

PANCREAS ALERTS

Exp Ther Med 2014; 7(1):85-9.
(PMID: 24348769)

Correlation of fibrinogen-like protein 2 with disease progression in patients with severe acute pancreatitis.

Ye X, Huai J, Chen R, Ding J, Chen Y, Cai Z.

Department of Gastroenterology and Hepatology, Jinhua Municipal Central Hospital, Jinhua Hospital of Zhejiang University, Jinhua, Zhejiang, China

BACKGROUND: It has recently been demonstrated that fibrinogen-like protein 2 (fgl2) is expressed on the surface of macrophages, T cells and endothelial cells and directly cleaves prothrombin to thrombin. **AIMS:** The present study was designed to examine fgl2 expression in patients with severe acute pancreatitis (SAP) and its correlation with disease progression. **METHODS:** Peripheral blood mononuclear cells (PBMCs) were isolated from 25 patients with SAP, 37 patients with mild acute pancreatitis (MAP) and 20 healthy volunteers as controls. Paraffin sections of pancreas were obtained from 18 postoperative patients with SAP between 2003 and 2012. Human fgl2 (hfgl2) gene expression was determined in the PBMCs by real-time PCR. A monoclonal antibody against hfgl2 was applied to detect hfgl2 protein expression in the pancreatic tissues as well as in the PBMCs by immunohistochemical staining. **RESULTS:** The levels of hfgl2 expression in the PBMCs from the 25 patients with SAP were markedly upregulated compared with the other groups, whereas no significant difference between the MAP group and healthy controls was observed. hfgl2 expression in the PBMCs and pancreatic tissues was detectable through using immunohistochemistry and was demonstrated to be specifically localized to the endothelium of microvessels and inflammatory infiltrative cells in the areas of acute focal, confluent necrosis. There were positive correlations between hfgl2 expression in the PBMCs and the severity of SAP, as indicated by scores of Ranson and Acute Physiology and Chronic Health Evaluation II. **CONCLUSIONS:** The results suggest that hfgl2 is involved in the pathogenesis of SAP and hfgl2 levels may serve as a biomarker during disease progression.

[\[Full text\]](#)

Dig Dis Sci 2013; Dec 28.
(PMID: 24374646)

Implementation of the Asia-Pacific guidelines of obesity classification on the APACHE-O scoring system and its role in the prediction of outcomes of acute pancreatitis: A Study from India.

Thandassery RB, Appasani S, Yadav TD, Dutta U, Indrajit A, Singh K, Kochhar R.

Department of Gastroenterology, Postgraduate Institute of Medical Education and Research, Chandigarh, India.

AIMS: The authors studied the role of obesity and the Acute Physiology and Chronic Health Evaluation (APACHE) O score in predicting the outcome in patients with acute pancreatitis (AP) using the Asia-Pacific obesity classification. **METHODS:** Two hundreds and eighty AP patients were classified into three different groups, normal weight [body mass index (BMI)=18.5-22.9 kg/m²], overweight (BMI=23-24.9 kg/m²) and obese (BMI >25 kg/m²), according to the Asia-Pacific obesity classification. For all patients APACHE II scores and modified APACHE O (i.e., APACHE Oap) scores that included a factor for obesity were calculated. The patients were managed using a standard protocol, and the outcome measures were compared for different obesity groups. **RESULTS:** Of the 280 patients (mean age 40.7 years), 46.8% were normal weight, 29.6% overweight and 23.6% obese. Forty-six (16.4%) patients underwent surgery, and 61 (21.8%) patients died. Patients with higher BMI had worse radiological indices of severity, more infected necrosis (P<0.001), more persistent organ failure (P<0.001) and higher requirement for percutaneous drain insertion (P=0.04), surgery (P=0.008) and mortality (P<0.001). The area under the curve for predicting mortality was 0.879 for APACHE II and 0.886 for APACHE Oap; at a cutoff of 8.5, the APACHE II score had a sensitivity of 88.2% and specificity of 68.7%, and APACHE Oap 90.2% and 64.0%, respectively. **Conclusions:** BMI ≥23 kg/m² was an important predictor of a severe disease course and fatal outcome in patients with AP. However, the predictive accuracy of APACHE Oap for mortality was similar to APACHE II.

[\[Full text\]](#)

Pancreatology 2013; 13(6):621-4.
(PMID: 24280580)

Endoscopic transpapillary pancreatic stenting for internal pancreatic fistula with the disruption of the pancreatic ductal system.

Tanaka T, Kuroki T, Kitasato A, Adachi T, Ono S, Hirabaru M, et al.

Department of Surgery, Nagasaki University Graduate School of Biomedical Sciences. Nagasaki, Japan.

