CT Attenuation of Unilocular Pancreatic Cystic Lesions to Differentiate Pseudocysts from Mucin-Containing Cysts

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ABSTRACT

Context There is extensive overlap among the imaging characteristics of pseudocyst, mucinous cystic neoplasm (MCN) and side branch intraductal papillary mucinous neoplasm (IPMN) on CT images. Objective The purpose of this study was to evaluate the usefulness of attenuation measurement in differentiating pseudocysts from MCN and IPMN of pancreas on CT images. Patients Seventy-five pathologically proven unilocular pancreatic cysts including 31 pseudocysts, 29 MCNs and 15 IPMNs imaged with multidetector computed tomography (MDCT) before resection were evaluated. Main outcome measures Attenuation values were measured by conventional region of interest (ROI) method. Design Attenuation values (in Hounsfield unit, HU) were compared between the cyst pathologies. Correlation between attenuation values and cyst size was assessed. Results Maximum transaxial diameters of pseudocysts (4.5 cm), MCNs (3.7 cm) and IPMNs (4.0 cm) were comparable (P=0.919). Mean attenuation was 18.9 HU, 13 HU and 11.4 HU for pseudocysts, MCNs and IPMNs, respectively. Attenuations were higher in pseudocysts versus mucin-containing (MCN+IPMN) cysts (P=0.001) and comparable between MCNs and IPMNs (P=0.390). Pancreatic cyst attenuation measurement did not correlate with cyst size (r=-0.03; P=0.772). Conclusion Attenuation measurement may help in differentiating pseudocysts from unilocular mucin-containing simple cysts of the pancreas on CT images.