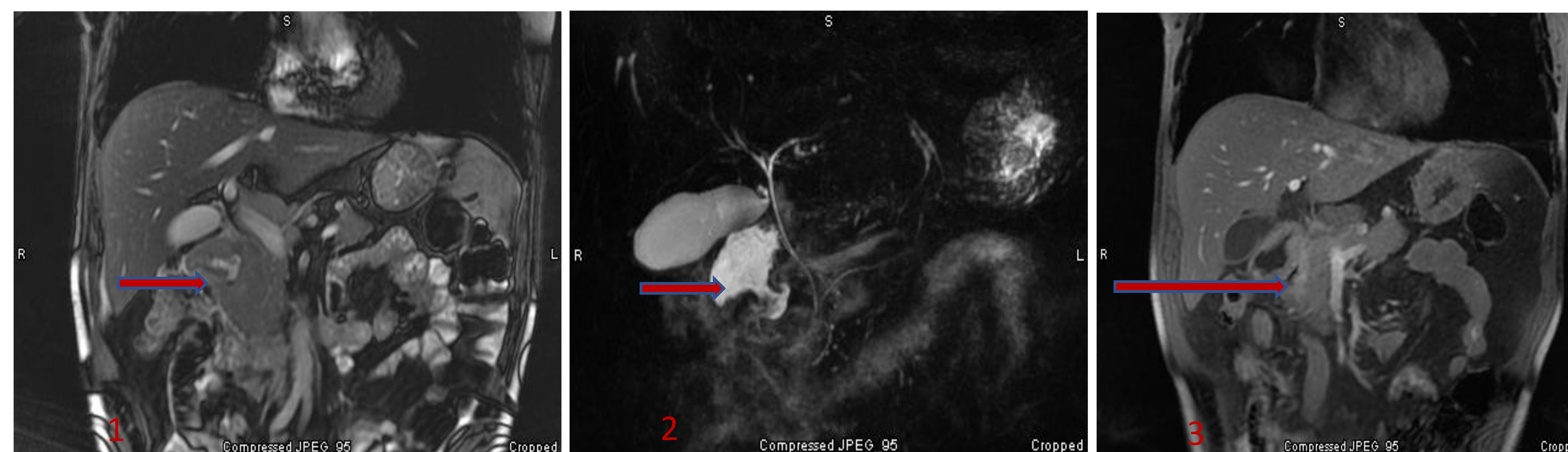
CASE REPORT

60 years old male presented with epigastric pain for three weeks and thirty pounds weight loss . He had alcohol use disorder and history of heavy smoking. He was taking over the counter ibuprofen for relief of pain abdomen. On examination he was afebrile, with tachycardia and had epigastric tenderness without any guarding.
Laboratory results revealed leukocytosis 15.7k/uL (4.0-10.5) and lipase of 108 units (11-82Units). CT abdomen revealed fat stranding around the pancreatic head. GI was consulted and he awaited further evaluation for his pancreatitis. Due to significant weight loss, MRI abdomen/ MRCP was ordered to rule out pancreatic cancer and choledocholithiasis.
Magnetic resonance imaging revealed free fluid around the thickened duodenum, edematous pancreas and small focal area of extra luminal air raising concerns for perforated duodenal ulcer. Surgery saw the patient and recommended conservative treatment as the patient had dramatic improvement following administration of pantoprazole. Pain and tenderness abdomen had resolved completely. On EGD, patient was found to have 20-25 mm, Forrest class 3 duodenal ulcer without any obvious perforation.





EGD images with evidence of extensive inflammation in duodenum (a) and the duodenal ulcer on the medial wall (b) marked with a yellow arrow



MRI/MRCP abdomen with evidence of extensive inflammation of duodenum in (1), free fluid in (2) and Diverticulum in (3)

DISCUSSION

- Prevalence increases with age.
- No gender predilection.
- No correlations with diverticulae elsewhere in the gastrointestinal tract.(colon).
- Etiology not known – most likely are acquired and present at the site of natural weakness in the duodenal wall.
- Rarely can be a source of upper gastrointestinal bleeding[2].
- Predispose to choledocholithiasis[3].

OUTCOME

- Overall prognosis is excellent.
- They are usually not the cause of symptoms but often conceal other more diagnosis or can mislead to presence of free extraluminal air.
- In absence of major surgical intervention for pancreatico- biliary complications they are best left alone[4].
- In case of bleeding – intervention radiology angioembolization may be attempted first[3,4].

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