

Evidence Discussion – Chronic Pancreatitis (AB-33.2)

CT or MRI is used as first-line diagnostic imaging for chronic pancreatitis (CP) as they are both universally available, reproducible, and valid when compared to other imaging modalities. While ultrasound has been used for many years as a non-invasive and inexpensive method to evaluate the pancreas, there are considerable limitations that limit its diagnostic utility.

Due to its discrepancy in cost, availability, invasiveness, and objectivity, as well as its low specificity, endoscopic ultrasound (EUS) should be used only if the diagnosis is still in question after cross-sectional imaging is performed.

Patients with early CP may have completely normal conventional MRCP/MRI studies, and only the secretin stimulation will depict the mildly abnormal pancreatic duct compliance.

When the diagnosis of CP cannot be made following standard cross-sectional imaging or EUS, secretin-enhanced MRCP is suggested as it allows for better visualization of the main- and side-branch ducts by stimulating release of bicarbonate from the pancreatic duct cells and allows for quantification of the degree of filling into the duodenum which may correlate with the severity of CP and also help quantify the degree of exocrine pancreatic function. It does carry a high cost, which is why it is recommended to be used only when diagnosis is not confirmed with first-line testing. However, EUS does carry poor interobserver agreement, and definitive diagnosis is felt to also require advanced radiologic imaging. It is also a more invasive procedure. For this reason, there are also practice guidelines that advocate for the use of MRI/MRCP with secretin enhancement prior to EUS.

While multiple other imaging modalities, such as contrast-enhanced EUS, ERCP, transcutaneous ultrasonography, and pancreatic elastography have been used to establish the diagnosis of CP, high-quality RCT evidence is not available to warrant their inclusion as first-line diagnostic tests for CP.

References:

1. Gardner TB, Adler DG, Forsmark CE, Sauer BG, Taylor JR, Whitcomb DC. ACG Clinical Guideline: Chronic Pancreatitis. *Am J Gastroenterol*. 2020 Mar;115(3):322-339. doi: 10.14309/ajg.0000000000000535. PMID: 32022720.
2. Conwell, D, Lee LS, Yadav D, et al. American Pancreatic Association practice guidelines in chronic pancreatitis: evidence-based report on diagnostic guidelines. *Pancreas*. 2014;43(8):1143-1162. doi:10.1097/MPA.0000000000000237.