

## PANCREAS ALERTS

---

*Crit Care Resusc* 2014; 16:42-7.  
(PMID: 24588435)

### **Measuring visceral fat, subcutaneous fat and skeletal muscle area changes by computed tomography in acute pancreatitis: a retrospective, single-centre study.**

**Brewster DJ, Strauss BJ, Crozier TM.**

*Intensive Care Unit, Monash Medical Centre. Melbourne, VIC, Australia*

**Objective:** To show that body composition of intensive care unit patients can be analysed with existing computed tomography (CT) images. We planned to describe changes in visceral fat area (VFA), subcutaneous fat area (SFA) and muscle area (MA) on analysis of specific CT images during acute pancreatitis requiring an ICU admission. **Design, Setting and Participants:** Retrospective analysis of body composition using existing CT images, in an ICU of a tertiary university-affiliated hospital 2005-2010, examining 21 patients with acute pancreatitis and CT imaging on two separate occasions within their hospital admission. **Main outcome measures were:** VFA, SFA, VFA:SFA ratio and MA. Medical records were hand searched to identify ICU and hospital mortalities and other clinical outcomes. **Results:** Three women and 18 men had 84 CT scans analysed, from the level of the right renal hilum and L3 vertebra. The median patient age was 52 years. The median time between CT scans was 9.4 days and the mean Acute Physiology and Chronic Health Evaluation II score was 20.2. ICU mortality was 9%. Analysis showed a decrease in VFA from a median of 229.2 cm<sup>2</sup> to 202.1 cm<sup>2</sup> (P<0.01) and a decrease in VFA:SFA ratio from a median of 1.20 to 1.05 (P<0.01) during the acute illness. MA did not change significantly. **Conclusions:** The body composition of ICU patients can be analysed through existing CT images. Pancreatitis requiring ICU admission causes a 12% decrease in VFA.

---

*J Crit Care* 2014; Jan 29.  
(PMID: 24581950)

### **The ability of current scoring systems in differentiating transient and persistent organ failure in patients with acute pancreatitis.**

**Wang S, Feng X, Li S, Liu C, Xu B, Bai B, et al.**

*Xijing Hospital of Digestive Diseases, Fourth Military Medical University. Xi'an, Shaanxi Province, China*

**Objective:** The purpose of this study is to investigate the accuracy of currently used scoring systems in differentiating transient and persistent organ failure in patients with acute pancreatitis (AP). **Materials and Methods:** In this retrospective study, 127 consecutive patients with AP and organ failure were included. Patients were divided into transient and persistent organ failure groups. The Acute Physiology and Chronic Health Examination II score, bedside index of severity in acute pancreatitis, harmless acute pancreatitis score, and modified Marshall scores within the first 24 hours of organ failure were collected, and their accuracy in predicting transient organ failure was assessed. **Results:** Transient organ failure occurred in 46 patients (36.2%). Fewer patients with transient organ failure initiated with multiple organ failure (13.0% vs. 37.0%, P=0.004) and renal failure (17.4% vs. 44.4%, P=0.002). In predicting transient organ failure, the area under the curves of the 4 scoring systems is from 0.66 to 0.71. The area under the curve of serum amylase was 0.78, which was slightly better than that of the modified Marshall and Acute Physiology and Chronic Health Examination II score and was significantly better than that of the bedside index of severity in acute pancreatitis and harmless acute pancreatitis score (P<0.05). **Conclusions:** Current scoring systems are not accurate enough in differentiating transient and persistent organ failure in patients with AP.

[\[Full text\]](#)

---

*Gene* 2014; Feb 18.  
(PMID: 24560933)

### **A single-nucleotide polymorphism in tumor necrosis factor-alpha (-308 G/A) as a biomarker in chronic pancreatitis.**

**Sri Manjari K, Jyothy A, Shravan Kumar P, Prabhakar B, Uma Devi M, Ramanna M, et al.**

*Institute of Genetics and Hospital for Genetic Diseases, Osmania University. Hyderabad, India*

**Objective:** Chronic pancreatitis is a gradual, long-term inflammation of the pancreas that results in alteration of its normal structure and function. The study aims to investigate the role of -308 (G/A) polymorphism of TNF-alpha gene in chronic pancreatitis. **Material and Methods:** A total of 200 subjects were included in this case-control study. A total of 100 in patients admitted in the Gastroenterology Unit of Gandhi Hospital and Osmania General Hospital, Hyderabad were

included in the present study. An equal number of healthy control subjects were randomly selected for the study. The genotyping of TNF-alpha gene was carried out by tetra-primer ARMS PCR followed by gel electrophoresis. The TNF-alpha levels were assayed by enzyme-linked immunosorbent assay. Results: A significant variation with respect to the genotypic and allelic distribution in the disease group when compared to control subjects (OR=2.001; CI: 1.33-3.00, P<0.0001) was observed. Subjects homozygous for the A allele had higher TNF-alpha levels compared to G allele. Conclusion: The present study revealed a significant association of the TNF-alpha gene promoter polymorphism with chronic pancreatitis. Thus, TNF-alpha genotype can be considered as one of the biological markers in the etiology of chronic pancreatitis.

