Erratum

The following abstracts were inadvertently not included in the UEGW 1996 abstract book *Gut* 1996; **39** (suppl 3).

231 Antral Intraepithelial Mast Cells and Severity of the Lesion in H. Pylori (HP) Infection

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Mast cells are responsable of an increased release of histamine and inflammatory mediators which may play a role in the development of duodenal ulcers in HP infected patients.

Aims: The aim of the present study is to evaluate the presence and intensity of intraepithelial mast cells in antral mucosa of control cases and patients infected by HP, assesing its influence in ulcer development, gastritis inflammatory activity and response to erradicating treatment.

Material and Methods: Antral biopsies of 23 cases without histological findings HP (−), 27 HP (+) gastritis without ulcer and 30 duodenal ulcer HP (+) cases were studied. Semiquantitative scoring (1 to 4) was used to measure intraepithelial mast cells intensity. Sidney classification was employed to asses gastritis intensity. In cases of ulcer, biopsies were taken at diagnosis and 1 month after erradicating treatment with Omeprazole and antibiotics. Spearman, Fisher, Mann Whitney and Wilcoxon stadistical tests were performed.

Results: Intraepithelial mast cells were present in 27/30 ulcers (90%), 3/27 gastritis (11%) and absent in controls ($p < 0.001$). Presence intensity was higher in ulcers: 2.43 ± 0.82 than in gastritis: 1.11 ± 0.32 ($p < 0.00001$). No differences were found between gastritis and control groups. Mast cells density was not related to gastritis intensity ($r = 0.14$, p = n.s.). After successful erradicating treatment (26/30), mast cells presence dropped to 15.4% ($p < 0.001$) and infiltration intensity to 1.15 ± 0.37 ($p < 0.00001$).

Conclusions: 1. Intraepithelial mast cells are present in 90% of HP (+) duodenal ulcers whereas their presence is unfrecuent in HP (+) gastritis and absent in the control group. 2. Infiltration intensity was superior in ulcers than in gastritis. 3. Mast cell presence was not related to gastritis intensity and drastically dropped after HP erradication. 4. Antral intraepithelial mast cells may represent an increased lesional severity in HP infection and a predisposing factor for ulcer development in HP (+) gastritis.

298 Rabeprazole Sodium: is it Possible to Improve the Benefit Risk Equation for Proton Pump Inhibitors (PPI)?

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The development of a class of potent antisecretory agents, known as PPIs, brought to patients with acid-related disease unprecedented lesion healing rates and symptom relief. This benefit was accompanied by elevations in serum gastrin based on potent antisecretory effects and raised the question of the risk of gastric carcinoid development in humans as was demonstrated in life long rodent carcinogenicity studies with the three current members of the class. Extensive long-term gastric biopsy studies for ECL cell determination have tended to put this risk in perspective, despite the scientific knowledge, based on two human disease experiences, that gastric carcinoids can develop in the face of markedly elevated gastrin in humans.

Rabeprazole Sodium (RAB) is the fourth PPI to be widely developed and has been shown in in vitro studies vs. omeprazole to be ten times more potent in the inhibition of H', K' ATPase, three times more potent in the inhibition of db-cAMP-simulated acid secretion in isolated rabbit gastric glands and twice as potent in the suppression of acid secretion in histamine stimulated dogs. With this in vitro profile, is it possible to change the projected benefit risk equation for RAB?

Two life long rodent carcinogenicity studies have been conducted. Although evidence of class drug effect was seen (ECL cell hyperplasia), more severe proliferative changes were not. Results of pre-clinical and clinical studies to date suggest explanations, including; a shorter duration of action in in vitro studies at the level of the H^+, K^+ ATPase (the binding of RAB to the proton pump may be reversible, to some degree, in the presence of excess glutathione), animal study findings of a more potent antisecretory effect for RAB vs. omeprazole in the first part of the 24 hour period, despite the fact that the 24 hour effect is similar, gastrin in phase II and III studies elevations that are 0.5 to 1 fold greater than baseline vs. published two- to four-fold elevation seen with other PPIs, and no significant qualitative changes in ECL cells in human biopsy studies.

