In these cases repeated liver biopsy may be advised in order to recognize cirrhosis before starting interferon therapy.

93 IL-6, TNF-α and Soluble TNF-α Receptor Serum Levels in Crohn’s Disease

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Crohn’s disease (CD) is associated with an activation of macrophages. TNF-α and IL-6 are produced by macrophages and their serum levels seem to be increased in active CD. However results remain controversial. Soluble TNF-α receptor (sTNF-αR) serum level has never been evaluated in CD. The aim of our study was to measure IL-6, TNF-α and sTNF-αR serum levels in active and inactive CD and to compare it with normal controls.

We measured by ELISA the IL-6, TNF-α and sTNF-αR serum level in 26 patients with inactive CD (CDAI < 150), 32 patients with active CD (CDAI > 150) and 80 normal controls. Results were compared using a t-test of Student (significant difference if p < 0.05).

Results:

<table>
<thead>
<tr>
<th></th>
<th>IL-6 (pg/ml)</th>
<th>TNF-α (pg/ml)</th>
<th>sTNF-αR (pg/ml)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal controls</td>
<td>3.20 ± 6.82</td>
<td>10.35 ± 5.84</td>
<td>4.17 ± 1.20</td>
</tr>
<tr>
<td>Inactive CD</td>
<td>10.23 ± 12.02</td>
<td>13.00 ± 8.48</td>
<td>5.37 ± 2.41</td>
</tr>
<tr>
<td>Active CD</td>
<td>26.82 ± 26.50</td>
<td>24.77 ± 33.12</td>
<td>6.58 ± 1.99</td>
</tr>
</tbody>
</table>

IL-6 and sTNF-αR were significantly higher in CD than in controls and in active compared to inactive disease. For TNF-α, there was a significant difference only between active CD and controls.

In conclusion IL-6, TNF-α and sTNF-αR serum levels are increased in active CD, reflecting macrophages activation and might be useful in the monitoring of the disease.

94 A Controlled Randomized Trial of Beclomethasone dipropionate (3MG) Versus 5-Aminosaliclyc Acid (5-G) Versus Combination of Both (3 MG/1G) as Retention Enemas in Active Distal Ulcerative Colitis

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Sixty patients with active distal ulcerative colitis participated in a multicentre, randomized, double-blind trial to compare the effect of beclomethasone dipropionate (BDP) enema (3 mg/100 ml), with 5-aminosalicylic acid (5-ASA) enema (1 g/100 ml), and a combination of BDP/5-ASA (3 mg/100 g/100 ml). The patients were treated for 4 weeks, and the efficacy of the drugs was evaluated by sigmoidoscopy and subjective symptoms after 4 weeks.

After 4 weeks of treatment 17 of 19 patients (37%) receiving BDP/5-ASA had healed endoscopically, compared with 6 of 20 receiving BDP (30%), compared with 2 of 21 receiving 5-ASA (10%) (p < 0.05).

The overall results after 28 days of treatment were: clinical improvement: 100% (BDP/5-ASA) vs 70% (BDP), 76% (5-ASA), endoscopic improvement: 100% (BDP/5-ASA), vs 75% (BDP), vs 71% (5-ASA). Two patients on 5-ASA and three on BDP had a marked deterioration during treatment. The combination of BDP/5-ASA was superior to single agent therapy in terms of both significantly improved sigmoidoscopic and subjective symptoms (p < 0.05).

No significant differences in improvement between the 5-ASA vs BDP treated patients were recognized. No side effects were recognized.

The results of our study show that topical treatment of active disease with either 5-ASA or BDP is equally efficacious. So far no data on topical combination therapy have been described. However combination therapy of BDP/5-ASA seems superior to single agent therapy and causes no adverse reactions.

Beclomethasone versus 5-ASA versus combinée Beclomethasone 5-ASA-clysmaat bij Proctitis Ulcerosa.

95 Bone Alterations in Crohn’s Disease (CD): A Comparison Between Active and Quiescent Disease

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We have previously shown that although bone mineral density (BMD) is decreased in about 30% of patients with quiescent CD (QCQ) no sign of increased bone resorption or decreased formation is detectable, thus suggesting that besides steroid intake and nicotine consumption other factors are likely to contribute. Aim of this study was to compare the osteometric features of a group of CD patients during flare up (ACD) with a group of QCQ.

