

be considered as adjuvant treatment to prevent rebleeding of peptic ulcers. But this needs to be shown in patients with bleeding gastric and duodenal ulcers.

1830 A Comparison of the Available Methods for the Bleeding Peptic Ulcer Therapy in Latvia

A. Lapina, J. Pokrotnieks, I. Tolmanis. "Linezers", *Clinic of Latvian Academy of Medicine, Riga, Latvia*

A modern endoscopic techniques for the control of peptic ulcer hemorrhage such as heater probe and laser photocoagulation are not available at the endoscopy units in Latvia because of poor economical situation yet. The aim of our work is compare the efficacy of injection sclerosis and bipolar electrocoagulation as the widely used methods for the bleeding peptic ulcer therapy during the last two years in Riga.

We compare the results of the therapy (permanent hemostasis, persistent hemorrhage, recurrent hemorrhage, emergency surgery, transfusion, mortality) between the two greatest endoscopic units in Riga. At the one of them we use injection sclerosis of 98% ethanol, other uses different types of therapy. Evaluating all patients with upper gastrointestinal hemorrhage from August 1990 and making statistical analysis we are planning to go on till the moment (the end of 1994 expected) when the modern methods will be commercially available for endoscopists in Latvia.

Seventy five patients with actively bleeding ulcers were treated at the units till December 1993. Fifty eight of them were treated with 98% ethanol and for others bipolar electrocoagulation was used. There were no significant differences among patients treated with these two methods. The hemostasis were achieved in 85% of patients. Re-bleeding rates were 25% and 27%. The proportion requiring emergency surgery were 11% and 15%. There was no significant difference in mortality 15% and 10%. Injection sclerosis and bipolar electrocoagulation are equally effective in controlling bleeding from peptic ulcer.

Injection sclerosis is a cheap and available method for Latvian endoscopists at present. We are looking for the possibility to defend the advantages of the injection therapy in future too.

1831 Bleeding Peptic Ulcer: Injection, Elective or Emergency Operation?

M. Dobosz, A. Babicki, R. Marczewski, P. Juszkiewicz, Z. Wajda. // *Department of Surgery, Medical Academy of Gdańsk, Poland*

In 210 patients with peptic ulcer bleeding injection sclerotherapy was applied. Initial hemostasis was obtained in 95% of the patients, while 11 patients (5%) required emergency surgery due to failure of injection procedure. Of 199 patients previously injected, 28 rebled (14%). The highest rebleeding rate was in the Forrest Ia group (33%); rates were lower in Forrest IIa (10%) and Forrest Ib (6%) patients. Of the rebleeding cases, 19 were successfully reinjected, while 9 underwent emergency surgery. Twenty three patients, in whom the injection was successful, underwent elective operation without active bleeding, the indication for surgery being localization of the ulcer and the caliber of visible vessel in the ulcer base. In general thanks to injection sclerotherapy, permanent hemostasis was achieved in 79.5% of the patients. In 9.5% of the patients we were forced to perform emergency surgery, because the injection was ineffective, 11% of the patients were electively operated. Concerning Forrest Ia and IIa groups, injection sclerotherapy was successful in 63% of the patients. To obtain permanent hemostasis, 17% of the patients had to undergo emergency operation, and 20% of the patients had to be electively operated. The mortality rate of all the patients was 3.8%. No patient died following endoscopic treatment alone. Two out of 11 patients (18%) undergoing emergency surgery on hospital admission died. The highest mortality rate (56%) we observed in patients emergency operated because of the rebleeding. The overall mortality rate in patients who underwent emergency surgery was 35%. Among patients electively operated one died (4.3%). It is concluded, that injection sclerotherapy is valuable method to stop the bleeding from peptic ulcers. Patients with large visible vessels of the posteroinferior duodenal bulb wall or subcardial ulcers should be considered as candidates to elective surgery after successful primary injection, to avoid rebleeding, which carries the highest risk for the patients.

1832 Idiopathic Megacolon (IM)- Search for a Viral or Neuropathic Aetiology

H.S. Debinski, J. Gattuso, H.O. Kangroo, D. Jeffries, M.A. Kamm. *St. Mark's Hospital, London; Department of Virology, St. Bartholomew's Hospital, London*

The cause of idiopathic megarectum and megacolon is unknown. Routine histology of the gut is usually normal. We have therefore examined resected gut for evidence of a viral aetiology, as well as for morphological abnormalities of nerve and muscle.

Resected colon from six patients (3 M, age 20–42) with chronic IM whose symptoms commenced acutely were studied. Histology for viral inclusions and nested polymerase chain reaction (PCR) was performed utilising specific primers for cytomegalovirus, Epstein Barr virus, herpes simplex virus type 1 and varicella zoster virus. DNA was extracted from paraffin embedded blocks utilising a proteinase K and phenol chloroform extraction. Immunohistochemistry (IHC) with polyclonal antisera to neural markers S100 (Schwann cells) and PGP 9.5 (axons) was performed.

In no patients were there viral inclusions or cytopathic changes. PCR failed to identify herpesvirus DNA for the 4 viruses tested. However IHC for PGP 9.5 and S100 revealed qualitative abnormalities in the density of neural innervation of the muscularis propria and mucosa in 3 patients.

Conclusion Patients with megacolon (acute onset) have morphological evidence of neural damage but this is not attributable to the neurotropic effects of herpesviruses.

1833 Prevalence of the Irritable Bowel Syndrome (IBS) in a Greek Population

A. Dovas. *2nd Department of Internal Medicine of District General Hospital of Larisa, Greece*

Aim: The aim of this epidemiological study was to evaluate the prevalence of the IBS in a Greek non-patient population.

Material and Method: 500 subjects, 200 males and 300 females, 25–65 years old (mean age 40 ± 5 years), were interviewed at home or at work.