BACKGROUND: Internal pancreatic fistula (IPF) is a well-recognized complication of pancreatic diseases. Although there have been many reports concerning IPF, the therapy for IPF still remains controversial. We herein report our experiences with endoscopic transpapillary pancreatic stent therapy for IPF and evaluate its validity. **METHOD:** Six patients with IPF who presented at our department and received endoscopic transpapillary pancreatic stent therapy were investigated, focusing on the clinical and imaging features as well as treatment strategies, the response to therapy and the outcome. **RESULTS:** All patients were complicated with stenosis or obstruction of the main pancreatic duct, and in these cases the pancreatic ductal disruption developed distal to the areas of pancreatic stricture. The sites of pancreatic ductal disruption were the pancreatic body in five patients and the pancreatic tail in one patient. All patients received endoscopic stent placement over the stenosis site of the pancreatic duct. Three patients improved completely and one patient improved temporarily. Finally, three patients underwent surgical treatment for IPF. All patients have maintained a good course without a recurrence of IPF. **CONCLUSIONS:** Endoscopic transpapillary pancreatic stent therapy may be an appropriate first-line treatment to be considered before surgical treatment. The point of stenting for IPF is to place a stent over the stenosis site of the pancreatic duct to reduce the pancreatic ductal pressure and the pseudocyst's pressure.

[\[Full text\]](#)

J Pain Res 2013; 6:815-24.
(PMID: 24379694)

Altered resting state EEG in chronic pancreatitis patients: toward a marker for chronic pain.

de Vries M, Wilder-Smith OHG, Jongsma MLA, van den Broeke EN, Arns M, van Goor H, van Rijn CM.

Department of Surgery, Radboud University Nijmegen Medical Centre. Nijmegen, The Netherlands.

BACKGROUND: Electroencephalography (EEG) may be a promising source of physiological biomarkers accompanying chronic pain. Several studies in patients with chronic neuropathic pain have reported alterations in central pain processing, manifested as slowed EEG rhythmicity and increased EEG power in the brain's resting state.

AIMS: To investigate novel potential markers of chronic pain in the resting state EEG of patients with chronic pancreatitis. **PARTICIPANTS:** Resting state EEG data from 16 patients with persistent abdominal pain due to chronic pancreatitis (CP) were compared to data from healthy controls matched for age, sex and education. **METHODS:** The peak alpha frequency (PAF) and power amplitude in the alpha band (7.5-13 Hz) were compared between groups in four regions of interest (frontal, central, parietal, and occipital) and were correlated with pain duration. **RESULTS:** The average PAF was lowered in CP patients compared with that in healthy controls, observed as a statistically significant between-group effect (mean 9.9 *versus* 9.5 Hz; $P=0.049$). Exploratory *post hoc* analysis of average PAF per region of interest revealed a significant difference, particularly in the parietal and occipital regions. In addition, the authors observed a significant correlation between pain duration and PAF and showed increased shifts in PAF with longer pain durations. No significant group differences were found in peak power amplitudes. **CONCLUSION:** CP pain is associated with alterations in spontaneous brain activity, observed as a shift toward lower PAF. This shift correlates with the duration of pain, which demonstrates that PAF has the potential to be a clinically feasible biomarker for chronic pain. These findings could be helpful for assisting diagnosis, establishing optimal treatment, and studying efficacy of new therapeutic agents in chronic pain patients.

[\[Full text\]](#)

Ultraschall Med 2013; Dec 10.
(PMID: 24327468)

Effect of aging and diffuse chronic pancreatitis on pancreas elasticity evaluated using semi-quantitative EUS elastography.

Janssen J, Papavassiliou I.

Second Department of Medicine, Helios Hospital Wuppertal, University of Witten/Herdecke. Wuppertal, Germany

AIMS: Endosonographic elastography has been introduced as a method of estimating the stiffness of pancreatic tumors. This prospective single-center study was conducted to evaluate changes in the stiffness of the pancreas related to age and diffuse chronic pancreatitis. **PATIENTS AND METHODS:** Forty-six individuals each up to age 60 years (Group 1) and over age 60 years (Group 2) with healthy pancreata and 26 patients with diffuse chronic pancreatitis (Group 3) were included. Three elastograms were obtained in each case by endosonography in a defined section through the

pancreatic body. Elastograms were further evaluated by histogram analysis. Mean strain values, based on a range from 0 (hardest) to 255 (softest), and their standard deviation were calculated from the histogram. The three groups were compared statistically with regard to pancreatic stiffness. A cut-off level for the diagnosis of chronic pancreatitis was defined by testing receiver operating characteristics curves. RESULTS: The strain values (mean±SD) measured in the pancreatic body in groups 1, 2, and 3 were 110.2±23.9, 80.0±16.4, and 32.4±11.9, respectively. Pairwise comparison of the groups revealed highly significant differences ($P<0.001$). At a cut-off value of 50, the area under the curve was 0.993 for distinguishing between chronic pancreatitis and healthy pancreata in people aged over 60 years. CONCLUSION: Semiquantitative elastography shows that pancreata become significantly harder during aging, but remain softer than in chronic pancreatitis. A cut-off value of 50 is suggested as a possible diagnostic criterion for diffuse chronic pancreatitis.

