Diagnosis Yield of Fine Needle Biopsy for Pancreatic Serous Cystadenomas

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Introduction
- Pancreatic serous cystadenomas (SCA) are rare benign tumors that secrete serous fluid.
- With the increased use of imaging, more cystic neoplasms of the pancreas are being detected.
- Because serous cystadenomas are benign, it is essential to distinguish these from mucinous cystic tumors that carry a malignant potential.
- Endoscopic ultrasound (EUS) fine needle aspiration (FNA) can help with the diagnosis if cytology is positive, however this has low sensitivity and diagnostic yield.
- More recently, EUS-guided fine needle biopsy (FNB) needle has been shown to enhance histologic yield for solid pancreatic lesions, however it is unknown how well FNBs can diagnose cystic pancreatic lesions, such as serous cystadenomas (SCA) on histopathology.
- This study evaluates the diagnostic yield of FNB for pancreatic SCA.

Methods
- Patients who have undergone FNBS of pancreatic cysts and samples sent for surgical pathology analysis were identified through the pathology database at the University of Chicago Medical Center from 2015 to 2021.
- Number of needle passes made for tissue acquisition and biopsy diagnosis were obtained through retrospective chart review.

Results
- 13 patients with cystic pancreatic lesions who underwent FNB with samples sent to pathology were identified.
- 11/13 (84.6%) had a histopathologic diagnosis of pancreatic SCA with FNB.
- Number of needle passes ranged from one to three, with average of 1.6 passes and a median of 1 pass.
- Of the two patients who did not have pancreatic cystadenoma, one had invasive pancreatic ductal adenocarcinoma while the other had pancreatic neuroendocrine tumor, giving an overall diagnostic yield with FNB for histopathologic diagnosis from pancreatic cysts of 100%.

Conclusion
- Distinguishing serous from mucinous cystic lesions remains challenging.
- EUS-FNA may enhance diagnostic yield of pancreatic cysts, but the majority of cytologic samples are non-diagnostic and has yet to be considered a definitive diagnostic tool.
- Having an accurate diagnosis of benign serous cystadenomas from potentially malignant mucinous tumors has prognostication implications and can guide appropriate management while avoiding unnecessary anxiety and health care costs.
- The American College of Gastroenterology 2018 guidelines state that once the diagnosis of pancreatic serous cystadenoma is made, no further surveillance imaging or procedures are needed.
- In our study, FNB needle has shown to be effective in diagnosing pancreatic cystadenomas with high accuracy.
- FNB sampling for histopathology should be considered in patients with pancreatic cysts, especially those with suspicion for being SCA.

Figure 1. EUS image of a pancreatic serous cystadenoma getting a fine needle biopsy.
Figure 2. Fine needle biopsy (FNB) of a pancreatic serous cystadenoma. H&E-stained sections demonstrate fragments of pancreatic serous cystadenoma characterized by bland flat-to-cuboidal epithelial cells with pale cytoplasm lining hyalinized cyst wall.