PANCREAS ALERTS

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Diagnostic accuracy of quantitative EUS elastography for discriminating malignant from benign solid pancreatic masses: a prospective, single-center study.

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Background: Recent data suggest that quantitative EUS elastography, a novel technique that allows real-time quantification of tissue stiffness, can accurately differentiate malignant from benign solid pancreatic masses. Objective: To externally validate the diagnostic utility of this technique in an independent cohort. Design and Setting: Prospective, single-center study. Methods: A total of 104 patients with evidence of a solid pancreatic mass on cross-sectional imaging and/or endosonography underwent 111 quantitative EUS elastography procedures. Multiple elastographic measurements of the mass lesion and soft-tissue reference areas were undertaken, and the corresponding strain ratios (SRs) were calculated. The final diagnosis was based on pancreatic cytology or histology. The area under the receiver-operating characteristic curve, sensitivity, specificity, positive predictive value, negative predictive value, and overall accuracy of quantitative EUS elastography for discriminating malignant from benign pancreatic masses. Results: The final diagnoses were primary pancreatic carcinoma (71.2%), neuroendocrine tumor (10.6%), metastatic cancer (1.9%), and pancreatitis (16.3%). Malignant masses had a higher SR (P=0.01) and lower mass elasticity (P=0.003) than inflammatory ones. The areas under the receiver-operating characteristic curve for the detection of pancreatic malignancy of both SR and mass elasticity (0.69 and 0.72, respectively) were less favorable than reported recently. At the cut points providing the highest accuracy in this cohort (4.65 for SR and 0.27% for mass elasticity), quantitative EUS elastography had a sensitivity of 100.0% and 95.7%, specificity of 16.7% and 22.2%, positive predictive value of 86.1% and 86.4%, negative predictive value of 100.0% and 50.0%, and overall accuracy of 86.5% and 83.8%, respectively. Conclusions: In the largest single-center study to date, the diagnostic utility of quantitative EUS elastography for discriminating pancreatic masses was modest, suggesting that it may only supplement rather than supplant the role of pancreatic tissue sampling in the future.

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Factors influencing readmission after pancreaticoduodenectomy: a multi-institutional study of 1302 patients.

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Background: Morbidity, mortality, and length of hospital stay after pancreaticoduodenectomy (PD) have significantly decreased over recent decades. Despite this progress, early readmission rates after PD have been reported as high as 50%. Few reports have delineated factors associated with readmission after PD. Methods: The medical records of 6 high-volume institutions were reviewed for patients who underwent PD between 2005 and 2010. Data collection included patient characteristics, medical comorbidities, and perioperative factors. Analysis included readmissions up to 90 days after PD. Results: A total of 1,302 patients underwent PD across all institutions. The 30-day and 90-day readmission rates were 15% and 19%, respectively. The most common reasons for 30-day readmission included infectious complications (n=65) and delayed gastric emptying (n=29). The most common reasons for readmission after 90 days included wound infections and intra-abdominal abscess (n=75) and failure to thrive (n=38). On multivariate analysis, factors associated with higher readmission rates included a preoperative diagnosis of chronic pancreatitis, higher transfusion requirements, and postoperative complications including intra-abdominal abscess and pancreatic fistula (all P<0.02). Factors not associated with higher readmission rates included advanced age, body mass index, cardiovascular/ pulmonary comorbidities, diabetes, steroid use, Whipple type (standard *vs*. pylorus preserving PD), preoperative endobiliary stenting, and vascular reconstruction. Conclusions: These multi-institutional data represent a large experience of PD without the biases typically of single center studies. Factors related to infection, nutritional status, and delayed gastric emptying were the most common reasons for readmission after PD. Postoperative complications including pancreatic fistula predicted higher rates of readmission.

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Lymphotoxin beta receptor signaling promotes development of autoimmune pancreatitis.