Conclusions: Further careful analysis is required to support initial data with RAB. The benefit risk profile of RAB may be proven to be different than other PPIs.

387 Gastroduodenal Lesions and Gastritis Are Correlated with Infection of CagA+ H. Pylori Strains in Dyspeptic Patients

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H. Pylori (HP) strains encoding the immunogenic antigen called CagA seem to correlate with a more severe peptic disease. *Aim:* to investigate in a population of dyspeptic patients the incidence of $CagA^{+ve}$ HP strains and the relationship with mucosal lesions. *Patients & Methods:* 80 pts, with a mean age (± SD) of 53 yrs (± 14), undergone upper GI endoscopy for ulcer-like dyspepsia and found HP^{+ve} by rapid urease test, histology (Giemsa stain) and polymerase chain reaction (PCR), were assessed for CagA status by PCR. Inflammatory changes of mucosa were classified according to Sydney's classification. *Results:* 25 pts (21%) showed no mucosal lesions (endoscopic negative dyspepsia-END), 61 pts (54%) active duodenal ulcer (DU) and 28 pts (25%) gastric erosions and/or ulcers (GL). CagA positivity for the three groups of pts is shown in the Table. Incidence of $CagA^{+ve}$ strains resulted to be significantly higher in pts with UD + GL than in END pts ($p < 0.03$). Inflammatory changes of mucosa were found in 77/80 pts (96%), 44 pts with superficial chronic gastritis (SCG) and 33 pts with atrophic chronic gastritis (ACG). $CagA^{+ve}$ strains appear significantly ($p < 0.05$) higher in the moderate/severe active ACG than in inactive/mild forms.

Parameters	n	$CagA^{+ve}$	
		n	(%)
END	14	8	57
DU	49	42	86
GL	17	14	82
SCG (a + mi/mo + s)*	26/18	19/17	73/94
ACG (a + mi/mo + s)	19/14	14/14	73/100

*activity of gastritis: a = *absent;* mi = *mild;* mo = *moderate;* s = *severe.*

Conclusions: CagA + HP strains appear to be involved in the development of both gastroduodenal lesions and more severe inflammatory changes.

659 Heat Shock Protein Antibodies in Primary Biliary Cirrhosis-Prevalence & Effect of UDCA Therapy

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Background: Heat shock proteins (HSP) are produced by prokaryotic and eukaryotic cells in response to stress. Epitopes shared by an infectious agent and the host have been proposed as a possible link between infection and autoimmunity. Primary biliary cirrhosis (PBC) is an autoimmune disease which results in destruction of intrahepatic bile ductules. Expression of HSP on bile duct epithelium has been demonstrated, and $\gamma\delta$ T cells (capable of mounting an immune response to HSP) found in the liver may play a role in the destruction of bile ducts. Ursodeoxycholic acid (UDCA) is the treatment of choice in PBC. The exact mechanism is not known, but it has immunomodulatory effects. We hypothesise that antibodies to HSP are involved in the pathogenesis of PBC, and that UDCA treatment modifies this response. *Aims:* To determine the presence of HSP antibodies in PBC and to assess the effect of UDCA treatment. *Methods:* IgG antibodies to the 65 kD HSP was assessed in 41 biopsy proven PBC patients (F:M 39:3, median age 65 years range 33–82), using an in house ELISA. 33 were studied after a median of 2 months of UDCA 10–15 mg/kg/day. 45 normal controls (F:M 35:10, median age 55 range 30–65) were also studied. *Results:* The mean (± SEM) optical density of the controls and PBC group are shown below. The levels of HSP antibodies were significantly higher in the PBC patients, especially in early stage disease.