Results: Sixty subjects (12%) suffered of symptoms compatible with IBS (which is characterized by some combination of (1) abdominal pain; (2) altered bowel function, constipation, or diarrhea; (3) hypersecretion of colonic mucus; (4) dyspeptic symptoms and (5) varying degrees of anxiety or depression). 150 subjects (30%) had symptoms of functional gastrointestinal disorders other than IBS (chronic painless constipation, non-colonic pain, dyspepsia and other minor complaints). In the IBS group pain and constipation were more common than pain and diarrhea (50% VS 15%), as well as, pain and constipation alternating with diarrhea (10%). The subjects of IBS group compared with the subjects of the remaining sample were predominantly females (75% vs 55, $P < 0.01$) and more often complained of stress induced bowel dysfunction (40% vs 18%, $P < 0.01$). In the last year, 10% of the IBS subjects had lost days of their work and 55% had consulted a doctor (only 20% had consulted a gastroenterologist) for their bowel dysfunction. Significantly more IBS subjects with than without diarrhea (100% vs 60%, $P < 0.05$) and with than without abdominal pain weekly (80% vs 20%, $P < 0.05$) consulted a doctor for their functional bowel disorder.

Conclusion: (1) In a Greek non-patient population symptoms of functional gastrointestinal disorders are very common, but only a limited part can be classified as IBS. (2) Almost $\frac{1}{2}$ of the IBS subjects consulted a doctor but rarely a gastroenterologist (3) The presence of diarrhea and frequent abdominal pain were associated with an increased doctor consultation for IBS.

1834 Clinical Application of Anal Endosonography with Different Rotating Endoprobes

G. Gizzi, M. Cianci, G. Rosati¹, G. Ugolini¹, E. Piccinini¹, V. Villani, A. La Froschia, L. Barbara. *Istituto di Clinica Medica I, Università degli Studi, Bologna;* ¹ *Istituto di Clinica Chirurgica III, Università degli Studi, Bologna*

Anal endosonography (AE) is a recent technique for the study of anal sphincter morphology that permits to find abnormalities in the anal canal and perianal region. Recently, rotating endoprobes with smaller diameter and different emission frequencies have been developed. We studied the modifications induced by the diameter of the probe to the sphincter morphology in normal subjects and the compliance in a group of anal stenosis with use of two different ultrasonic probes (Bruel & Kjaer: 20 mm diameter, 7 Mhz, conic vs Kretz: 13 mm diameter, 5–7.5–10 Mhz, cylindric). We have carried out AE in 32 patients (18 M: $42 \pm$ yrs; 14 F: $50 \pm$ 19 yrs; $m \pm$ SD) with Bruel & Kjaer (BK) probe and in 32 patients (16 M: $47 \pm$ 13 yrs; 16 F: $48 \pm$ 16 yrs; $m \pm$ SD) with Kretz (K) probe. Both probes were protected by a plastic cone (BK) or cylinder (K) that were filled with degassed water to provide acoustic path for the ultrasonic wave. Both probes have allowed the identification of sphincter structures, but, in the group of patients studied by BK, the larger probe determined a lower thickness of internal anal sphincter (IAS) ($2.14 \text{ mm} \pm 0.05$; $m \pm$ SD) than that measured by K probe ($2.81 \text{ mm} \pm 0.07$; $m \pm$ SD); no differences were evidenced in thickness of external anal sphincter. It was not possible to introduce the BK probe in 3 patients with substenosis from anal carcinoma and in 4 patients with post-surgical anal stenosis, while it was possible with the smaller K probe evaluating the location and infiltration degree of carcinoma and the extension of stenosis in the anal canal (appearing as a hyperechoic layer). **Conclusion:** This study has evidenced the utility of a smaller diameter probe that causes a less modification of IAS and permits to evaluate the abnormalities in anal stenoses. At last, the availability of different frequencies is advantageous for a detailed study of anal layers.

1835 Three-Dimensional Imaging of Upper Abdominal Organs Using Ultrasonography

T. Hausken, J.H. Hokland, A. Berstad, S. Ødegaard. *Med. Dept., Haukeland Hospital, Section of Medical Image and Pattern Analysis, University of Bergen, Bergen, Norway; Christian Michelsen Research, Bergen, Norway*

A new method for three dimensional visualization (3D) of medical ultrasound data is presented. *Methods:* The 3D data were recorded using a device for mechanical tilting of a 3.25 MHz probe connected to a Vingmed Sound CFM 750 scanner. During 3 seconds the transducer was tilted through an angle of 88 degrees, recording a total of 81 2D images. The volume rendering methods used were implemented as modules in the Application Visualization System, and executed on Silicon Graphics INDIGO workstation. The methods include techniques to speed up on-line processing and to perform fast cutting in a volume rendered scene. *Results:* Two parameter settings, called surface and transparent rendering, were found to be sufficient for all the clinical cases examined, especially in combination with animated rotation of the data. Localisation and shape of inner structures of an hepatic cyst were shown to represent an incomplete smaller cyst within the larger cyst. By interactive slicing the thickness of the structures was estimated. Impressions of the gastric antral wall due to underlying structures could be examined combining 3D imaging with interactive cutting. A circular impression containing normal wall layers, represented a normal antral contraction. The shape and surface of solid tumores as well as the relationship to surrounding vessels and organs were visualized in 3D. *Conclusion:* The new 3D volume rendering method and the possibility to interactively slice in the 3D scene, seem to improve 3D imaging of abdominal organs.

1836 Relationship Between Size, Shape and Histology of Colonic Polyps: A Colonoscopic Study

H. Inoue, Y. Uchida, K. Matsuda, M. Nishioka¹, S. Suna². ¹*Third Department of Internal Medicine, Kagawa Medical School, Kagawa, Japan;* ²*Department of Hygiene and Public Health, Kagawa Medical School, Kagawa, Japan*

Recently the incidence of colon cancer has been increasing in Japan. It is generally accepted that most carcinomas of the colon arise from adenomatous polyps. Then we reviewed our colonoscopy data for the past 9 yr for patients with polyps to determine the association of size, shape, and histology.

