0.66). In 4 patients with a Fel-1-c00 there were abnormalities on pancreatic imaging (3 chronic pancreatitis and 1 atrophic pancreas). Total IgG level was 11.6 in those with EPI vs 9.7 in controls (p=0.018). Conclusions: This is the first study to assess the relationship between exocrine pancreatic function and D-IBS. Reduced fecal elastase-1 appears to be common in patients with D-IBS. In addition, patient’s symptoms are responsive to pancreatic enzyme supplementation. Further work using IgG4 subfraction would be of benefit. This data suggests that patients with D-IBS should be investigated for exocrine pancreatic hypofunction.

S1314
Chronic Pancreatitis Characterized By Constant Pain Regardless of Severity Is Associated with Poorer Quality of Life, Lower Functioning and Increased Utilization of Resources

Background: Pain patterns associated with chronic pancreatitis (CP) differ among patients and may affect important outcomes in a variable manner. We hypothesize that patients with CP and constant pain have lower quality of life (QoL) and increased resource utilization compared to patients with CP and intermittent pain. Aim: To compare patients with CP and constant pain to those with CP and intermittent pain. Methods: All data was derived from the NAPS-2 study, a multi-center, prospective study of patients with acute recurrent pancreatitis. 594 patients with CP (the NAPS-2 Questionnaire were analyzed. Pain pattern types defined by chronicity (intermittent or constant) and severity (mild, moderate or severe) were compared. Results: Patients with constant pain were more likely to be very heavy (≥5 drinks/d) drinkers than patients with intermittent pain (30% v 19%, p<0.01). Patients with constant pain were 3x more likely to be on chronic pain medication and had twice as many hospitalizations and 3x more days of work missed due to pain than patients with CP and intermittent pain. Patients with constant pain had higher rates of disability, and reported lower QoL (by SF-12) than patients with intermittent pain (Table 1). In contrast, there were no statistically significant differences in ANY of these parameters among patients with mild-moderate pain when compared to those with severe pain. Conclusions: Patients with CP and constant pain have worse outcomes and QoL by almost all measures compared to patients with CP and intermittent pain regardless of the severity of that pain. These results suggest it is the temporal pattern of pain rather than severity which predict outcome in this disease. The data suggest that interventions which provide temporal relief of pain may be more important than those which decrease severity of pain.

Table 1

<table>
<thead>
<tr>
<th></th>
<th>Intermittent Pain</th>
<th>Constant Pain</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total N=414 (%)</td>
<td>186 (45%)</td>
<td>228 (55%)</td>
<td>NS</td>
</tr>
<tr>
<td>Age (Years)*</td>
<td>51 (40.62)</td>
<td>47 (38.55)</td>
<td>0.02</td>
</tr>
<tr>
<td>Male Gender - N (%)</td>
<td>98 (47.8)</td>
<td>107 (52.2)</td>
<td>0.27</td>
</tr>
<tr>
<td>Attacks severe pain/month*</td>
<td>2 (1.5)</td>
<td>5 (2.20)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Reg Use Pain Meds - N (%)</td>
<td>37 (20)</td>
<td>119 (51)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Hospitalizations*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Last year</td>
<td>1 (0.2)</td>
<td>2 (0.4)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Lifetime</td>
<td>3 (1.8)</td>
<td>7 (3.18)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Disability - N (%)</td>
<td>32 (17)</td>
<td>91 (40)</td>
<td></td>
</tr>
<tr>
<td>Days missed from work/school per month*</td>
<td>0.0 (3)</td>
<td>5 (0.20)</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

SF-12:
PCS 43 (35.51) 31 (26.39) <0.001
MCS 50 (41.55) 39 (32.49) <0.001

* Results reported as Median (InterQuartile Range)

S1315
Immunohistochemical Staining of the Pancreas with TGF-β1, MMP-2 and TIMP-2 in Patients with Autoimmune Chronic Pancreatitis and Alcoholic Chronic Pancreatitis
Eun-Kwang Choi, Myun-Gwan Kim, Byung Cheol Song, Heung Up Kim, Sang Soo Lee, Sung Koo Lee