	Normals (n = 45)	All PBC (n = 41)	Early PBC (n = 27)	Late PBC (n = 14)
Average OD	0.860 ± 0.048	1.089 ± 0.057*	1.123 ± 0.075*	1.024 ± 0.081

*$p < 0.01$ compared with normal controls

UDCA treatment did not alter HSP antibody levels in any stage of PBC (Pre UDCA: 1.304 + 0.055; Post UDCA: 1.301 + 0.056).

Conclusion: Antibodies to HSP are elevated in PBC, especially in early stage disease; that short term UDCA therapy does not affect this response and that the presence of antibodies to HSP may suggest a role for this protein in the pathogenesis of PBC. The trend towards higher levels in early stage disease may suggest a role in the initiation of this disease, which once established may be self perpetuating. Further studies with longer treatment with UDCA are needed.

703 1000 Laparoscopic Cholecystectomies without CBD Injury

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From Jan. 1994 to May 1996 1000 laparoscopic cholecystectomies (LC) were performed. All the operations were performed by 4 surgeons having experience in open biliar surgery. 164 (16.4%) of them were for acute cholecystitis. 96 patients (9.6%) had CBD stones. In 29 cases choledocholitiasis was treated by ERCP and endoscopic papillotomy before LC (23 cases) and after LC (6 cases). 67 patients underwent laparoscopic exploration of CBD: 22 – by choledochotomy and 45 – through the cystic duct.

13 times we had to convert to laparotomy (1.3%). Reasons for convertions were: 4 – inflammative mass, 4 – impacted stones of CBD, 3 – technical problems, 1 – intestinal injury at first puncture, 1 – bleeding. We had 10 (1%) major postoperative complications: 6 cases of intraabdominal abscess formations, 3 cases of bile leak (1 – from liver bed, 2 – from cystic duct), 1 case of duodenal perforation. Two of these complications were lethal in aged patients with pour general condition.

Operative cholangiography (OC) is being performed routinely. 80 choledochoscopies were performed in all cases of CBD exploration and in cases of doubtful OC findings. We followed strictly sequence of steps in identification of anatomic structures. We used to begin with separation of peritoneum to the right from Hartman's pouch and then to the left from it trying to create an opening between the gallbladder and the liver before the division of any ductal structures.

Conclusion: The risk of CBD injury can be minimal when routine OC and meticulous surgical technique are used.

798 The Influence of Omeprazole Pre-Treatment on the Eradication Rate of H. Pylori (Hp) Infection

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Eradication of Hp infection has been shown to result in a dramatic reduction of ulcer recurrence and its complications. However, a variability in the eradication success rate has been reported and the factors influencing the treatment success remain unclear. Omeprazole (OME) pretreatment has been considered to be involved.

The aim of our study was to evaluate the role of OME pre-treatment on the eradication rate of Hp infection.

Patients – Methods: We studied 85 patients with Hp associated duodenal ulcer (DU), proven endoscopically. Hp status was assessed before and 1 month after the end of treatment (histology, culture, CLO-test). The patients were randomly assigned in two groups: Group A (43 pts, mean age 47, men 28) were treated for 2 weeks with OME 20 mg bid, followed by OME 20 mg bid, Clarithromycin (CL) 500 mg bid and Metronidazole (MET) 500 mg bid for another two weeks. Group B (42 pts, mean age 48, men 30) were treated with OME 20 mg bid for 4 weeks accompanied with CL 500 mg bid and MET 500 mg bid for the first two weeks.

Results: Overall eradication rate was 84.7% (72/85). Eradication rate was 90.7% (39/43) in Group A and 78.6% (33/42) in Group B (NS).

Conclusion: Our data showed that omeprazole pre-treatment had no significant influence on the eradication rate of Hp, concerning the new short term triple therapy of Hp infection.

818 Severe Duodenal Ulcers and H. Pylori Eradication

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Duodenal ulcers (DU) with early recurrences (less than one month after stopping H_2-blockers treatment) were a classic indication for a maintenance therapy or surgery.