[\[Full text\]](#)

---

*Am J Surg Pathol* 2014; 38:346-53.  
(PMID: 24525505)

### **The histopathology of PRSS1 hereditary pancreatitis.**

**Singhi AD, Pai RK, Kant JA, Bartholow TL, Zeh HJ, Lee KK, et al.**

*Departments of Pathology, University of Pittsburgh Medical Center (UPMC). Pittsburgh, PA, USA*

Context: Hereditary pancreatitis is an autosomal dominant disorder with 80% penetrance and variable expressivity. The vast majority of cases have been linked to mutations within the cationic trypsinogen gene, also referred to as serine protease 1 (PRSS1). Other than inheritance, PRSS1 pancreatitis has been considered clinically and pathologically indistinguishable from other etiologies of chronic pancreatitis. However, to date, the histologic findings of PRSS1 pancreatitis have not been well described. Patients and Methods: The authors collected pancreatic specimens from 10 PRSS1 patients of various ages and examined their clinicopathologic features. Patients at the time of resection ranged in age from 9 to 66 years (median, 29 years), with a slight female predominance (60%). All patients reported a history of intermittent abdominal pain, with an age of onset ranging from infancy to 21 years of age. Results: Examination of the gross and microscopic findings suggested a sequential pattern of changes with increasing patient age. In pediatric patients (n=4), although in most cases the pancreas was grossly normal, there was microscopic variation in lobular size and shape. Although the central portions of the pancreas displayed parenchymal loss accompanied by loose perilobular and interlobular fibrosis, the periphery was remarkable for replacement by

mature adipose tissue. These changes were more developed in younger adults (n=2), in whom fatty replacement seemed to extend from the periphery to the central portions of the pancreas. With older patients (n=4), the pancreas showed marked atrophy and extensive replacement by mature adipose tissue with scattered islets of Langerhans and rare acinar epithelium concentrated near the main pancreatic duct. Conclusions: PRSS1 hereditary pancreatitis is characterized by progressive lipomatous atrophy of the pancreas.

[\[Full text\]](#)

---

*World J Gastroenterol* 2014; 20:1318-24.  
(PMID: 24574806)

### **Risk factors for proximal migration of biliary tube stents.**

**Kawaguchi Y, Ogawa M, Kawashima Y, Mizukami H, Maruno A, Ito H, Mine T.**

*Department of Gastroenterology, Tokai University School of Medicine. Isehara, Japan*

Objective: To analyze the risk factors for biliary stent migration in patients with benign and malignant strictures. Methods: Endoscopic stent placement was performed in 396 patients with bile duct stenosis, at the authors' institution, between June 2003 and March 2009. The indications for bile duct stent implantation included common bile duct stone in 190 patients, malignant lesions in 112, chronic pancreatitis in 62, autoimmune pancreatitis in 14, trauma in eight, surgical complications in six, and primary sclerosing cholangitis (PSC) in four. The authors retrospectively examined the frequency of stent migration, and analyzed the patient factors (disease, whether endoscopic sphincterotomy was performed, location of bile duct stenosis and diameter of the bile duct) and stent characteristics (duration of stent placement, stent type, diameter and length). Moreover, the authors investigated retrieval methods for migrated stents and their associated success rates. Results: The frequency of tube stent migration in the total patient population was 3.5%. The cases in which tube stent migration occurred included those with common bile duct stones (3/190; 1.6%), malignant lesions (2/112; 1.8%), chronic pancreatitis (4/62; 6.5%), autoimmune pancreatitis (2/14; 14.3%), trauma (1/8; 12.5%), surgical complications (2/6; 33.3%), and PSC (0/4; 0%). The potential risk factors for migration included bile duct stenosis secondary to benign disease such as chronic pancreatitis and autoimmune pancreatitis (P=0.030); stenosis of the lower bile duct (P=0.031); bile duct diameter >10 mm (P=0.023); duration of stent placement >1 month (P=0.007);

use of straight-type stents ( $P < 0.001$ ); and 10-Fr sized stents ( $P < 0.001$ ). Retrieval of the migrated stents was successful in all cases. The grasping technique, using a basket or snare, was effective for pig-tailed or thin and straight stents, whereas the guidewire cannulation technique was effective for thick and straight stents. Conclusion: Migration of tube stents within the bile duct is rare but possible, and it is important to determine the risk factors involved in stent migration.