Methods: 28 patients, QCD = 20, ACD = 8 and 12 controls (C) were studied. Half of ACD patients were on steroids at the time of the study. BMD expressed as the Z-score and the lifetime prednisone dose (l.p.d.) were determined. Serum, PTH, osteocalcin (BGP), and minerals were measured. The calcium/creatinine (Ca/Crea) ratio was determined in fasting urine.

Results (mean values ± SEM; ANOVA and unpaired t-test): a Z-score < -2 was present in 25% of QCD patients and in 50% of patients with ACD (Mean Z-score: C. 0.06 ± 0.03; QCD: -1.29 ± 0.29, p < 0.05; ACD: -1.68 ± 0.36, p < 0.002). l.p.d. was similar in QCD and ACD, but while in QCD there was a significant correlation between l.p.d. and Z-score, this was absent in patients with ACD. PTH was significantly lowered in ACD (43 pg/ml ± 2; QCD: 48 ± 2; ACD: 27 ± 7, p < 0.029). PTH correlated in ACD with urinary Ca/Crea. BGP was significantly lowered only in ACD (11 ng/ml ± 1; QCD: 11 ± 1; ACD: 6 ± 1, p < 0.05). ACD patients BGP levels were similar in those taking or not taking steroids. No differences were found in serum minerals and the urinary Ca/Crea ratio.

Conclusions: 1. In ACD there is a reduced bone formation also in patients who are not treated with steroids. 2. In ACD, bone demineralization is not correlated to the amount of steroids taken. 3. The greater impairment of the Z-score in ACD compared to QCD may indicate that some recovery of bone mineralization is possible when disease activity subsides. 4. These data are consistent with the hypothesis that active inflammation per se might affect bone metabolism.

96 Infectious Bowel Disease and Domestic Hygiene in Childhood

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Early environmental experience may predispose to intestinal disease.

The purpose of this study was to explore the hypothesis that improvement in domestic hygiene has contributed to the unexplained increased incidence of Crohn’s disease. 364 patients with inflammatory bowel disease (IBD), 231 with ulcerative colitis, 133 with Crohn’s disease were compared with an equal number of healthy age and sex matched controls from the same population. Patients and controls underwent a short structured interview about housing and domestic facilities in childhood and a history of appendicectomy was recorded. The results were analysed by conditional logistic regression for matched sets.

Crohn’s disease was significantly more common in subjects whose first home had hot tap water (odds ratio = 5.95% 1.4-17.3) and separate bathroom (or 3.95% 1.3-4.3); in contrast ulcerative colitis showed no clear relationship to the provision of these household amenities. Ulcerative colitis however showed a strong negative association with a flush toilet and mains drainage.

These data support the proposed hypothesis. The incidence of Crohn’s disease in as yet under-developed countries may therefore increase as domestic hygiene improves. The fact that there is no clear association between ulcerative colitis and household facilities suggests that different factors may predispose Crohn’s disease and ulcerative colitis.

97 Quality of Life in Inflammatory Bowel Disease and the Effect of Smoking

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Smoking is positively correlated with the frequency of hospital admission and bowel surgery in Crohn’s disease (CD). No comparable data are available for ulcerative colitis (UC). To evaluate potential differences in quality of life (QoL) in CD and UC between smokers and non-smokers we used a mailed version of the inflammatory bowel disease questionnaire (IBDQ, Guyatt et al, 1991). The IBDQ consists of 32 questions clustered in 4 categories covering bowel symptoms, systemic symptoms, emotional function and social function, all scored on a 7 point scale: range 1 (worst) to 7 (best). The Wilcoxon rank sum test was used for statistical evaluation.

The response rate was 92%. The questionnaire was returned by 458 patients with CD (mean age 38.7, females 59%, smokers 52%) and 441 with UC (mean age 43.6, females 43%, smokers 23%). The categories systemic symptoms and emotional function were scored lower in CD compared to UC (p < 0.005 and p < 0.05).