Backgrounds: Autoimmune chronic pancreatitis (ACP) is a distinctive type of chronic pancreatitis that shows reversibility of pancreatic morphology and function with oral steroid therapy in contrast to ordinary chronic pancreatitis. However, the exact pathogenic mechanism is not known till now. Generally, inflammation and immune response are regulated by various host suppressor mechanisms. Regulatory T cells secrete immunosuppressive cytokines such as TGF-β and this helps to control infection induced immunopathology including autoimmunity. TGF-β also regulates matrix metalloproteinase (MMP) and tissue inhibitors of metalloproteinase (TIMP) in fibroblasts. The purpose of this study was to evaluate the immunohistochemical features including TGF-β1, MMP-2 and TIMP-2 in the pancreatic tissue of AIP and alcoholic chronic pancreatitis (ACP) and to compare their differences. Methods and materials: Pancreatic tissue specimens were obtained from 16 out of 57 patients (13 males, 3 females, mean age, 53; range, 33-72) who were diagnosed as AIP at Asan Medical Center from November 2000 to September 2007. The diagnosis of AIP was made by the Kim criteria. Tissue specimens of ACP were from 18 patients (8 males, 2 females; mean age, 68.4 years). We divided the cases into two types according to the US findings of CBD wall thickening. We consider that both of these types are fundamentally the same, differing only in the degree of wall thickening. In the process of PSL therapy for the parenchymal-echo type of AIP the CBD parenchymal echo disappears, leaving only slight wall thickening with the appearance of wall thickening. In the process of PSL therapy for the parenchymal-echo type of AIP the CBD parenchymal echo disappears, leaving only slight wall thickening with the appearance of wall thickening. In the process of PSL therapy for the parenchymal-echo type of AIP the CBD parenchymal echo disappears, leaving only slight wall thickening with the appearance of wall thickening. In the process of PSL therapy for the parenchymal-echo type of AIP the CBD parenchymal echo disappears, leaving only slight wall thickening with the appearance of wall thickening. In the process of PSL therapy for the parenchymal-echo type of AIP the CBD parenchymal echo disappears, leaving only slight wall thickening with the appearance of wall thickening.
of TGF-β1 staining was much weaker than that of ACP. The grade of TGF-β1 immunostaining of pancreatic ductal epithelial cell was closely related to the grade of MPM-2 and TIMP-2 staining of pancreatic ductal epithelial cell (p=0.035 and 0.044), and to the TGF-β1 staining in the mononuclear cell (p=0.021). Conclusion: The degree of immunohistochemical staining with TGF-β1 was significantly lower in AIP than ACP in the pancreatic ductal epithelial cell and mononuclear cell. This finding suggests that there may be a defect in function of regulatory T cell which has normal suppressor mechanism to prevent autoimmune disease. Further studies to evaluate the exact status of regulatory T cell are needed in the future.