A prospective randomized study was carried out comparing a 2-week triple therapy 20 mg omeprazole, 1 gr amoxycillin, 750 mg metronidazole twice daily (group A) to 40 mg famotidine for 2 months (group B) and determining the eradication rate of H. pylori (HP) in the subgroup of patients defined here above.

All patients underwent an endoscopy on their inclusion showing an evolutive DU. A second endoscopy was performed 2 months later. The presence of HP was determined at each exam using a rapid urease test (CLO-test), histology, gram and culture. Eradication is defined by the negativity of all diagnostic methods 4 weeks after completion of therapy. A follow-up endoscopy was performed at 12 months in successfully treated patients or in case of pain to monitor the recurrence of HP.

81 patients were included (Nov. 94–Jan. 96). All had an HP infection. Healing of the DU was achieved in 33 (89%) of 37 evaluable patients in group A and 21 (54%) of 39 patients in group B ($p < 0.05$). The DU recurrence rate was respectively 12% in group A (4/33, 3 not eradicated, 1 reinfected) and 80% (16/20) in group B ($p < 0.001$). The HP eradication rate was 78% (29/37) in group A versus 0% in group B. This rate becomes 75% (44/59) if we add the group B patients (15/22) who later received triple therapy. The DU recurrence rate after HP eradication was 5% (2/44) with a mean follow-up of 12 months (4.5–19).

In severe DU disease, 2 weeks of triple therapy (omeprazole + amoxycillin + metronidazole) were more effective than 2 months of famotidine for the healing and prevention of recurrence. These results were highly correlated with HP eradication.

975 Gut Inflammation in HLA-B27(+) Spondylo-Arthropathic Patients

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Gut inflammation has been shown to play an important role in pathogenesis of spondyloarthropathy (SpA). Furthermore, clinical features of SpA frequently complicate the course of IBD. *Purpose:* To find colonic mucosal changes in chronic (> 6 months) HLA-B27(+) SpA and developing IBD in SpA patients. *Methods:* Ileocolonoscopy was performed in patients with chronic HLA-B27(+) SpA (n = 29) with no gastrointestinal symptoms, rheumatoid arthritis (RA) (n = 26), and colonic polyps (n = 20). Bacteriologic studies were performed. *Results:* There was mucosal changes (blurring of vascular marking, hyperemia, erosion) on terminal ileum, cecum in HLA-B27(+) SpA (18/29), RA (3/26), and colonic polyps (0/20). There was chronic inflammatory changes (loss of villous structure, lymphocyte infiltration, enlarged lymphoid follicles, granulomas) in HLA-B27(+) SpA (13/29), RA (1/26). Normal pathologic finding were observed also in HLA-B27(+) SpA (13/29). There was no significant differences on drug history. There was no evidence of developing IBD in patients with HLA-B27(+) SpA for 2 years follow-up. *Conclusions:* There was many gut mucosal changes in patients with chronic HLA-B27(+) SpA than control group ($p < 0.05$). At follow-up of 2 years, there was no patients with developing IBD. Conclusively, it is nonspecific changes on gut in HLA-B27(+) SpA patients, but means immunologic activation of gut mucosal lymphoid system by uncertain stimuli.

1000 Mechanisms of Diarrhea in Pancreatic Disease

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Diabetes mellitus (DM) without pancreatic exocrine insufficiency is often associated with diarrhea, and pancreatic exocrine insufficiency (PEI) is, by rool, characterized by diarrhea. The aim of this study was to investigate the possible mechanisms of diarrhea in these disease by fecal osmotic gap (FOG) determination as a method. We investigated the stools of 8 patients with insulin-dependent DM and diarrhea, mean age 58 ± 9.5 yrs, and 15 patients with PEI, mean age 56 ± 11 yrs, among whom 14 patients had chronic pancreatitis and 1 had pancreatic malignancy. All patients were colecting stools for 3 days, while being on 70–100 g of fat/day diet. The daily stool quantity of each patient was above 200 g.