[\[Full text\]](#)

---

*Pancreatology* 2013; 13:534-8.  
(PMID: 24075520)

### **Elevated pre-operative neutrophil to lymphocyte ratio predicts disease free survival following pancreatic resection for periampullary carcinomas.**

**Hamed MO, Roberts KJ, Smith AM, Stiff GM.**

*The Pancreatic Unit, St James's University Hospital. Leeds, UK*

**Context:** The pre-operative neutrophil-to-lymphocyte ratio (NLR), when  $>5$  has been associated with reduced survival for patients with various gastrointestinal tract cancers; however, its prognostic value in patients with periampullary tumour has not been reported to date. **Objectives:** To determine the prognostic value of pre-operative NLR in terms of survival and recurrence of resected periampullary carcinomas. **Methods:** This was a retrospective cohort study of consecutive patients undergoing pancreaticoduodenectomy (PD) for periampullary carcinoma (pancreatic, ampullary, cholangiocarcinoma) identified from a departmental database. The effect of NLR upon survival and recurrence was explored. **Results:** Overall median survival amongst 228 patients was 24 months (interquartile range (IQR): 12-43 months). The median survival for those whose NLR was  $<5$  (24 months; IQR: 14-42 months) was not significantly greater ( $P=0.234$ ) than those patients whose NLR was  $>5$  (13 months; IQR: 8-48 months). However, for those that developed recurrence, survival was greater in those with an NLR  $<5$  (20 months; IQR: 12-27 months *versus* 11 months; IQR: 7-22 months;  $p=0.038$ ). This effect was most marked in those patients with cholangiocarcinoma ( $P=0.019$ ) whilst a trend to worse survival was seen in those with pancreatic adenocarcinoma. No effect was seen in patients with ampullary carcinoma ( $P=0.516$ ). **Conclusions:** This study provides further evidence that pre-operative NLR offers important prognostic information regarding disease-free

survival. This effect, however, is dependent upon the tumour type amongst patients undergoing PD.

[\[Full text\]](#)

---

*Endoscopy* 2014; Feb 14.  
(PMID: 24532350)

### **Contrast-harmonic endoscopic ultrasound for the diagnosis of pancreatic adenocarcinoma: a prospective multicenter trial.**

**Gincul R, Palazzo M, Pujol B, Tubach F, Palazzo L, Lefort C, et al.**

*Department of Gastroenterology, Edouard Herriot Hospital, Hospices Civils of Lyon. Lyon, France*

**Context and Objective:** Histology is the gold standard for the diagnosis of pancreatic adenocarcinoma. However, the negative predictive value of endoscopic ultrasound-guided fine-needle aspiration (EUS-FNA) for the diagnosis remains low. The aims of this prospective multicenter study were: 1) to compare the performance of contrast-harmonic EUS (CH-EUS) with that of EUS-FNA for the diagnosis of pancreatic adenocarcinoma; 2) to assess the intra- and inter-observer concordances of CH-EUS. **Patients and Methods:** A total of 100 consecutive patients with a solid pancreatic mass of unknown origin were prospectively included at three centers (July 2009 - April 2010). All patients were examined by CH-EUS followed by EUS-FNA. Absence of vascular enhancement at CH-EUS was regarded as a sign for pancreatic adenocarcinoma. The final diagnosis (gold standard) was based on pathological examination (EUS-FNA, surgery) or 12-month follow-up. **Results:** The final diagnoses were: 69 adenocarcinoma, 10 neuroendocrine tumors, 13 chronic pancreatitis, and 8 other lesions. In diagnosing adenocarcinoma, CH-EUS and EUS-FNA had respective accuracy, sensitivity, specificity, positive predictive value, and negative predictive value of 95%, 96%, 94%, 97%, and 91%, and of 95%, 93%, 100%, 100%, and 86% without significant difference. Five false-negative cases with EUS-FNA were correctly classified by CH-EUS. Interobserver agreement (seven endosonographers) was good ( $\kappa=0.66$ ). Intraobserver agreement was good to excellent ( $\kappa=0.76$  for junior;  $\kappa=0.90$  for senior). **Conclusions:** The performance of CH-EUS for the diagnosis of pancreatic adenocarcinoma was excellent. The good intra- and inter-observer concordances suggest an excellent reproducibility. CH-EUS could help to guide the choice between surgery and follow-up when EUS-FNA is inconclusive.

[\[Full text\]](#)