In CD smokers had a lower score in all four categories compared to non-smokers: bowel symptoms 5.36 vs 5.69*, systemic symptoms 4.77 vs 5.20*, emotional function 5.44 vs 5.79*, social function 4.82** vs 5.09* (p < 0.005)**. In UC no difference between smokers and non-smokers was observed (bowel symptoms 5.61 vs 5.63, systemic symptoms 5.16 vs 5.18, emotional function 5.55 vs 5.61, social function 6.11 vs 6.07).

Summary and conclusion: In the patient group with CD, smokers had a QoL inferior to that of non-smokers, whereas there was no such a difference.
in UC. The observed discrepancy between UC and CD is consistent with the conclusion that smoking plays an important role in the clinical presentation and possibly the pathophysiology of CD.

**98 Smoking Habits in Incident Cases of Inflammatory Bowel Disease (IBD) in South-Eastern Norway 1990–1992**

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Since the relationship between non-smoking and ulcerative colitis (UC) was first reported by Harries in 1982 there has been many studies evaluating the relationship of smoking to Crohn’s disease (CD) and smoking. In a prospective incidence study of IB, 336 cases of UC and 158 cases of CD between 15 and 75 years of age at the time of diagnosis were interviewed on smoking habits. In patients with UC 14% were smokers compared to 41% in CD patients (p < 0.0001).

The proportion of ex-smokers (cessation of smoking before onset of symptoms) in patients with UC was 27% which was much more frequent than in patients with CD where only 14% reported an ex-smoking status. In patients with UC the smoking cessation took place within one year before diagnosis in 23%, between 1–5 years in 32% and after more than 5 years prior to diagnosis in 45%.

Smoking habits in UC and CD were compared with a random sample of the Norwegian population in different age groups. Non-smoking status was significantly more common in men with UC (p < 0.001) but not in females. In CD smoking status was significantly more common among females (p < 0.06) but not in males.

In an age and sex-matched case-control study smoking was a significantly protective factor against UC (odds ratio (OR) = 0.24; 95% confidence interval (CI) 0.14–0.40) whereas in CD smoking entailed a non-smoking increased risk (OR = 1.53; 95% CI 0.83–2.81).

**Conclusion:** We were able to confirm a significantly inverse relation between smoking and UC in men and a significantly increased risk among smoking females for CD.

**99 A Development of Ultrasonography in Staging Esophageal Cancer**

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Recently several types of ultrasonic probes have been developed. In staging esophageal cancer, these probes made improvement in accuracy of diagnosis of staging esophageal cancer. The aim of this study how to use these probes and how accurate diagnosis of staging esophageal cancer can be made by these new probes. In 328 patients with esophageal cancer, preoperative staging was made by conventional endoscopic ultrasonography (EUS) and new type of probes: (E-probe: radial scan, 8 mm in diameter, 7.5 MHz, sonoprobe system: radial/linear types, 2.6 mm in diameter, 15 or 20 MHz). These probes are used during filling water or balloon inflated by deaerated water. These US findings were compared with histological findings. Result: 1. The total observation rate which means the probe pass through cancer was improved from 60% by EUS only to 80% by EUS and these probes. 2. In depth of cancer invasion, T1 cancer was correctly determined in 50%, T1 cancer in 86%, T2 in 88%, T3 in 91% and T4 in 100%. 3. Based on the criteria of metastasis, such as lymph node with spherical shape, distinct border and heterogeneous internal echo, sensitivity was 86%, specificity was 91% and overall accuracy was 90%. Those accurate staging made select adequate treatments.

**100 Video Documented Endosonographic Identification of the Coeliac Trunk Area in the Preoperative Assessment of Resectability in Gastroesophageal Cancer**

M.B. Mortensen, C.P. Hvoldal. Department of Surgical Gastroenterology, Odense University Hospital, Denmark

Several studies have stated the superiority of endoscopic ultrasonography (EUS) in the preoperative TN-staging and assessment of resectability in gastroesophageal cancer (GE), but the actual visualization rate of the important area around the coeliac trunk and the presence or absence of local tumor infiltration and/or lymph node metastases in that area have not been paid the necessary attention.

We prospectively evaluated (1) the EUS identification rate (video documented) of the coeliac trunk including side branches (2) the preoperative EUS assessment of resectability in GE, and (3) the importance of EUS detected tumor/lymph node involvement around the coeliac trunk in matters of curative resectability.