[Materials and Methods] The colonoscopy reports from Kagawa Medical School Hospital were reviewed retrospectively. Between 1985 and 1993, 2200 patients underwent colonoscopy and 1072 polyps were found. These polyps had been removed by biopsy or polypectomy for histopathologic examination and classified into four categories: adenoma, early carcinoma (we use this term indicating restriction of the cancer to the submucosal layer of origin), hyperplastic, and others. The shape of polyps were classified into four categories: pedunculated, semipedunculated, sessile, flat elevated. The size of polyps were classified into three categories: smaller than 5 mm in diameter (group 1), 5 to 10 mm (group 2), larger than 10 mm (group 3).

[Results] The histology of polyps in Group 1 were: adenoma 62%, hyperplastic 35%, early cancer 0.4%. In group 2 were: adenoma 81%, hyperplastic 13%, early cancer 2%. In group 3 were: adenoma 74%, hyperplastic 2%, early cancer 14%. The histology of pedunculated polyps were: adenoma 61%, hyperplastic 5%, early cancer 10%. Semipedunculated polyps were: adenoma 60%, hyperplastic 11%, early cancer 2%. Sessile polyps were: adenoma 49%, hyperplastic 31%, early cancer 1%. Flat elevated polyps were: adenoma 49%, hyperplastic 32%, early cancer 3%.

[Conclusion] These findings indicate that patients with larger and pedunculated polyps are at high risk of having carcinoma. However carcinoma existed even in smaller and sessile or flat elevated polyps. We emphasize that all polyps should be removed endoscopically or, when required, surgically.

1837 Transproctoscopic Doppler Ultrasound in Hemorrhoidal Disease

D. Jaspersen, T. Koerner, W. Schorr, C.-H. Hammar. *Department of Gastroenterology, Academic Medical Hospital Fulda, Germany*

Endoscopic Doppler sonography is a new technique in the diagnostics and treatment control of intestinal hemorrhage. For the first time, the effectiveness of Doppler ultrasound was studied in hemorrhoidal disease. Sixty patients with symptomatic hemorrhoids of first-degree and previous bleeding were randomized in 2 groups. Endoscopically, upper and lower intestinal sources of hemorrhage were excluded. Transproctoscopic Doppler ultrasound was performed in 30 patients using a bidirectional pulsed 20-MHz device. The arterial blood flow was confirmed by an audible Doppler signal and the curve documented. Accurate measurement of the vessels depth was possible by varying the pulse repetition period. Local sclerosing treatment with 6 ml of 5% phenol almond oil was carried out considering the vessels depth. In the 30 patients of the non-Doppler group, the same amount of the solution

was injected without the aid of diagnostic Doppler investigation. Success of treatment was defined as symptom-free patients, removal of hemorrhoidal nodes and Doppler negativity after sclerotherapy. The results of treatment were checked 6 weeks later. In the Doppler group, the hemorrhoids proved to be totally eliminated in 26 cases (87%). The Doppler control showed no more arterial signals at the specified vascular depth. In the non-Doppler group only 11 patients (37%) showed a total removal of the hemorrhoids and a Doppler-negative flow ($p < 0.1$).

Proctoscopic Doppler ultrasound seems to be useful in the evaluation and sclerotherapy of symptomatic hemorrhoids.

1838 The Anorectal Diseases in a Rural Population

J. Jegorova. *Estonian Institute of Experimental and Clinical Medicine, Tallinn, Estonia*

The occurrence of gastrointestinal diseases was studied among 1721 adult rural inhabitants in a district of Estonia. The research included, first of all, questioning according to a special questionnaire. Patients with complaints underwent up-to-date instrumental investigation (abdominal ultrasonography, oesophagogastroduodenoscopy) and digital examination of the rectum.

Attention should be paid that 33.4% of patients with complains suffered from chronic constipation 125 – (22.1%), and female more often than male. And had rectal blood excretion 76 cases – 13.4%. Most common of the rectal disorders were the inflammatory diseases of the rectum, the haemorrhoids, on the first place (26.6%). The haemorrhoids occurred most frequently among female patients from 40 to 60 years – 86%. The frequency of the mentioned disorders in the same age group of male patients was significantly less – 13.1%; 28.9% of the haemorrhoid patients suffered from chronic constipations, 20% complained of periodical rectal blood excretion.

Second frequent were the fissures and the rhagades of the rectum, which occurred in 1.5% of the patients. The patients complained of mild or severe pain in the rectal area which was associated with defecation or occurred independently. This pathology was found in 60% of the female patients in the age group from 45 to 60 years. 66% in this group had rectal blood excretion. Rectal cancer was diagnosed in 2 persons (0.3%).

Considerable part of the investigated patients – 75% were unaware of their illnesses thinking that their diseases did not require therapy.

The preventive examination of the rectum remains actual in connection with the tendency of late diagnostics of the rectal cancer in many countries of the world.