In the group of patients with DM the mean value of daily stool quantity (x ± SD) was 355 ± 183.3 g/d and in the group of patients with PEI it was 426.3 ± 179.6 g/d. Fecal fluid Na^+, K^+ and Cl^- concentrations (x ± SD) in patients with DM were 84.0 ± 35.2 mmol/l, 55.3 ± 22.8 mmol/l and 39.4 ± 13.6 mmol/l, respectively, while the values in the group of patients with PEI were 68.0 ± 25.3 mmol/l, 76.3 ± 27.3 mmol/l and 20.1 ± 9.6 mmol/l, respectively. Fecal pH (x ± SD) in the group of patients with DM was 6.15 ± 1.0, and in the group of patients with PEI it was 6.0 ± 0.5. Stool fat quantity (normal values 6 g/d) in patients with DM averaged 9.5 g/d with stool fat concentration (normal values < 6%) of 2.6%, while in the group of patients with PEI it was 42.7 g/d with stool fat concentration of 10.4%. (FOG) was calculated from equation FOG = 290 – $(Na^+ + K^+) \times 2$, where 290 is the presumed theoretical value of plasma osmolality in mOsm/kg. FOG in the group of patients with DM averaged 11.4 and in the group of patients with PEI was 1.4, which speaks in favour of secretory type diarrhea in both groups (FOG < 50).

Our results show that one of the possible mechanisms of diarrhea in DM and PEI could be by fat induced augmented water and electrolyte secretion in colon.

1244 Common Bile Duct Dilatation in Patients after Cholecystectomy: Sphincter of Oddi Manometric Profiles

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As identified by ultrasound the diameter of the common bile duct (CBD) is often increased after cholecystectomy (CE). The reason for this may be fibrosis/sclerosis of the Sphincter of Oddi after gall-stone obstruction. A different concept is the dilatation of the CBD represents a reservoir function after resection of the gallbladder.

We performed Sphincter of Oddi manometry with a water-perfused triple

	RP Common bile duct	RP Sphincter Oddi	Amplitude	Frequency/min	Diameter (mm) Common bile duct
CE	16.2	53.6	102	5.3	12.0
No CE	4.6	19.8	94	4.3	3.6
Sign	*	*			*

RP = resting pressure (mmHg), CE = Cholecystectomy, Sign. = $p < 0.05$ by Mann-Whitney U-Test

lumen catheter in 12 patients. 5 of them had cholecystectomy and sonography demonstrable dilatation of the CBD, 7 patients with cholecystolithiasis showed normal lumen of the CBD.

In this study significantly increased pressures in the Sphincter of Oddi and the common bile duct were observed in patients after CE. There is no significant influence on phasic contractile activity.

We conclude that the reason for the dilatation of the CBD is mediated by an elevated resting pressure of the Sphincter of Oddi. Because absence of relaxation of the CBD we do not favour the concept of a reservoir function of the CBD after CE.

1247 A Frequency-Doubled Double-Pulse Nd:Yag Laser (FREDDY) for Laserlithotripsy of Gallstones – An Interesting New Low-Cost Lithotriptor with an Automatic Piezo-Acoustic Stone-Tissue-Discrimination System (PaSTDS)

