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Pancreatic Disorders and Therapy

Perspective

# Etiology of Different Types of Pancreatic Cystic Lesions

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## DESCRIPTION

The pancreas can contain a variety of benign or malignant cystic lesions. Pancreatic cystic lesions into three types: simple retention cysts, pseudocysts, and cystic neoplasms. Histologically, non-neoplastic cysts are classified as epithelial (retention cysts are the most common) or non-epithelial (with pseudocysts being the most common). Systemic diseases such as cystic fibrosis or von Hippel-Lindau disease may be associated with cystic pancreatic lesions. According to extensive anatomic studies of pancreatic tissue, pancreatic tumours can be identified in up to 80% of patients with multiple endocrine neoplasia type 1.

### Retention cysts

Retention cysts, also known as true or simple cysts, are typically discovered by chance during an imaging study and have no clinical significance. They are typically small, with normal epithelium and ductal and centroacinar cells covering their walls. They are found in 25% of cystic fibrosis patients. These benign cysts do not require treatment.

### Pseudocysts

Pseudocysts of the pancreas are caused by acute pancreatitis with significant inflammation and necrosis. Pseudocysts are filled with pancreatic fluid that is high in amylase and other pancreatic enzymes, and they usually communicate with the pancreatic ducts. They do not have a true wall made up of normal pancreatic cells; instead, their wall is made up of fibrous and granulation tissue. The lack of true epithelium in the wall of pseudocysts is related to their nature and is one of their most distinguishing features. A pancreatic cystic lesion found in a patient with a history of acute pancreatitis, with or without amylase elevation, should raise the possibility of a pseudocyst. If the cyst fluid is aspirated, it is typically dark in colour and contains pancreatic enzymes and bicarbonates. If necessary, imaging studies such as Magnetic Resonance Cholangiopancreatography (MRCP), Endoscopic Ultrasonography (EUS), and Endoscopic Retrograde Cholangiopancreatography (ERCP) can demonstrate the pseudocyst's communication with the pancreatic ductal system, as well as its exact size and location.

The treatment of pseudocysts should be guided by the symptoms. In the absence of symptoms, pseudocysts can be monitored and no treatment is required if they do not grow in size. Symptomatic cysts must be treated with either drainage or resection. Endoscopic drainage through the stomach or duodenum under EUS guidance is performed in advanced endoscopic centres. Pseudocysts can also be surgically drained by anastomosing the cystic wall to the stomach, duodenum, or jejunum as needed.

### Cystic neoplasms

Cystic pancreatic neoplasms include serous cystadenoma, mucinous cystadenoma/cystadenocarcinoma, Intraductal Papillary Mucinous Neoplasm (IPMN), and solid pseudopapillary tumour, also known as papillary cystic neoplasm or pseudopapillary neoplasm, are all types of cystic pancreatic neoplasm.

Mucinous cystadenoma was thought to be the most common pancreatic cystic neoplasm, followed by serous cystadenoma. Solid pseudopapillary tumours are uncommon. Pancreatic cystic neoplasms should be evaluated carefully due to the risk of malignancy, which varies depending on the type. Intraductal Papillary Mucinous Neoplasm (IPMN) is the most common cystic pancreatic neoplasm that is surgically removed. The incidence of cystic neoplasms increases with age and in elderly patients. Furthermore, in asymptomatic patients, small incidental cysts correspond to small branch-duct IPMN. Mucinous cystic neoplasms account for 25% of all pancreatic cystic neoplasms and IPMNs account for 50%. Another large series of 851 patients who underwent surgical resection for a cystic pancreatic neoplasm from 1978 to 2011 revealed that IPMNs accounted for 38% of lesions, mucinous cystic neoplasms accounted for 23%, serous cystic tumours accounted for 16%, and solid pseudopapillary tumours accounted for 3%.

## CONCLUSION

Pancreatic cystic lesions are uncommon but can be difficult to diagnose. They can be simple cysts, pseudocysts from prior acute or chronic pancreatitis, or cystic pancreatic tumours. MRI is an important diagnostic tool for pancreatic cystic lesions, and it

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should be followed by Endoscopic ultrasound (EUS) with EUS-FNA if concerning features are identified. In doubtful cases, it is preferable to use EUS. Cystic pancreatic neoplasms are becoming more common, and the information provided by EUS with cytology and fluid examination can be very helpful in the evaluation and management.