PANCREAS ALERTS

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Vasoactive intestinal peptide promotes gut barrier function against severe acute pancreatitis.

Zhongkai L, Jianxin Y, Weichang C.

Department of Gastroenterology, The First Affiliated Hospital of Soochow University. Suzhou, Jiangsu, China.

To explore the influence of vasoactive intestinal peptide (VIP) on the gut barrier function in severe acute pancreatitis (SAP). Fifty four SD rats were randomly divided into three groups: sham operated (SO) group, SAP group and VIP intervention group. Each group was further divided into three time points: 1, 6 and 12 h after operation with 6 rats for each treatment point. SAP models were induced by retrograde injection of 4% sodium taurocholate into the biliopancreatic duct. VIP intervention group was made by 5 nmol VIP intraperitoneal injection within 5 min after SAP model successfully obtained. The VIP in plasma and intestinal homogenate were detected with ELISA. The endotoxin in plasma of all groups was also tested. The expression levels of TLR4, TNF-alpha, IL-6, and IL-10 in gut mucosa were measured by RT-PCR. Meanwhile intestinal samples were harvested for pathological examination. Compared to SO group, the VIP in plasma and intestinal homogenate of SAP group were significantly decreased at 1 h after induction, and then gradually increased to beyond the level of SO group at 12 h. The endotoxin of SAP group was continually increased. The mRNA levels of TLR4, TNF-alpha, IL-6, and IL-10 were also increased with obvious pathological injuries in the intestine. In the VIP group, endotoxin in plasma was obviously decreased compared to SAP group. The expressions of TNF-alpha, IL-6 mRNA were suppressed while IL-10 mRNA was increased. The intestinal pathological injuries were also markedly alleviated. These results suggested that VIP had protective effects on SAP gut barrier function through inhibiting intestinal mucosal inflammatory responses.

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Percutaneous transhepatic islet cell autotransplantation after pancreatectomy for chronic pancreatitis: a novel approach.

Morgan KA, Nishimura M, Uflacker R, Adams DB.

Department of Surgery, Digestive Disease Center, Medical University of South Carolina. Charleston, SC, USA.

In selected patients with chronic pancreatitis, extensive pancreatectomy can be effective for the treatment of intractable pain. The resultant morbid diabetes can be ameliorated with islet autotransplantation (IAT). Conventionally, islet infusion occurs intraoperatively after islet processing. A percutaneous transhepatic route in the immediate postoperative period is an alternative approach. A prospectively collected database of patients undergoing pancreatectomy with percutaneous IAT (P-IAT) was reviewed. Hospital billing data were obtained and median charges determined and compared with estimated charges for an intraoperative infusion method of IAT (I-IAT). Thirty-six patients (28 women; median age 48 years) underwent pancreatectomy with P-IAT. Median operative time was 232 min (range: 98-395 min) and median estimated blood loss was 500 cc (range: 75-3,000 cc). Median time from pancreatic resection to islet transplantation was 269 min (range: 145-361 min). A median of 208,248 IEq (2.298 IEq/kg) were harvested. Median peak portal venous pressure during islet infusion was 13 mmHg (range: 5-37 mmHg). Postoperative complications occurred in 15 patients (42%) and included hepatic artery pseudoaneurysm and portal vein thrombosis; the latter occurred in two patients with portal pressures during infusion greater than 30 mmHg. At a median follow-up of 10.7 months, eight patients (22%) were insulin-free. Median pertinent charges for P-IAT were US$36,318 and estimated median charges for I-IAT were US$56,440. Surgeon time freed by P-IAT facilitated an additional 66 procedures, charges for which amounted to US$463,375. Percutaneous transhepatic IAT is feasible and safe. Islet infusion in the immediate postoperative period is cost-effective. Further follow-up is needed to assess longterm results.

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Characterization of chronic pancreatitis in English Cocker Spaniels.

Watson PJ, Roulois A, Scase T, Holloway A, Herrtage ME.

Queen's Veterinary School Hospital, University of Cambridge. Cambridge, UK.