1839 Specific Course of Gastric and Duodenal Ulcers in "Liquidators" of Chernobyl Atomic Power Station Failure

L.I. Katelnitskaya, T.P. Shamrai, A.S. Khomyakova. *Medical Institute, Rostov-on-Don, Russia*

The goal of the present study is to reveal the peculiarities of gastric and duodenal ulcers (GDU) in "liquidators" of Chernobyl failure. 150 "liquidators" at the age of 28 to 45 were examined clinically. To estimate the adaptation reaction, the processes of lipid peroxide oxidation (LPO), activity of sympathetic-adrenal (SAS) and kallikrein-pininic (KCS) systems were studied along with determination of immunological indices of II and III levels. 72.3% of "liquidators" had no previous record of GDU. Pain syndrome was absent in 84.15% cases of duodenal ulcers. Dyspeptic and pain syndrome was 1.9 times less common, while astheno-neurotic syndrome was 3 times more frequent in "liquidators" than in randomized group of GDU patients. Endoscopic picture of gastric mucous was characterized by moderate atrophy, erosions, epithelium degeneration, thinning of mucin layer, hemorrhages and ulcer defects, which in 67.13% cases had no symptoms. Examination of adaptation system revealed activation of lipid peroxidation processes and stress of antioxidation defence system. KCS and SAS were characterized by inadequate reactions. Evaluation of immune status suggested redistribution of subpopulation composition of T-link, decreased content of T-helpers with inversion of immune regulation index, insufficiency of phagocyte link and increased by 40% content of circulating immune complexes. Thus GDU is characterized by atypical clinical course, pronounced endoscopic modifications on the background of depleted adaptation resources of regulation systems.

1840 Significant Improvement of Quality of Life in Low-Grade B-Cell Lymphoma Patient After Eradication of Helicobacter Pylori

H. Kordecki, J. Miętkiewski, P. Milkiewicz. *Dept. of Gastroenterology, Szczecin County Hospital, Szczecin, Poland*

A 77-year old female suffering from low-grade B-cell lymphoma with stomach infiltration was admitted to our Dept. in August, 1993. Treatment of cytostatics was instituted, but no improvement was noticed. Since the patient experienced dyspeptic symptoms and progressive cachexia, an endoscopy of upper

digestive tract was performed and distinguish thickening of gastric folds and the presence of *H. pylori* was detected.

On the ground of the last reports (Lancet 1993, 887, 575) considering an effective treatment of low-grade B-cell MALT lymphoma by eradication of *H. pylori*, a therapy of Amoxycycline, Metronidazole and Omeprazol (Astra) was administered.

The significant improvement of appetite, weight increase and disappearance of dyspeptic symptoms were recorded. In the control endoscopy a diminishing of gastric folds and eradication of *H. pylori* were disclosed. On histopathologic examination eradication of *H. pylori* was confirmed but no complete regression of mucous membrane infiltration was stated.

The authors suggest that above described therapy could be administered also in generalized low-grade B cell lymphoma with stomach infiltration as a palliative treatment positively influenced the patient's life quality.

1841 Dyspepsia in Residents of a Rural District of Estonia

E. Lond, U. Josia, T. Litvinenko, V. Bushina. *Institute of Experimental & Clinical Medicine, Tallinn, Estonia*

We used a specially compiled questionnaire, containing 72 questions (personal and occupational data, risk factors and situations possibly influencing the morbidity, disease history and occurrence of digestive diseases in family).

Dyspeptic complaints had 500 (38.0%) out of 1316 adult residents questioned in a certain rural district of Estonia.

We compared them with an age sex matched group of 500 persons without complaints from the same area. We analysed demographical data, eating habits, alcohol use, smoking, body weight and familial occurrence of digestive diseases.

The two groups compared appeared to be similar in nationality, settling in one place, in educational and occupational level.

Dyspeptic patients (DP) had more frequently irregular eating habits (23.4 ± 2.1%), familial history of peptic ulcer (23.6 ± 1.9%) and gallstones (13.6 ± 1.5%). Non-dyspeptic persons (NDP) had irregular eating habits in 16.8 ± 1.7% ($p < 0.05$), familial history of peptic ulcer in 14.2 ± 1.6% ($p < 0.01$) and gallstones in 9.0 ± 1.3% ($p < 0 < 05$) of cases.

There was no significant difference between DP and NDP in alcohol use, body weight and smoking data. Ex-smokers were met more frequently in the group of DP (12.5 ± 1.3%) that in NDP (8.0 ± 1.2%), $p < 0.05$. May be it gives a hope of changing attitude of persons toward their health when complaints have arisen.

1842 Gastroenterologists are More Paternalistic than their Patients Expect, in Italy

A. Martin, L. Leone, W. Fries, R. Naccarato. *Divisione di Gastroenterologia, Università di Padova, Padova, Italy*

A wide variation in attitudes toward respect of patients' autonomy has been demonstrated in Europe among Gastroenterologists (Lancet 1993; 341: 473–6). A prevailing paternalistic approach was apparent in Italy. Our aim was to investigate whether this attitude reflected doctor's response to patients' expectations. *Methods:* we adapted the questionnaire used in the original study, in order to assess the attitudes of healthy individuals ($n = 105$) and severely ill patients with gastrointestinal disease ($n = 100$). Four situations were presented: the disclosure of diagnosis of curable colonic cancer, of incurable (metastatic) disease, the recruitment for clinical trials of registered drugs and the case of increasing the number of endoscopic biopsies for research purposes. *Results* (as percentage of affirmative responses) are summarized in the table and compared to the doctor's responses (from the same environment) in the original study.

	Doctors	Controls	Patients
Reveal cancer to patient	47	91 ^a	71
to spouse	100	64 ^b	81
Reveal metastases to patient	13	71 ^a	57 ^b
to spouse	100	38 ^a	88 ^a
Inclusion in trial submission to Ethics Committee	47	66	85 ^c
written information	27	75 ^c	59 ^d
written consent	27	64 ^d	53
Additional biopsies written information	47	58	47
written consent	47	68	53

^a $p < 0.0005$, ^b $p < 0.006$, ^c $p < 0.002$, ^d $p < 0.04$; chi square vs doctors.

Patients, and healthy individuals to a even higher degree, showed expectations for greater autonomy compared to doctors. We conclude that doctors do not respond ethically to attitudes among the population and their patients, but rather follow their own more paternalistic approach.