S1316
Comparative Study of Quality of Life in Patients On Long-Term Anti-Oxidant (Antox) Therapy for Painful Chronic Pancreatitis
Nehal Shah, Ashi J. Shen, Ashik K. Sirwanderia
Introduction. Chronic pancreatitis (CP) is characterised by recurrent abdominal pain and impairment of pancreatic function. Oxidative stress has been implicated in the pathophysiology of CP with evidence of depletion of anti-oxidants. Although there is anecdotal evidence of benefit from anti-oxidant supplementation in CP, to date, there are no adequately powered randomized trials examining anti-oxidant therapy in CP. This study uses contemporary quality of life (QOL) measures comparing QOL in patients with CP on antox to those with CP who were not on this medication. Methods: CP was defined according to the Zurich classification and all patients had radiological evidence of disease. 24 consecutive patients with CP who were taking antox (Pharmanord, Morpeth, UK) were compared to 24 control treatment CP patients who were not on antox. QOL was assessed by the EORTC QLC C-30 and QLC PAN-28 questionnaires which are validated for CP. There were no imposed restrictions either on patients' medication or interventions. The study was approved by research ethics committee. Two group comparative data are analysed by non-parametric Mann-Whitney U test unless stated. Population demographics were: median (range) age of the group was 55 (24-82) years and this was similar between groups. In the antox group 6 (25%) had alcohol etiology alone vs the non-antox group (p=0.52, Fisher's exact). Median duration of survival in the antox group was 11 (2-37) years compared to 5 (1-23) years in non-antox (p=0.003; Mann-Whitney U test). All other parameters were similar between groups. Results: Modal pain score (range 1-4) in the antox group was 1 compared to 3 in non-antox (p=0.001). Bloating and back pain were also significantly lower in the antox group. Perceptions of cognitive function were impaired in the non-antox group (p=0.001). There was no difference in the incidence of jaundice (p=0.09). Opiate usage was significantly lower in the antox group (n=5) compared to the non-antox patients (n=15) (p=0.001). Emotional and social functioning were better in the antox group (p=0.001). Overall physical health was better in the antox group (p=0.001) as was overall QOL of life (p=0.001). Conclusion: This is the first study to use contemporary, well-validated quality of life assessment methodology to assess well-being in patients with definite chronic pancreatitis on antox. The study is small and a likely major bias is the differential duration of disease between antox and non-antox patients. Nonetheless, these results are encouraging and support progression to a formal randomized trial of antox in painful chronic pancreatitis.

S1317
Long Term Follow-Up Of Autoimmune Pancreatitis in Italy
Luca Frulloni, Chiara Scattolin, Giuseppe Zamboni, Sylvain Manfredi, Antonio Amodio, Fosca de Jersey, Luigi Benni, Ilario Vannini
Background: Autoimmune pancreatitis (AIP) is a particular type of chronic pancreatitis. The series reported in the literature describe a limited number of patients with a short follow-up. Aim of this study was to evaluate the clinical and instrumental aspects and the clinical outcome of a large Italian series of patients suffering from AIP. Material and Methods: We studied all patients suffering from AIP observed prospectively from 1995 to 2006. We included also 8 patients with a retrospective diagnosis of AIP (before 1995) made on surgical specimens. In operated patients, the diagnosis of AIP was made on the basis of surgical criteria (non AIP-CP). Results: 81 patients with a definitive diagnosis of AIP (52 males and 48 females, mean age at clinical onset 42,2 ± 13.9 years) were studied. 17 out of 81 AIP patients (21%) and in 87 out of 160 non AIP-CP patients (56%) (p<0.001). Focal type AIP (mass forming) was diagnosed radiologically in 44 patients (51%) and never in non AIP-CP. The type of pancreatic surgery was resective whitin 3 years from the clinical onset of the disease in all AIP patients (100%), whereas it was resective in 34 (40%) and derivative in 52 (60%) out of 86 non AIP-CP patients (p<0.001). Stenotbea, but not diabetes, significantly correlated with pancreatic surgery in AIP patients (p<0.001). The 8 retrospective cases of AIP and 17 operated patients, steroid therapy was effective in all 86 patients treated (69%). Conclusions: 1. Diseases of the portal area of the liver and wall of the bile duct and gallbladder as well as in the pancreas. Further studies to evaluate the exact status of regulatory T cell are needed in the future.