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Background: Little is known about the pathogenic mechanisms of autoimmune pancreatitis (AIP), an increasingly recognized, immune-mediated form of chronic pancreatitis. Current treatment options are limited and disease relapse is frequent. The authors investigated factors that contribute to development of AIP and new therapeutic strategies. Methods: The authors used quantitative PCR, immunohistochemical and ELISA analyses to measure expression of cytokines and chemokines in tissue and serum samples from patients with and without AIP. The authors created a mouse model of human AIP by overexpressing LTα and β specifically in acinar cells (Ela1-LTab mice). Results: mRNA levels of lymphotoxin (LT) α and β were increased in pancreatic tissues from patients with AIP, compared with controls, and expression of chemokines (CXCL13, CCL19, CCL21, CCL1 and BAFF) was increased in pancreatic and serum samples from patients. Upregulation of these factors was not affected by corticosteroid treatment. Acinar-specific overexpression of LTαβ (Ela1-LTαβ) in mice led to an autoimmune disorder with various features of AIP. Chronic inflammation developed only in the pancreas but was sufficient to cause systemic autoimmunity. Acinar-specific overexpression of LTαβ did not cause autoimmunity in mice without lymphocytes(Ela1-LTab/Rag1(-/-)); moreover lack of pro-inflammatory monocytes (Ela1-LTab/Ccr2-/-) failed to prevent AIP but prevented early pancreatic tissue damage. Administration of corticosteroids reduced pancreatitis but did not affect production of autoantibodies, such as anti-pancreatic secretory trypsin inhibitor in Ela1-LTab mice. In contrast, inhibition of LTβR signaling reduced chemokine expression, renal immune-complex deposition, and features of AIP in Ela1-LTab mice. Conclusions: Overexpression of LTαβ specifically in acinar cells of mice causes features of AIP. Reagents that neutralize LTβR ligands might be used to treat patients with AIP.

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The association of primary hyperparathyroidism with pancreatitis.

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Background: The association between primary hyperparathyroidism (PHPT) and acute or chronic pancreatitis is controversial. For this reason, the authors conducted a review of the literature over the past 30 years to explore the relationship between these two disorders. Methods: Ten retrospective studies each with more than 50 patients diagnosed with PHPT were identified. Results: With the notable exception of two studies, the rate of pancreatitis among patients with PHPT was higher than that reported in general among hospitalized patients without PHPT. A higher serum calcium level may contribute to pancreatitis in these cases, along with additional genetic or environmental insults. Hypercalcemia may predispose the pancreatic acinar cell to abnormal, sustained calcium levels, lead to premature pancreatic protease activation, and pancreatitis. Although there was only short-term follow-up, most reports cited that definitive treatment of PHPT by parathyroidectomy led to the resolution of pancreatitis attacks. The published cohorts of patients with PHPT and pancreatitis are subject to bias, because serum calcium screening was not universally performed among all control nonpancreatitis patients to evaluate for PHPT. However, the pooled clinical and experimental data suggest an association between PHPT and pancreatitis and implicate hypercalcemia. Conclusions: For clinicians, it is important to recognize pancreatitis in patients with PHPT and, conversely, to consider PHPT by checking serum calcium levels in patients, who present with an unexplained pancreatitis.

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Incidence, prognosis, and possible treatment strategies of peritoneal carcinomatosis of pancreatic origin: a population-based study.

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Background: Peritoneal carcinomatosis (PC) is an important cause of morbidity and mortality among patients with pancreatic cancer. In an era where therapeutic options for PC of multiple origins are emerging, our aim was to provide population-based data on incidence, treatment, and prognosis of PC of pancreatic origin. Methods: All patients with a condition diagnosed as nonendocrine pancreatic cancer between 1995 and 2009 in the area of the Eindhoven Cancer Registry were included. Results: In total, 2,924 patients had a diagnosis of pancreatic cancer of which 265 patients (9%) presented with synchronous PC. An increasing trend could be noted in patients treated with chemotherapy in more recent years (11% in 1995-1999 and 22% in 2005-2009; P=0.060). Median survival in patients presenting with PC was only 6 weeks (95%

confidence interval: 5-7 weeks) and did not improve over time, contrasting improvements among patients with nonmetastasized disease (19-30 weeks) and patients with metastasized disease confined to the liver (8-12 weeks). Conclusions: Prognosis of patients with pancreatic cancer presenting with PC remains extremely poor. Treatment options are scarce and, given the magnitude of the problem, efforts should be undertaken to develop effective treatments in experimental and clinical studies.