1843 Intraperitoneal Hyperthermic Treatment for Peritoneal Dissemination of Colorectal Cancers

Y. Michiwa, G. Nishimura, T. Satou, I. Miyazaki. *Surgery II, Kanazawa University, Kanazawa City, Japan*

Our experience in colorectal cancer patients treated by continuous hyperthermic peritoneal perfusion (CHPP) is analyzed to identify the response to CHPP in patients with peritoneal dissemination of colorectal cancer.

Material and Method CHPP combined with administration of anticancer drugs (150 to 300 mg/body of CDDP, 20 to 30 mg/body of MMC and 100 to 200 mg/body of etoposide) was performed in eleven colorectal cancer patients with peritoneal dissemination. They comprised eight patients with primary colorectal cancers and three with recurrent colorectal cancers.

Results An overall response rate of 45.5 percent was achieved in the eleven patients. Two of four complete responders are long and recurrence-free survivors. The three-year survival has been achieved in 26.5 percent of the patients receiving CHPP, and this rate is significantly higher than the rates in patients with peritoneal dissemination of colorectal cancer who did not receive CHPP. The complications of CHPP with administration of anticancer drugs were mild bone marrow suppression and a mild grade of renal dysfunction, though not lethal.

Conclusion That the combination of CHPP with the administration of anticancer drugs is a safe and effective therapy for peritoneal dissemination of colorectal cancers.

1844 Rice or Wheat Diet for Patients with Functional Bowel Disease (FBD)

A.T. Mortensen, L. Bathum. *Department of Medical Gastroenterology, S, Odense University Hospital, Denmark*

Patients with FBD do not harbour or produce an abnormal amount or type of intestinal gas, but their abdominal symptoms might be provoked by physiological quantities of intestinal gas, because of abnormal handling of the fermentative gases.

We have given a diet with completely absorbable carbohydrate (rice) to FBD patients who had abdominal pain, bloating and diarrhoea as main symptoms, in an attempt to minimize the quantity of gas in the bowel and relieve their symptoms. A wheat diet was used as control.

In a cross over design 12 FBD pt. and 4 healthy controls were included. Each diet lasted 2 weeks interrupted by at least 1 week on normal food. Global assessment (by visual analog scale, VAS) and various FBD symptoms were scored pre entry and during the last week on each diet. To evaluate the degree of carbohydrate malabsorption a 7 hours H₂ breath test was done at the end of each diet periode.

All comparisons were made with the Friedmann test.

4/12 pt. dropped out after one diet periode (3 rice, 1 wheat). All 8 pts., who completed the diet, had sign. better VAS scores on both diets ($p < 0.01$) compared to normal food. The 8 pt. had lower total symptom scores ($p < 0.05$) and less bloating ($p < 0.05$) on the 2 diets compared to normal food – there was no difference between the diets. The 8 pt. were more constipated on rice diet ($p < 0.05$), compared to normal food and wheat diet. There was no sign. diff. in any scores for the 4 healthy controls. Overall we did not find any difference in the H₂ breath test profiles for rice diet compared to wheat diet.

Conclusion: Pts. with FBD experience less bloating and overall less FBD symptoms on a carbohydrate standardized diet with either rice or wheat as the basic carbohydrate compared to their normal food. The effect of both diets might be due to low fiber content, or it might be due to placebo effect. Except for more constipation on rice diet, no other differences between the test diets were found.

1845 Effect of Chemotherapy Using CPT-11 for Recurrent Colorectal Cancer

G. Nishimura, T. Satou, Y. Michiwa, I. Miyazaki. *Surgery II, Kanazawa University, Kanazawa City, Japan*

CPT-11 is a camptothecine derived with antitumor activity due to inhibition of DNA topoisomerase I. CPT-11 shows excellent, broad anticancer activity against several malignant tumors.

Material and Method: According to Japanese phase II study, CPT-11 was administered as a 100 mg/m² weekly intravenous infusion for 10 patients of recurrent colorectal cancer. Median total dose was 513 mg.

Results: A partial response was obtained in 4/10 patient (40%). Lung metastases showed a 33.3% response and Lymphnode metastases showed a 60% response. But Liver metastases showed no response. The median duration to the onset of partial response was 20 days and the median overall response duration was 89 days. Adverse effects were leukopenia (40%), nausea, vomiting and diarrhea (80%), fever (20%), and general malaise (30%). These were generally well tolerated and reversible.

Conclusion: From these results, CPT-11 seems to become an effective drug for recurrent colorectal cancer. Further trials of combination chemotherapy utilizing CPT-11 seem to be justified.

1846 Long-Term Ingestion of Lactosucrose Increases Bifidobacterium SP in Human Fecal Flora

T. Ohkusa, A. Araki, Y. Ozaki, S. Tokoi. *First Department of Internal Medicine, School of Medicine, Tokyo Medical and Dental University, Tokyo, Japan*

Bifidobacterium sp. is a beneficial lactic acid bacteria in the intestinal microflora, and oligosaccharides are suggested to be effective bifidus factors. Previous studies, however, analysed short-term administrations of ingestible saccharides such as 1 to 3 weeks. In the present study, therefore, we investigate the influence of a long-term administration (8 weeks) of lactosucrose (LS, Ensuiko Sugar Refinery Co. Ltd., Yokohama, Japan), an oligosaccharide produced from lactose and sucrose, on the intestinal flora of healthy volunteers in order to clarify whether LS is a growth-promoting factor for bifidobacteria in the intestinal microflora.

Materials and Methods: Eight healthy volunteers (M/F: 4/4 age 34 ± 4) ingested 6 g of LS daily for 8 weeks. Fecal microflora, bacterial metabolites, pH, and moisture were analyzed before, 1 wk after, 4 wks after, 8 wks after the start of, and 1 wk after the end of the administration of LS, respectively.