[\[Full text\]](#)

Hepatobiliary Pancreat Dis Int 2013; 12:637-44.
(PMID: 24322750)

Frey procedure for the treatment of chronic pancreatitis associated with common bile duct stricture.

Rebibo L, Yzet T, Cosse C, Delcenserie R, Bartoli E, Regimbeau JM.

Department of Digestive Surgery, Amiens University Medical Center and the Jules Verne University of Picardie, Amiens, France.

BACKGROUND: The Frey procedure (FP) is the treatment of choice for symptomatic chronic pancreatitis (CP). In cases of biliary stricture, biliary derivation can be performed by choledochoduodenostomy, Roux-en-Y choledochojunostomy or, more recently, reinsertion of the common bile duct (CBD) into the resection cavity. **AIMS:** The objective of the present study was to evaluate the outcomes associated with each of these three types of biliary derivation. **METHODS:** The authors retrospectively analyzed demographic, CP-related, surgical and follow-up data for patients having undergone FP for CP with biliary derivation between 2004 and 2012 in a University Medical Center. The primary efficacy endpoint was the rate of CBD stricture recurrence. The secondary endpoints were surgical parameters, postoperative complications, postoperative follow-up and the presence of risk factors for secondary CBD stricture. **RESULTS:** Eighty patients underwent surgery for CP

during the study period. Of these, 15 patients received biliary derivation with the FP. Eight of the FPs (53.3%) were combined with choledochoduodenostomy, 4 (26.7%) with choledochojunostomy and 3 (20.0%) with reinsertion of the CBD into the resection cavity. The mean operating time was 390 minutes. Eleven complications (73.3%) were recorded, including one major complication (6.7%) that necessitated radiologically-guided drainage of an abdominal collection. The mean (range) length of stay was 17 days (8-28 days) and the median (range) follow-up time was 35.2 months (7.2-95.4 months). Two patients presented stricture after CBD reinsertion into the resection cavity; one was treated with radiologically-guided dilatation and the other underwent revisional Roux-en-Y choledochojunostomy. Three patients presented alkaline reflux gastritis (37.5%), one (12.5%) cholangitis and one (12.5%) CBD stricture after FP with choledochoduodenostomy. No risk factors for secondary CBD stricture were identified. **CONCLUSIONS:** As part of a biliary derivation, the FP gave good results. The authors did not observe any complications specifically related to surgical treatment of the biliary tract. However, CBD reinsertion into the resection cavity appeared to be associated with a higher stricture recurrence rate. In this experience, choledochojunostomy remains the "gold standard" for the surgical treatment for CBD stricture.

[\[Full text\]](#)

Surgery 2013; Nov 25.
(PMID: 24287147)

Insulin dependence and pancreatic enzyme replacement therapy are independent prognostic factors for long-term survival after operation for chronic pancreatitis.

Winny M, Paroglou V, Bektas H, Kaltenborn A, Reichert B, Zachau L, et al.

General, Visceral and Transplantation Surgery, Hannover Medical School, Hannover, Germany

AIMS: This retrospective, single-center, observational study on postoperative long-term results aims to define yet unknown factors for long-term outcome after operation for chronic pancreatitis. **PATIENTS AND METHODS:** The authors analyzed 147 consecutive patients operated for chronic pancreatitis from 2000 to 2011. Mean follow-up was 5.3 years (range: 1 month to 12.7 years). Complete long-term survival data were provided by the German citizen registration authorities for all patients. A quality of life questionnaire was sent to surviving patients after a mean follow-up of 5.7

years. RESULTS: Surgical principles were resection (n=86; 59%), decompression (n=29; 20%), and hybrid procedures (n=32; 21%). No significant influences of different surgical principles and operative procedures on survival, long-term quality of life and pain control could be detected. Overall 30-day mortality was 2.7%, 1-year survival 95.9%, and 3-year survival 90.8%. Multivariate Cox regression analysis revealed that only postoperative insulin dependence at the time of hospital discharge (P=0.027; HR=2.111, 95% confidence interval [CI]: 1.089-4.090) and the absence of pancreas enzyme replacement therapy at the time of hospital discharge (P=0.039; HR=2.102, 95% CI: 1.037-4.262) were significant, independent risk factors for survival with significant hazard ratios (HR) for long-term survival. Long-term improvement in quality of life was reported by 55 of 76 long-term survivors (73%). CONCLUSIONS: Pancreatic enzyme replacement should be standard treatment after surgery for chronic pancreatitis at the time of hospital discharge, even when no clinical signs of exocrine pancreatic failure exist. This study underlines the potential importance of early operative intervention in chronic pancreatitis before irreversible endocrine dysfunction is present.