Preoperative EUS was performed in 65 consecutive patients with GE. A video recorded, colour Doppler documentation of the coeliac trunk with branches was obtained in 70 patients (82%). In 12 patients (14%) visualization failed because of impassable tumor stenosis and in three patients (4%) because of technical problems. Sixty-two patients were operated and preoperative endosonographic assessment of resectability proved right in 54 patients (87%). Thirty-three patients (53%) were non-resectable and in 22 cases (67%) this was due to malignant infiltration in the area of the coeliac trunk. Regarding the detection of this infiltration, EUS made a correct preoperative statement in 21 cases (95%); - assessment failed in one patient because of impassable tumor stenosis.

In conclusion, EUS seems highly efficient in the preoperative visualization of the coeliac trunk and its branches and in the assessment of tumour and/or lymph node involvement in that area. A video showing the endosonographic identification and interpretation of the coeliac trunk area is presented.

**101 Surface-Sonographic Assessment of Two Main Clinical Types of Gastroduodenedis (Hypertonic-hyperaccd and hypertonic-hypoaccd)**

L. Mádi-Szabó, J. Pásztor. Dept. of Gastroenterology, Budapestgyöngy Hospital, Budapest, Hungary

**Purpose of the Study:** Finding the observation that the secretary and mo- tonic functions as well as toxicity of the stomach show certain correlation in two main clinical tractable for gastritis investigation was car ried out to find the characteristic ultrasonographic patterns of these condi tions.

**Patients and Methods:** There were 460 patients with gastric complaints involved in the study. Ultrasonography was the first examination. The analysis of the gastric content was carried out in 433 patients, barium meal and/or endoscopy were performed in 372. All were treated on the basis of clinical- sonographic assessment and “ex iuvantibus” therapeutic results were also considered.

**Results:** The first column displays the results in ultrasonographically "spas tic” (hyperaccd) gastroduodenedis. These patients were treated as hyperaccd ones. The second column represents the values obtained in “mucous” (hypotonic) gastroduodenedis. These patients were treated as hypo acid ones.

<table>
<thead>
<tr>
<th>Ultrasoundography</th>
<th>spastic</th>
<th>mucous</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test meal</td>
<td>Acidity</td>
<td>100/20</td>
</tr>
</tbody>
</table>
| Mucous           | neg     | ++++++
| Lactate          | neg     | neg    |
| Blood            | 0       | neg    |
| Helicobact       | rarely pos | often pos |
| Radiography      | spastic | fast emptying, slow emptying, ptosis, sph. gastritis, erosions, rough plase, few erosions |
| Endoscopy        | spastic | fast emptying, slow emptying, “mucous" atrophy, few erosions |
| Therapeutic Effect | good | fair |

**Conclusion:** Comparing the complaints, lab., radiol., endoscopic data and the effect of therapy to the improvements of the sonographic phenomena it seems obvious that the features and motion patterns observed in surface sonography correspond well with the traditional classification (hyper acid, hypo-anacid) of gastroduodenitis.

**102 CD-ROM (Compact Read Only Memory) for Didactic Endoscopy**

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At present videotapes represent the ideal technological means for discussing endoscopic topics. Nevertheless, although its communicative value at con- gresses is doubtless, as a didactic product it has some weak points: a) the Author puts the contents into a logical order, without considering the per- sonal need of the viewer; b) the continuity of the film could limit comprehen- sion since the viewer may only be interested in certain parts of the film; c) good quality “freeze pictures” are difficult to obtain, and inevitably the pause causes automatic interruption of the sound.

Over the last few years, our Unit of Endoscopy has realized the translation onto tape of the OMED Endoscopic Terminology by Professor Maratka, trying to overcome the problems by producing a prototype CD-ROM for endoscopy. Using the first two films of the OMED Terminology (Fundamental Terms and Definitions and Esophagealscopy) plus the best possible technological know- how available, we recorded moving video sequences with comments, texts, still pictures, drawings, sketches and x-rays.

The prototype was realised on a Macintosh Quadra 900, with video digi- tizer card (VideoSpigot from Supermac, which can transform analogic data into