Results: The number of *Bifidobacterium* sp. and the percentage of *Bifidobacterium* sp. in relation to the total bacteria significantly increased during the ingestion of LS, whereas ammonia significantly decreased after 4 weeks of LS administration ($p < 0.05$). Phenol concentrations in the feces were found to have a negative correlation with the number of bifidobacteria. When LS ingestion was stopped, the number of *Bifidobacterium* sp. still remained significantly increased compared with the number before the administration of LS, although the percentage of *Bifidobacterium* sp. in relation to the total bacteria gradually decreased to the same level as that observed before the administration of LS.

These results suggest that, under physiological conditions, lactosucrose acts on the intestinal microflora as a long-term growth factor for *Bifidobacterium* sp.

1847 High Intensity Focused Ultrasound vs Hepatectomy for VX-2 Carcinoma in the Rabbit: Preliminary Results of an Experimental Randomized Study

F. Prat, M. Centarti, L. Henry, A. Sibille, J.Y. Chapelon, D. Cathignol. *INSERM, Lyon, France*

High intensity focused ultrasound (HIFU) produces selective liver tumor destruction and impairs tumorigenicity in vivo. We investigated the long term results of extra-corporeal tumor destruction with this method and compared them with hepatectomy. **Methods:** 27 rabbits received 20 mg fresh tumor in the left anterior lobe of the liver. 12 days later, animals were randomly assigned to HIFU, hepatectomy or control. HIFU was produced from a focused piezocomposite transducer (diameter 100 mm, focal length 100 mm, frequency 1 MHz) coupled with a power amplifier, a pulse generator, an ultrasound probe for localization and targeting of the tumor, an x-y-z positioning system for point-by-point irradiation of the target, and a software for the overall control. HIFU was applied extracorporeally under general anesthesia during two consecutive sessions (days 12 and 14) over a target volume surrounding the tumor. Hepatectomy of the left anterior lobe (including a 10-mm tumor-free resection margin) was performed on day 14 after implantation. Clinical, biological and CT-scan follow-up were carried out. Autopsy was done at each death and a Kaplan-Meier's survival curve was established. **Results:** Biology showed transitory elevation of serum transaminases in both the HIFU and the hepatectomy groups. Survival was 24 ± 4 days in the control group, 52 ± 12 days in the HIFU group and 65 ± 9 days in the hepatectomy group. Recurrence in the HIFU group was difficult to assess by ultrasound or CT-scan, and difficult to distinguish from HIFU-induced necrosis. We conclude that although HIFU increased survival in this aggressive tumor model, improvements in imaging are needed to allow early retreatment of recurrences, and thus increase survival at least as much as surgery.

1848 Lipoprotein Levels in a Group of Latvia Population According to Fish Consumption

Jānis Skārds, Mārcis Leja, Daina Sinkēviča¹. *Human Ecology Institute, Latvian Medical Academy, Riga, Latvia; ¹ Republic Centre of Diagnostics, Riga, Latvia*

The aim of the present study was to establish whether subjects with a high fish consumption from the Baltic sea display any effects on parameters of lipid contents.

Two groups of male Latvia inhabitants with high and low consumption of fish were examined. The fish consumers were recruited from the coastal

areas of Riga gulf, where the water could be highly polluted. None from the fish consumers and non consumers had some chronically disease associated with administration of medicine. A standard questionnaire was used to calculate the fish intake as well as other dietary and life habits. Venous blood sampling was provided in fasting state and blood lipid analyses were provided.

Our results suggest, that the total cholesterol level did not differ significantly in both groups – it was 5.66 ± 0.18 mmol/L in fish consumers and 5.72 ± 0.15 mmol/L in non consumer's ($p > 0.05$), as well as triglyceride amount (1.37 ± 0.24 mmol/L and 1.29 ± 0.08 mmol/L; $p > 0.05$), and low density lipoprotein cholesterol (3.64 ± 0.12 mmol/L and 3.93 ± 0.14 mmol/L; $p > 0.05$). The levels of apolipoproteins A-1 and B did not differ significantly in both groups. The level of high density lipoprotein cholesterol was significantly higher in the group of fish consumers (1.39 ± 0.09 and 1.14 ± 0.047 mmol/L; $p < 0.05$), what can be associated with high content of polyunsaturated fatty acids in sea fish.

Our result suggests, that high consumption of sea fish is influencing the lipoprotein spectrum with a tendency to elevate high density lipoproteins in a group of selected Latvian population.

1849 Ultrasound Study of the Prevalence of Hemangiomas in an Adult Population

I. Sporea, A. Goldis, Cristina Molnar, R. Strain. *Dept. of Gastroenterology, University of Medicine, Timisoara, Romania*

The prevalence of hemangiomas in the general population is estimated differently (0.7% to 7%) by studies of large autopsy series.

The aim of this prospective study is to evaluate the prevalence of hemangiomas by ultrasound (US) study in an adult population.

During a period of 18 month, in the Ultrasound Department of the County Hospital Timisoara, we studied the presence of hemangiomas using an ultrasound scanner Siemens S1450. The sonographic aspect of a hemangioma was like a hyperechoic mass with sharp, well defined margins (larger lesions presented with more variable echopattern – heterogeneous).

In a cohort of 3564 patients, 2215 females and 1349 males, we found 33 (0.92%) subjects with hemangiomas, among which 21 (0.94%) were females and 12 (0.88%) were males. In 20 cases (60.6%) there was only one hemangioma and in 13 cases (39.4%) there were multiple hemangiomas (54 hemangiomas in 33 patients). The mean age of the patients with hemangiomas was 46.7 years. 48 hemangiomas were homogeneous and 6 heterogeneous. Among the 54 hemangiomas, 41 (75.9%) had a diameter under 30 mm. 12/13 of hemangiomas larger than 30 mm were in females.

In conclusion the prevalence of hemangiomas found by US in an adult population is 0.92%, with the same prevalence in males (0.88%) and in females (0.94%).

