Oral Presentation

Contrast-enhanced Harmonic Endoscopic Ultrasound in Differentiating Solid Lesions of Pancreas

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Background/Aims: The differential diagnosis of pancreatic solid lesions still remains challenging. Recently, contrast-enhanced harmonic endoscopic ultrasound (CE-EUS) has been developed. The aim of this study is to investigate the accuracy of CE-EUS in differentiating pancreatic cancer from benign pancreatic lesions by visualizing pancreatic microvasculature.

Method: We prospectively evaluated 16 patients with pancreatic solid lesions. All patients underwent conventional B-mode EUS before CE-EUS. After intravenous injection of 2.4ml of an ultrasound contrast agent (SonoVue), CE-EUS was then performed with a conventional radial echoendoscope (GIF-UE260). Pancreatic solid lesions were classified into three vascular patterns (hypervascular, isovascular, hypovascular) on the basis of CE-EUS imaging and these patterns were compared with the final diagnosis made from surgery or EUS-guided fine-needle aspiration (EUS-FNA).

Results: The lesions were hypervascular (n=4), isovascular (n=1), or hypovascular (n=11). The tumor location was the head (n=7), the body (n=5), and the tail (n=4) of the pancreas. Histological diagnosis was confirmed by EUS-FNA with 13 patients (11 adenocarcinomas, 1 pancreatic neuroendocrine tumor, 1 pancreatic abscess) and by surgery with 3 patients (1 neuroendocrine tumor, 1 acinar cell carcinoma, 1 invasive intraductal papillary mucinous neoplasm). Among pancreatic carcinoma, 12 out of 13 lesions (92%) had hypovascular signals, indicating sensitivity and diagnostic accuracy of 92% and 94%, respectively for the diagnosis of pancreatic cancer.

Conclusion: CE-EUS with a conventional radial echoendoscope could diagnose pancreatic carcinomas as hypovascular masses with a high sensitivity and accuracy.

Key Words: Endoscopic ultrasound; Pancreatic cancer; Contrast