Role of endoscopic ultrasound-guided fine needle aspiration and ultrasound-guided fine-needle aspiration in diagnosis of cystic pancreatic lesions.

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Abstract:

BACKGROUND AND OBJECTIVE: The addition of fine-needle aspiration (FNA) to different imaging modalities has raised the accuracy for diagnosis of cystic pancreatic lesions. We aim to differentiate benign from neoplastic pancreatic cysts by evaluating cyst fluid carcinoembryonic antigen (CEA), carbohydrate antigen (CA19-9), and amylase levels and cytopathological examination, including mucin stain. PATIENTS AND METHODS: This prospective study included 77 patients with pancreatic cystic lesions. Ultrasound-FNA (US-FNA) or endoscopic ultrasound-FNA (EUS-FNA) was done according to the accessibility of the lesion. The aspirated specimens were subjected to cytopathological examination (including mucin staining), tumor markers (CEA, CA19-9), and amylase level. RESULTS: Cyst CEA value of 279 or more showed high statistical significance in differentiating mucinous from nonmucinous lesions with sensitivity, specificity, positive predictive value (PPV), negative predictive value (NPV), and accuracy of 73%, 60%, 50%, 80%, and 65%, respectively. Cyst amylase could differentiate between neoplastic and nonneoplastic cysts at a level of 1043 with sensitivity of 58%, specificity of 75%, PPV of 73%, NPV of 60%, and accuracy of 66%. CA19-9 could not differentiate between neoplastic and nonneoplastic cysts. Mucin examination showed a sensitivity of 85%, specificity of 95%, PPV of 92%, NPV of 91%, and accuracy of 91% in differentiating mucinous from non-mucinous lesions. Cytopathological examination showed a sensitivity of 81%, specificity of 94%, PPV of 94%, NPV of 83%, and accuracy of 88%. CONCLUSION: US or EUS-FNA with analysis of cyst CEA level, CA19-9, amylase, mucin stain, and cytopathological examination increases the diagnostic accuracy of cystic pancreatic lesions.

Keywords:

Cystic lesion; diagnosis; endoscopic ultrasound; fine needle aspiration; pancreatic lesion; ultrasound

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