Current Guideline Controversies in the Management of Pancreatic Cystic Neoplasms

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KEYWORDS

• Pancreatic cystic lesions • Pancreatic cystic neoplasms • Pancreatic cancer
• Branch duct intraductal papillary mucinous neoplasm • Guidelines

KEY POINTS

- Most pancreatic cystic lesions are neoplastic. Branch duct intraductal papillary mucinous neoplasms (BD-IPMN) are the most common cystic lesion encountered in practice. BD-IPMN have a low, but not insignificant, long-term risk of developing cancer.
- Multiple clinical guidelines exist for the management of pancreatic cystic neoplasms. The recommendations of these guidelines are based largely on expert opinion because the available scientific data are of low quality in general.
- All guidelines emphasize that there are known cyst features, which pose an increased risk for a prevalent or future malignancy in any particular premalignant lesion. These include the presence of an intramural nodule or mass, main pancreatic duct dilation, cyst size of 3 cm or greater, and high-risk cytologic feature on fine-needle aspirate.

Pancreatic cysts represent a common, yet frustrating, entity encountered in clinical practice. The incidence of pancreatic cysts has been estimated to be between 3% and 15% in the United States with increasing prevalence with age.[1–4] The vast majority of these lesions are asymptomatic and incidentally detected on imaging studies, particularly with the increasing use of high-resolution cross-sectional imaging studies. With this increasing incidence, the last 2 decades has seen a marked increase in the understanding of their significance, namely that most of these lesions are neoplastic and may pose a risk of malignant transformation. Nevertheless, despite this increase

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in knowledge, much debate exists in terms of how best to manage patients who are found to have a pancreatic cyst.

Pancreatic cysts have a broad differential diagnosis. They can be categorized using various descriptors, such as neoplastic versus nonneoplastic, or mucinous versus nonmucinous, or benign versus premalignant versus malignant. Regardless of the category any particular lesion falls into, it is important for clinicians to be familiar with the most commonly encountered cystic lesions (Table 1).

PANCREATIC CYSTIC LESIONS

Nonneoplastic Cysts

Pancreatic pseudocysts are collections of fluid that form secondary to acute pancreatitis or pancreatic duct leaks (related to chronic pancreatitis, pancreatic surgery, or

Table 1
Epidemiology, imaging, and cyst fluid features of common pancreatic cysts

	Pseudocyst	SCA	BD-IPMN	MCN
Gender (% female)	<25%	~70%	~55%	>95%
Age (decade)	Any	6th–7th	6th–7th	4th–5th
Features				
Calcifications	No	Yes, 30%–40% central, "sunburst"	No	Yes, rare, curvilinear on rim ("eggshell")
Multifocal	Rare	No	Yes	No
Appearance	Unilocular, thick wall	Microcystic ("honeycomb" appearance) or macrocystic, or mixed	Varied: unilocular, or multicystic ("cluster of grapes"), or tubular, or mixed	Unilocular, septated
Main PD communication	Common	No	Yes (although not always demonstrable)	Rare
Main PD	Normal or irregularly dilated, stones, strictures	Normal or deviated	Normal or dilated	Normal or deviated
Cyst fluid				
Appearance	Nonmucinous, can be chocolate brown, bloody	Thin, watery, straw-colored, serosanguinous	Clear, viscous	Clear, viscous
Chemical analysis	High amylase	Very low CEA	High CEA Can have elevated amylase	High CEA

Abbreviation: PD, pancreatic duct.

Adapted from Tanaka M, Fernandez-del Castillo C, Kamisawa T, et al. Revisions of International Consensus Fukuoka Guidelines for the management of IPMN of the pancreas. Pancreatology 2017;17:741; with permission.