[\[Full text\]](#)

HPB (Oxford) 2013; Dec 6.
(PMID: 24308545)

Serum IGFBP2 and MSLN as diagnostic and prognostic biomarkers for pancreatic cancer.

Kendrick ZW, Firpo MA, Repko RC, Scaife CL, Adler DG, Boucher KM, Mulvihill SJ.

Department of Surgery, University of Utah School of Medicine. Salt Lake City, UT, USA

AIMS: Identification of diagnostic and prognostic biomarkers is a research priority for the improved management of pancreatic ductal adenocarcinoma (PDAC). Insulin-like growth factor binding protein 2 (IGFBP2) and mesothelin (MSLN) have shown potential as serum biomarkers in other cancers, but have not been adequately studied in PDAC. METHODS: Serum IGFBP2 and MSLN levels were quantified by enzyme-linked immunosorbent assay (ELISA) in a cohort of 84 PDAC patients, 84 healthy control subjects and 40 chronic pancreatitis (ChPT) patients. Regression models related IGFBP2 and MSLN levels to diagnosis, gender, age, stage and survival. RESULTS: IGFBP2 and MSLN serum levels were diagnostic for PDAC in age-adjusted models (P=0.032 and P=0.002, respectively) when compared with ChPT and healthy control samples. At a 95% specificity threshold, the sensitivity for

IGFBP2 was 22% and the sensitivity for MSLN was 17%. Neither protein approached the diagnostic accuracy of CA 19-9. However, IGFBP2 or MSLN or both correctly identified 18 of the 28 samples misidentified by CA 19-9. In age-adjusted models, neither serum IGFBP2 (P=0.36) nor MSLN (P=0.29) were significant predictors of survival. CONCLUSIONS: Serum IGFBP2 and MSLN are weak diagnostic classifiers individually, but may be useful in a diagnostic biomarker panel.

[\[Full text\]](#)

Pain Physicians 2013; 16:521-32.
(PMID: 24284838)

Antioxidant therapy for pain relief in patients with chronic pancreatitis: Systematic review and meta-analysis

Cai GH, Huang J, Zhao Y, Chen J, Wu HH, Dong YL, et al.

Military University. Xi'an, China

BACKGROUND: Currently, there is no specific therapy for chronic pancreatitis (CP). The treatment of micronutrient antioxidant therapy for painful CP has been sporadically used for more than 30 years; however, its efficacy are still poorly understood. AIMS: The purpose of this meta-analysis was to investigate the safety and efficacy of antioxidant therapy for pain relief in patients with CP. SETTING: University Hospital in China. STUDY DESIGN: Systematic review and meta-analysis. METHODS: Two authors independently reviewed the search results and extracted data and disagreements were resolved by discussion. Effects were summarized using standardized mean differences (SMDs), weighted mean differences, or odds ratio (OR) according to the suitable effect model. MEDLINE, PsycINFO, Scopus, EMBASE, and the Cochrane Central Register of Controlled Trials were searched from 1980 through December 2012. Randomized controlled trials (RCTs) that studied antioxidant supplementation for pain relief in patients with CP were analyzed. RESULTS: Nine randomized controlled trials (RCTs) involving 390 patients were included. Overall, there was no association of antioxidant therapy with pain reduction in CP patients (SMD: -0.55; 95% CI: -1.22 to 0.12; P=0.67). However, antioxidant therapy significantly increased blood levels of antioxidants in CP patients versus the placebo group (SMD: 1.08; 95% CI: 0.74 to 1.43; P<0.00001). Interestingly, combined antioxidant (selenium, beta-carotene, vitamin C, vitamin E, methionine) therapy was found to be associated with pain relief (SMD: -0.93; 95% CI: -1.72 to -0.14; P=0.02), while the trials in which a single antioxidant was used revealed no significant

pain relief (SMD: -0.12; 95% CI: -1.23 to 0.99; P=0.83) in CP patients. Strong evidence was obtained that the antioxidants increased adverse effects (OR: 6.09; 95% CI: 2.29 to 16.17; P<0.01); nevertheless, none was serious. LIMITATIONS: Because of the small sample, a consolidated conclusion cannot be reached based on current RCTs. Large-sample RCTs are needed to clarify the

analgesic effect of antioxidants in CP patients. CONCLUSIONS: Combined antioxidant therapy seems to be a safe and effective therapy for pain relief in CP patients. Measures of total antioxidant status may not help to monitor the efficacy of antioxidant therapy for patients with CP.

[\[Full text\]](#)