S1318
How Does Patient’s Self-Reported Alcohol Use Compare with Physician’s Assessment in Chronic Pancreatitis (CP)?
Background: Data on how physicians’ interpretation of alcohol as a cause for CP correlates with patient’s self-reported use is lacking. Aim: i) To compare independently collected alcohol use data from CP patients with physicians’ interpretation of alcohol as a risk factor/cause, ii) to evaluate physicians’ perceptions on alcohol and pancreatitis. Methods: NAPS2 dataset consisting of 540 prospectively enrolled CP patients from 20 US centers was used. Patients provided detailed information on lifetime alcohol use in a questionnaire. We created 5 drinking categories based on average weekly consumption (drinks/week) during the heaviest drinking period in life: Abstainers, Light (<5 Drinks, Moderate (6-7 Fems, 8-14 Males), Heavy (8-34 F, 15-34 M), Very Heavy (>35). For each patient, physicians responded “yes” if they considered alcohol a cause/risk factor. Investigations completed a separate survey on alcohol and pancreatitis. Results: Physicians considered alcohol a causative factor in 44% (60 M, 28% F), while only 25% subjects (137 M, 12% F) reported Very Heavy and 12% Heavy drinking. An excellent correlation was seen between patient’s self-report and physician diagnosis at extremes of alcohol use, but only at low levels not typically associated with CP (r = 0.71, p<0.01) (Fig 1). While all physicians consider both dose and duration of use important, a lack of agreement was apparent for defining Heavy drinking. Although 67% believed >3 drinks/for >5 yrs can cause pancreatitis, 50% use >5 drinks/ in clinical practice to define a ‘Heavy’ drinker. Most (71%) consider mild-moderate use a contributing factor in absence of an apparent cause. Conclusions: Our results indicate that CP is as a disorder with a broad spectrum of alcohol use. While alcohol’s role is clear at extremes of use, its role at mild-moderate use needs further study. Use of different cut-offs for drinking levels reflects a lack of established threshold of alcohol use for CP.

S1319
Comparison Between Biliary Lilies Associated With Autoimmune Pancreatitis and Primary Sclerosing Cholangitis
Tetsuo Tamaoki, Naoko Ezumi, Akane Okamoto
Background and Aim: Primary sclerosing cholangitis (PSC) is a progressive disease, and liver transplantation can be the only effective therapy. On the other hand, bile duct stenosis occurs frequently with autoimmune pancreatitis (AIP). When AIP patients develop stenosis in the intrahepatic bile duct, the cholangiographic appearance is very similar to that of PSC. However, since AIP responds well to steroid therapy, it is necessary to discriminate between these two diseases before making a therapeutic decision. This study aimed to clarify characteristic features of biliary lesions in AIP patients and compare them with those of PSC. Methods: Bile duct lesions in 43 AIP patients were assessed and compared with those of 9 PSC patients. Results: 1. PSC: PSC patients were 6 men and 1 female with an average age of 39 years. On cholangiography, intrahepatic bile duct was involved in all patients, and diffusely distributed beaded or pruned-tree appearance was characteristic. No patients showed segmental structure of the lower bile duct. Pancreatography showed no abnormalities. Two young patients had ulcerative colitis, but none were associated with other sclerosing diseases. Serum IgG4 levels were normal, and dense infiltration of IgG4-positive plasma cells was not detected in the liver. 2. AIP: Of the 43 AIP patients, 34 (79%) had bile duct stenosis. In all the 34 patients, the lower bile duct was involved; in 21 of these, only the lower bile duct was involved, and in 13 patients, there was widespread wall thickening of the middle and upper bile duct on CT where stenosis was not obvious on cholangiography. Although 4 patients with extensive bile duct involvement also had stenosis of the intrahepatic bile duct, they showed not beaded or pruned-tree appearance but segmental structure of hilar hepatic ducts. All patients with bile duct involvement showed irregular narrowing of the main pancreatic duct in the head portion. Gallbladder wall thickening was detected in 30%, and serum IgG4 levels were elevated in 86% of patients. Dense infiltration of IgG4-positive cells was detected in the portal area of the liver and wall of the bile duct and gallbladder as well as in the pancreas. Sclerosing cholangiopancreatic lesions such as retroperitoneal fibrosis and sclerosing cholangitides were associated in 14 patients. Steroid therapy was markedly effective to the biliary lesions as well as the pancreas. Conclusions: Bile duct involvement in AIP is induced by different mechanisms from those in PSC, the condition should be differentiated from PSC. The two diseases can be discriminated from cholangiopancreatographic findings and serum IgG4 levels.

AGA Abstracts