Chronic pancreatitis (CP) is common in dogs. The cause is unknown. In humans, different causes of pancreatitis have histologically distinct appearances. The histopathologic lesions in English Cocker Spaniels (ECS) with CP were noted to be histologically different than those of other breeds with CP. Hypothesis: CP in ECS is distinct from CP in other breeds and is characterized by a duct destruction similar to what is observed in autoimmune CP of humans. Animals: Eight ECS and 9 other breeds with histologically

confirmed CP recruited over an 8-year period and 50 postmortem control dogs with CP. Clinical, clinicopathological, and ultrasonographic findings were recorded. Histological sections were compared with a normal dog and 59 dogs of other breeds with CP. Immunohistochemistry using anti-CD3, anti-CD79a, and anti-cytokeratin antibodies was used to evaluate distribution and type of lymphocytic inflammation and appearance of pancreatic ducts. Four male and 4 female ECS presented at a mean age of 7.2 years. Clinical signs were similar in ECS and other breeds. The pancreas was enlarged and hypoechoic in 4 ECS and 2 controls. Histopathology was characterized by interlobular and periductular fibrosis and inflammation in ECS compared with intralobular disease in most other breeds. Immunohistochemistry identified prominent anti-CD3(+) lymphocytic infiltrates around venules and ducts and a marked absence of interlobular ducts in ECS compared with mixed T-cell infiltration and ductular hyperplasia in most other breeds with CP. CP in ECS is distinct from CP in other breeds and is notably duct destructive.

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Expandable metal stents for benign biliary disease.

Bakhru MR, Kahaleh M.

Division of Gastroenterology and Hepatology, University of Virginia. Charlottesville, VA, USA.

Benign biliary diseases include benign biliary strictures (BBS), choledocholithiasis, and leaks. BBS encompass postoperative injury, anastomotic stricture, chronic pancreatitis, primary sclerosing cholangitis, and gallstone-related stricture. Therapeutic options for benign biliary diseases include surgical, percutaneous, and endoscopic interventions. Endoscopic options include placement of plastic stents as well as self-expanding metal stents (SEMS). SEMS can be uncovered, partially covered, and fully covered, and have been used with some success in resolution of strictures and leaks; however, complications limit their use. This article reviews the currently published experience on SEMS and attempts to define their current role in the treatment of benign biliary diseases.

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Pulmonary resection for isolated pancreatic adenocarcinoma metastasis: an analysis of outcomes and survival.

Arnaoutakis GJ, Rangachari D, Laheru DA, Iacobuzio-Donahue CA, Hruban RH, Herman JM, *et al.*

Division of Thoracic Surgery, The Sol Goldman Pancreatic Cancer Research Center, The Johns Hopkins Medical Institutions. Baltimore, MD, USA.

This study was conducted to determine if pulmonary metastasectomy (PM) for isolated pancreatic cancer metastases is safe and effective. This was a retrospective case-control study of patients undergoing PM at the author institution from 2000 to 2009 for isolated lung metastasis after resection for pancreatic cancer. Clinical and pathologic data were compared with a matched reference group. Resected neoplasms were immunolabeled for the Dpc4 protein. Kaplan-Meier analysis compared overall survival and survival after relapse. Of 31 patients with isolated lung metastasis, 9 underwent 10 pulmonary resections. At initial pancreas resection, all patients were stage I or II. Other baseline characteristics were similar between the two groups. Median time from pancreatectomy to PM was 34 months (interquartile range 21-49). During the study, 29/31 (90.6%) patients died. There were no in-hospital mortalities or complications after PM. Median cumulative survival was significantly improved in the PM group (51 *vs*. 23 months, p=0.04). There was a trend toward greater 2-year survival after relapse in the PM group (40% *vs*. 27%, p=0.2). In patients with isolated lung metastasis from pancreatic adenocarcinoma, this is the first study to show that pulmonary resection can be performed safely with low morbidity and mortality. The improved survival in the PM group may result in part from selection bias but may also represent a benefit of the procedure.

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Styrene exposure and risk of cancer.

Huff J, Infante PF.

National Institute of Environmental Health Sciences. Alexander Drive, NC, USA.

Styrene is widely used in the manufacture of synthetic rubber, resins, polyesters and plastics. Styrene and the primary metabolite styrene-7,8-oxide are genotoxic and carcinogenic. Long-term chemical carcinogenesis bioassays showed that styrene caused lung cancers in several strains of mice and mammary cancers in rats and styrene-7,8-oxide caused tumours of the forestomach in rats and mice and of the liver in mice. Subsequent epidemiologic studies found styrene workers had increased mortality or incidences of lymphohematopoietic cancers (leukaemia or lymphoma or all), with suggestive evidence for pancreatic and esophageal tumours. No adequate human studies are available for styrene-7,8-oxide although this is the primary and active epoxide metabolite of styrene. Both are genotoxic and form DNA adducts in humans.

URL http://www.serena.unina.it/index.php/jop/article/view/3238/3438