1850 A Clinico-Statistical Study on Colorectal Polyp and Cancer

S. Suna¹, F. Jitsunari¹, Y. Uchida², M. Nishioka², N. Takeda¹, H. Inoue². *¹ Department of Hygiene and Public Health, Kagawa Medical School, Kagawa, Japan; ² Third Department of Internal Medicine, Kagawa Medical School, Kagawa, Japan*

Recently in Japan, both incidence and mortality rates of colon cancer are steadily increasing in association with adopting a western-like lifestyle such as meaty diet. To grasp the current status of colorectal cancer, we analyzed the cases for colorectal polyp and advanced cancer by endoscopic examination in the last 9 years in our departments.

Methods: The statistical analysis was performed on the cases for polyp and advanced cancer diagnosed by the first endoscopic examination at the Third Department of Internal Medicine of Kagawa Medical School from May, 1985 to November, 1993 regarding endoscopic/histopathological findings, age and sex.

Results: Polyp: Average age (Mean ± SD) for 577 patients was 58.9 ± 12.0 years (no significant difference between male and female). Dominant sites for polyp in descending order were, sigmoid colon, rectum, transverse colon, descending colon, ascending colon and cecum in male and female. Macroscopic classifications in descending order were, sessile, semipedunculated, pedunculated, flat elevation, and others, respectively. Histopathological classifications in 774 cases were, adenoma (63.1%), carcinoma (early cancer) (2.1%) and others, respectively.

Advanced cancer: Average age for 103 patients was 64.3 ± 13.5 years (no significant difference between male and female). Dominant sites in male were rectum (35.1%), sigmoid colon (35.1%) and ascending colon (17.5%), but in female were rectum (44.7%), sigmoid colon (29.8%) and ascending colon (13.0%), respectively. Histopathological grade in 58 cases were well-differentiated (58.6%), moderately- (37.9%) and poorly- (3.4%), respectively.

[Conclusion] From clinico-statistical analysis of colorectal polyp and advanced cancer cases by endoscopic examination in the last 9 years, the results were as follows; (1) Average age of the patients for polyp was compar-

atively lower than that for advanced cancer. (2) Dominant sites for polyp in descending order were sigmoid colon, rectum, transverse colon, descending colon, ascending colon and cecum in male and female, respectively. Dominant sites for advanced cancer in descending order were rectum, sigmoid colon and ascending colon in male and female, but differed in rates between male and female. (3) In 774 polyp cases, early cancer was 2.1%. (4) In 58 advanced cancer cases, well-differentiated cases was dominant (58.6%) for histopathological grade.

1851 Value of Magnetic Resonance Imaging (MRI) in the Assessment of Idiopathic Fecal Incontinence

B. Védrenne, M. Poncet¹, M. Mbengue, H. Chaudet², M. Bouvier, M. Panuel¹, J. Salducci, J.C. Grimaud. *Department of Gastroenterology, North Hospital, Marseille, France;* ¹*Radiology, North Hospital, Marseille, France;* ²*Data Processing Department, North Hospital, Marseille, France*

There is currently no satisfactory method of assessing the morphology of the levator ani in patients with Fecal Incontinence (FI). The purpose of this study was to attempt to use MRI to identify a subgroup of patients with FI who can benefit from biofeedback training. *Methods:* Thirteen patients with neurogenic FI were enrolled. Eight of these patients (1 M, age: 83 years, 7 F, mean age: 47 ± 3 years) were compared with 8 controls matched with regard to age and sex (1 M, age: 83 years, 7 F, mean age: 47 ± 3 years). The thickness of the puborectalis muscle (PR) and the sphincter mechanism was measured in the axial and frontal planes at various levels by 2 different observers. The examinations were performed with a 1 Tesla device (Magne-ton SP 42 Siemens) equipped with a supraconducting magnet and a single transmitter/receiver antenna. *Results:* (1) The correlation between the measurements of the two observers was excellent. (2) PR measurements in the frontal plane were not correlated with those in the axial plane. This finding suggests that MRI provides new data about the muscular bundle. (3) On frontal sections, the PR appeared irregular with a succession of thick and thin areas. (4) In the frontal plane, the PR and sphincters were thicker in patients with incontinence than in controls. (5) It was not possible to divide the 13 patients with FI into several groups on the basis of MRI findings. *Conclusion:* (1) On frontal planes, MRI documented that the PR had a characteristic appearance in patients with idiopathic FI. (2) With current equipment MRI is of little practical value in the assessment of idiopathic FI.

1852 Recombinant Interferon Alpha (IFN) in Patients with Chronic Hepatitis C and Human Immunodeficiency Virus (HIV) Infection

J. Areias, I. Pedroto, S. Barrias, P. Matos, T. Freitas, M. Saraiva. *Hospital Santo António, Serviço de Gastrenterologia, Porto, Portugal*

Hepatitis C virus (HCV) infection is common in intravenous drug addicts (IVDA) and can be associated with human immunodeficiency virus (HIV) infection.

Aim - To assess the response to and tolerance of IFN administration in patients with chronic hepatitis C and HIV infection.

Methods - We studied 8 IVDA (6 men) with chronic hepatitis C and HIV infection, mean age 22 yr (range 19–27). Mean ALT levels, mean prothrombin time, mean serum albumin and mean serum bilirubin, before treatment, were respectively 132 ± 114 UI (normal < 40), 84.6% ± 11.1% of normal (range 58%–100%), 44.1 ± 6.9 g/l (range 31–54) and 17.6 ± 22 umol/l (range 5–85). All patients had anti-HIV antibodies detectable by Elisa and confirmed by Western blot assay. All patients had anti-HCV antibodies detectable by Elisa-test and confirmed by Riba. Histologic examination of the liver showed chronic hepatitis C in all patients. All patients have been treated with 3 MU thrice weekly for 6 months.