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Laserlithotripsy using dye laser systems has become a commonly accepted endoscopic treatment modality for the removal of difficult bile duct stones. To date its application is limited, however, to centers because of high costs. In the following we report on our preliminary preclinical experience using a new solid-state laser lithotriptor which seems to combine the advantages of dye and solid state lasers as concerns low price, reliability and effectiveness. A new piezo-acoustic stone-tissue-discrimination-system (paSTDS) is integrated in the laser for automatic pulse interruption in case of tissue contact ('smart laser'). *Mat. & Meth.:* 50 human gallstones (GS) of comparable chem. composition and size [d = 9.3–21.4 mm; 5'mixed groups of 10 GS (10 families of 5 GS)] were disintegrated into sand-grain-like fragments ($\leq$ 4 mm). Three different settings of a frequency-doubled double-pulse Q-switched Nd:YAG laser (FREDDY; 532/1064 nm, 10 Hz; Clyxon Corp. D-Berlin) with different green shares of the laser pulse (9.8%; 20.6%; 25.4% at 532 nm), different pulse lengths (1.0 μs; 1.4 μs; 1.4 μs) and varying total pulse energy (80 mJ; 80 mJ; 65 mJ) were compared to two standard settings of a rhodamine-6G dye laser (595 nm, 2.5 μs, 120 and 80 mJ pp, 10 Hz; 'Lithognost', Baasel Corp. D-Starnberg) disintegrating one stone group at each setting. *Results:* All 50 concrements could be effectively disintegrated in vitro. FREDDY-80/16.5 mJ and Rh6G-120 mJ showed the fastest fragmentation and a similar n of pulses required. (1315 $\pm$ 448 resp. 1160 $\pm$ 415 pulses/cm^3; $p > 0.1$). *Conclusions:* FREDDY represents an interesting new laserlithotriptor with integrated paSTDS which shows a fragmentation capacity comparable to conventional systems at 30% of the costs. First clinical applications are currently in progress.

1335 Gastrointestinal Motility after Duodenum Preserving Resection of the Head of the Pancreas

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Duodenum preserving resection of the head of the pancreas (DPRHP) effectively controls pain in patients with chronic pancreatitis (CP) localized in the pancreatic head. It has been suggested that DPRHP, in contrast to Whipple's operation, maintains functional gastrointestinal integrity. We have tested this hypothesis for antroduodenal motility (manometry) and duodenocecal transit time (DCTT by lactulose H_2 breath test). Six patients after DPRHP (49 $\pm$ 4 yr), 12 unoperated CP patients (46 $\pm$ 4 yr) with comparable degree of exocrine insufficiency (29 $\pm$ 16 vs 24 $\pm$ 8 g fecal fat per 24 h) and 10 healthy controls (36 $\pm$ 5 yr) were included. Motility was recorded for 420 min after meal stimulation (400 kcal).

Results: Duration of the fed period (reoccurrence of phase III) post DPRHP (368 $\pm$ 40 min) and in CP (307 $\pm$ 34 min) was significantly ($p < 0.05$) prolonged compared to controls (220 $\pm$ 23 min). Duration of interdigestive MMC cycle was significantly ($p < 0.05$) shorter post DPRHP (78 $\pm$ 10 min) and in CP (94 $\pm$ 10 min) compared to controls (133 $\pm$ 10 min), due to reduction of phase II. DCTT was significantly ($p < 0.05$) accelerated post DPRHP (40 $\pm$ 2 min) and in CP (35 $\pm$ 4 min) compared to controls (76 $\pm$ 13 min).

Conclusions: Antroduodenal motility and intestinal transit are abnormal in CP patients with exocrine insufficiency. DPRHP does not further affect antroduodenal motility and intestinal transit. These results support the concept that functional gastrointestinal integrity is maintained after DPRHP.

1354 Relevance of Cut Off Values in Four Immunoenzymatic Methods for Serological Diagnosis of *Helicobacter Pylori* Infection

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Antibody measurement is one of the best and most widely accepted methods for detection of *Helicobacter pylori (Hp)* infection. Many serological tests, using different antigens, are currently employed for the detection of anti-*Hp* IgG.

The purpose of our study was to compare four quantitative commercially available tests for serological diagnosis of *Hp* infection, using different cut off points.

Methods: IgG anti Hp were evaluated in 146 symptomatic adult subjects (males: 83, females: 63, mean age: 52 yrs, age range 31–75 yrs), analyzed also by histologic and cultural methods for the presence of *Hp* (105 were positive and 41 were negative). No patient had received any specific therapy in the last year.

