Specifics in Reporting

Incidentalomas in the Abdomen on CT – Pancreas

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Common incidental findings seen in the pancreas on CT scans include dilated pancreatic duct, calcifications and cysts.

Dilated pancreatic duct: The normal caliber of the main pancreatic duct is equal to or less than 3mm in the region of the head and 2mm in the tail. There are variations and the duct tends to be larger in the elderly population due to age-related atrophy of the pancreas. However, the caliber in the different portions of the pancreas should not vary by more than 1mm. When there is isolated dilation of the pancreatic duct the etiology is benign in 90%. But when there is associated abnormally dilated common bile duct (>6mm with gallbladder and >10mm after cholecystectomy), malignancy is the cause in more than 50% of cases.

Pancreatic calcifications: Calcifications incidentally found in and around the pancreas (not related to a focal mass) include calcifications of the splenic artery, contrast or concretions in duodenal diverticula, choledocholithiasis, ductal calculi related to chronic pancreatitis and small parenchymal and ductal calculi commonly seen in patients over 70 years of age (“senescent change”).

Pancreatic cyst: The most problematic incidental finding in the pancreas is a cyst found in patients without specific signs or symptoms related to the pancreas. This will be the focus for the remainder of this paper and is covered in more depth in the ACR’s white paper listed in references.

The frequency of detection of pancreatic cysts by CT scanning is reported between 1.2% and 2.6%. For MRI, the reported frequency is significantly higher, at 19.9% of MRI examinations. Because pancreatic cysts are quite prevalent, a practicing radiologist may see several for every 100 abdominal imaging cases performed. Cystic pancreatic tumors are most often frankly benign or low-grade indolent neoplasms. In one study that included asymptomatic patients with pancreatic cysts in whom there was operative correlation, 17% of asymptomatic cysts were serous cystadenomas, 28% were mucinous cystic neoplasms, 27% were intraductal papillary mucinous neoplasms (IPMNs), 2.5% were ductal adenocarcinomas, and 3.8% were pseudocysts. Intraductal papillary mucinous neoplasms were the most common cystic neoplasm when both symptomatic and asymptomatic patients were evaluated. In another series, 39% of IPMNs were incidentally detected, and 50% of IPMNs were side branch or branch duct IPMNs with a 5-year risk for developing high-grade dysplasia or invasive carcinoma of 15%.
Mucinous cystic masses, namely IPMNs and mucinous cystic neoplasms, have a malignant potential likened to an adenoma-carcinoma sequence. However, in a large series with operative correlation, there were no invasive carcinomas found in mucinous cysts <3cm in size.

The most frequently detected incidental cyst is <10 mm in size. Cysts of this size are particularly prevalent on MRI. Imaging will not be able to characterize these lesions. Worrisome features for larger lesions include: the presence of mural nodules; dilation of the common bile duct; involvement of the main pancreatic duct; and lymphadenopathy.

The ACR Incidental Findings Committee recommends the following for managing incidental pancreatic cysts:

1. Surgery should be considered for patients with cysts >3 cm.
   a. If the lesion is a serous cystadenoma, surgery is deferred until the cyst is >4 cm.
   b. Solid pseudopapillary epithelial neoplasm tumors should be resected.
   c. Patient factors ultimately determine the appropriateness of surgical treatment.

2. Patients with simple (not containing any solid elements) cysts <3 cm can be followed.
   a. Attempts should be made to characterize all cysts 2cm or greater in size at the time of detection. Magnetic resonance imaging is the imaging procedure of choice.
   b. Cyst aspiration is strongly advised before any surgery is undertaken in a patient with a cyst of this size.
   c. Cysts <2 cm can be followed less frequently than those between 2 and 3 cm.
   d. Avoid characterizing cysts <1.5 to 2 cm unless absolutely characteristic.

3. The presence of symptoms is a critical factor in deciding appropriate therapy.
   a. The frequency of malignancy in small cysts is significantly higher in symptomatic patients.

The recommendations in the flowchart apply to low-dose unenhanced procedures as well as standard-radiation dose enhanced examinations. Also, the importance comparison with prior CT or MRI studies cannot be over emphasized. Even comparing to non-abdominal studies that may include all or part of the pancreas could be very helpful.

Specifics in reporting of these lesions should be systematic and include the location, size and imaging characteristics of attenuation density and pattern of enhancement (if IV contrast has been used). Comparison needs to also be made to any prior relevant imaging studies to evaluate for any change.

The Impression/Conclusion might state something like: “An incidental finding of a 2 cm cyst is seen in the body of the pancreas. The imaging characteristics favor benign etiology.” That should be followed by likely diagnosis (or differential diagnosis) and a recommended follow up as appropriate for the specific lesion and presence or absence of risk factors. Of course this will be mitigated by comparison and correlation with relevant prior imaging studies.

This is the approach preferred for reports generated for Radisphere clients.

The flow chart and reference will be available as a macro ("incidentaloma pancreas") that can be placed at the end of the report when an incidental pancreatic cyst is seen and there are no other imaging studies to confirm etiology and/or stability.
REFERENCES