Results - 3 patients had a complete response, 2 a near complete response and 3 had no response. The response to IFN was not correlated with the initial ALT levels. In all patients with complete or near complete response, the response occurred in the first 2 months of therapy. Liver histology at the end of treatment showed an improvement in one patient who had a complete response.

Conclusions - In patients with chronic hepatitis C with HIV infection, the response and tolerance of recombinant IFN were not different from those usually observed in patients with chronic hepatitis C without HIV infection.

1853 Aids-Related Cholangiopathy

M. Fuster, J. Cadafalch, M.A. Sambeat, M. Roca, J. Ris, P. Domingo, J. Nolla. *Internal Medicine Department, Programa SANT PAU-CITRAN, Hospital de la Santa Creu i Sant Pau, Universitat Autònoma de Barcelona, Barcelona, Spain*

Objective: To evaluate HIV positive patients with clinical cholangitis and/or structural abnormalities of the biliary tract (BT) detected by means of ultrasound study (US).

Methods: Ten patients were considered eligible for the study. The diagnosis of AIDS related cholangiopathy (ARCHO) was based on clinical manifestations with either liver function tests (LFT's) abnormalities or US morphological anomalies of the BT, or both. ERCP provided cholangiographic appearance of the BT and samples of bilis and papillar tissue for bacterial, virus parasites and pathological studies in 9 of 10 patients. Endoscopic sphincterectomy was indicated in 5 pts. Two required further cholecystectomy.

Results: There were 5 women and 5 men. The mean age was 34.3 (range 27–50). Six pts were drug addicts, 3 homosexuals and the risk factor was undetermined in one. All patients had advanced HIV disease, class IV CDC criteria. Mean CD₄ positive cell count at diagnosis was 80/mm³. Right upper quadrant pain was the presenting symptom in 6 of 10 patients. All of them had LFT's alterations suggesting cholestasis. Nine out of 10 patients with concomitant diarrhea had *cryptosporidium* (CRYPTO) in their stools. The US studies showed thickened and/or dilation of the common bile duct (CBD) in all the cases. Two presented also with irregularities and dilation of intrahepatic bile ducts (IBD). The ERCP showed irregularities with stenosis of the distal portion and proximal dilation of CBD in 7 of 9 and the IBD in 2 of 9. The gallbladder (GB) was distended and the wall thickened with intraluminal defects in 3. CRYPTO was observed in 5 pts, 2 associated with *cytomegalovirus* (CMV) and 1 with *micobacterium avium*. CMV was detected in tissue in 4 pts. The median survival time since diagnosis was four months although ARCHO was not directly implicated in dead.

Conclusions: AIDS related cholangiopathy is a late event in the natural history of the disease. The CBD is predominantly affected and sphincterectomy or surgical drainage was occasionally required with rapid and lasting disappearance of pain. CRYPTO and CMV are frequently involved however patients do not respond to medical treatment.

1854 Pathogenicity Factors of Campylobacter

A.V. Gorelov, T.I. Domaradskaya, W.G. Zhukhovitski. *Central Research Institute of Epidemiology, Moscow, Russia*

The aim of this research was to investigate some pathogenicity factors of thermophilic species of genus *Campylobacter* (TC) and evaluate their clinical significance for campylobacteriosis (C) – acute diarrhoeae disease, determined by these bacteria.

Fibronectin (F) and mucin (M) associated activities were studied using reaction of bacteriasorption; the alteration of F concentration in coprofiltrates – in ELISA on nitrocellulose filters; testing of adhesive activity (AA) was carried out on isolated epithelial cells (EC); and antilysozyme activity (AL) was estimated by method of delayed antagonism.

It was found, that 79% of TC strains actively connected with M, and almost 100% were possessed of F and AL in a varying degree. 91.5% of the same strains were possessed at AA to the different types of EC: 40.4% adhered to EC of small intestine; 57.5% – to EC of colon and 83.4% – to EC of Payer's plaques. There was not revealed the correlation between F, M and AL activities and clinical manifestation of C in children. On the contrary, AA closely correlated with it: TC strains with high AA degree to all EC types were isolated more frequently under painful form of C, than under slight one (P < 0.05). Analogously, as we have investigated earlier, the TC capability to produce enterotoxins closely correlated with C clinical manifestation.

Apparently, it is impossible to understand the pathogenesis of C without complex investigation of TC pathogenicity factors. In the same time, the F, M, AL activities of any TC strain remains the additional criteria only for evaluation of C severity.

1855 Candida Albicans Colonization in Duodenal Ulcer

S. Karayalçin, H. Ataoğlu, D. Özökmen, A. Dursun, Ö. Ataoğlu. *Ankara and Gazi Universities School of Medicine, Ankara, Turkey*

Fungi were considered as commensal microorganisms in the gut. For a long time *H. pylori* was also believed to be a commensal located in the gastric mucosa but growing evidence suggest that it may be the major etiologic factor in peptic ulcer disease. The purpose of this study was to show whether there exists a difference in 20 healthy control cases and 24 duodenal ulcer patients with respect to the presence of fungi.

During endoscopy, gastric juice and tissue specimens (from the normal bulbous in the control group and from the edge of ulcer in the patient group) were taken under sterile conditions. Microbiological identification of the fungi were done by cultures of the specimens. Those which can grow on a medium with a pH of 1.55, forming a germ tube with human serum and producing chlamydospore were considered to be as *Candida albicans*. API 20 C Aux identification system was performed for the classification of *Candida* species. Mac Manus PAS stain was used to demonstrate the fungi histopathologically.

Using the imprint technique, fungi were observed at a rate of 65% (controls) and 54.1% (patients) (p > 0.05) in the gastric juice while *C. albicans* grew in the same specimens significantly (p < 0.05) higher in the patients (62.5%) when compared with the controls (25%). The isolation rate of *C. albicans* in