



Diagnostic dilemma: Utilizing Endoscopic Ultrasound (EUS) guided biopsy to assist with the diagnosis of the duodenal duplication cyst

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Background

- Duodenal duplication cyst (DDC) is a rare congenital anomaly.^{1,2}
- It often presents in the neonatal period with presentations later in life less common.
- Duplication cysts can develop anywhere from the mouth to the anus with only 4-12% are located in the duodenum.¹
- DDC is an uncommon cause of acute pancreatitis but the diagnosis is difficult to make in adults because the symptoms are non-specific.

Case

- 53 years old female with history of recurrent pancreatitis presented with recurrent acute pancreatitis
- Her first episode of pancreatitis was 12 years prior
- She was found to have a large cyst in the 2nd portion of the duodenum that appeared separate from the biliary tree and pancreas on EGD (figure 1) as well as on EUS and MRI (figures 2 and 3), abutting the major papilla
- The initial EUS showed a 20mm x 13.4 mm anechoic cyst with layering and debris seen in the cavity
- Aspiration of the cyst was performed and showed elevated CEA of 817 ng/ml. No features of chronic pancreatitis were seen.
- Given the elevated CEA, there was a concern for mucinous cyst prompting further work up.
- EUS guided biopsy of the internal cyst wall was performed and showed small bowel suggestive of duplication cyst.
- Given its malignancy potential, endoloop was applied around the base of the cyst, leading to strangulation and necrosis for obliteration of the cyst

Endoscopic and radiological Images



Figure 1. Duplication cyst in the 2nd portion



Figure 2: EUS image of the duplication cyst highlighting it is a separate entity

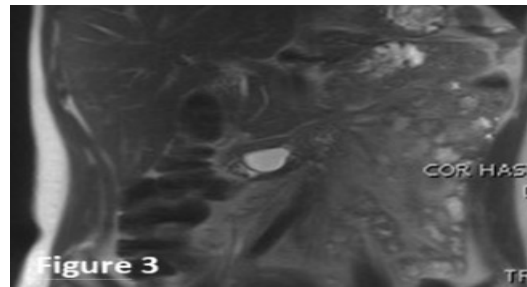


Figure 3: MRI showing the large cyst in the 2nd portion of the duodenum that appears to be separate from the biliary tree and pancreas

Discussion

- Our patient presented with recurrent episodes of pancreatitis that could be explained by the intermittent occlusion of the pancreatic duct by debris and sludge found within the cyst.
- The elevated CEA and inconclusive radiographic results initially suggestive of possible mucinous cyst, representing a diagnostic dilemma.
- Therefore EUS guided biopsies were essential to confirm the diagnosis allowing for further endoscopic management.
- The presence of of smooth muscle coat is absolutely essential for the diagnosis of a duplication cyst which was the case of this patient
- DDC are covered both inside and outside by duodenal mucosa containing a distinct later of smooth muscle.
- Given its malignancy potential, resection of these cysts is indicated. Endoscopic resection is minimally invasive and has been proposed as an alternative to surgery in selected patients especially given the close proximity of major papilla.

Conclusions

- This case highlights a diagnostic dilemma of a 53 years old female patient with recurrent acute pancreatitis (RAP), attributed to DDC.

References

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