Statistical evaluation was performed by the McNemar test.

Results: In comparison to gastric biopsies, the following results were obtained:

Kits	Eiagen	IgG Quant	Pylori Set	Elias
Cut off (UA/ml)	15	4	300	10
Sensitivity	89.5%	97.2%	94.3%	95.2%
Specificity	48.7%	27%	46.3%	61%
New cut off	65	8	700	no
Sensitivity	88%	93.3%	93.3%	variations
Specificity	90%	54%	82.9%	

A good concordance was observed among the kits used (McNemar test non significant for discordance).

For all the kits (except Elias), the use of a higher cut off improved the specificity, without sensibly decreasing the sensitivity.

Conclusions: These data confirm the low specificity of the most part of commercial kits, due not only to an immuno response to a previous infection or to the pattern of antigens used, but also to the pre-fixed cut off points, resulting in higher levels of false positivities. However, using an adequate cut off, these tests, improve their diagnostic capability and may complement histology, or be useful in epidemiological studies.

1405 Symptom Profile of Endoscopy-Negative Dyspepsia and Clinical Implications

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Purpose. The role of subgrouping patients (pts) according to their predominant symptoms in the management of dyspepsia has not been elucidated. We studied the symptom profile of pts with endoscopy-negative dyspepsia and the response of pts to cisapride.

Methods. Throughout the Hellenic region 16 GI clinics enrolled, each, 20–45 consecutive pts with negative endoscopy. Pts were evaluated for type and severity of symptoms and classified into dysmotility-like. (DL), ulcer-like (UL), reflux-like (RL) and non-specific (NS) dyspepsia. Pts with RL dyspepsia were given cisapride (CIS) 10 mg tid, others 5 mg tid, for 4 wks and re-evaluated at treatment end and after 4 wks of drug-free follow-up.

Results. A total of 434 pts completed the study: 47.7% DL, 17.5% UL, 13.8% RL, 24.8% NS dyspepsia. CIS led to good or excellent results in 88% of pts. and mild improvement in 8% (4% non-responders). The response was independent of the type of symptoms: 88.4% good or excellent responses in DL pts, 89.4% in UL pts, 88.3% in RL pts and 86.1% in the NS group. Within 4 weeks after stopping treatment, 32% of pts relapsed. Relapse rates were similar in all subgroups.

Conclusions. (1) Dysmotility-like symptoms predominate amongst endoscopy-negative pts in Greece. (2) Endoscopy-negative pts appear to respond well to CIS. (3) Relapse 4 weeks after stopping treatment, however, was higher than that reported in primary care pts. (4) The type of symptoms in endoscopy-negative pts was not predictive for response and relapse.

1509 Impact of Surgery on Quality of Life in Crohn's Disease (CD)

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Health-related quality of life (HRQL) status is an important component for assessing the impact of disease and its treatments in patients with chronic disorders. We recently validated a HRQL questionnaire in French patients with inflammatory bowel disease [1]. The aim of this study was to evaluate prospectively the impact of surgery on HRQL in patients operated on for CD. *Methods:* 26 patients (14 F, 12 H, median age 28.5 yrs) undergoing an elective ileocolonic resection for CD were studied. The HRQL questionnaire comprised a general questionnaire of 36 items: Medical outcomes Study-Short form 36 to which was added a sleep module, and a specific questionnaire of 28 items: Rating Form of Inflammatory Bowel Disease Patient Concerns to which was added 3 independant items. HRQL was assessed immediately preoperatively and 3 months postoperatively. In addition, 3 months after surgery the Crohn's disease activity index was calculated and all patients had a total colonoscopy. *Results:* HRQL was improved postoperatively compared with the immediate preoperative status in almost all scales. Patients concerns and worries decreased after surgery. However ranking of the 5 most intense concerns was unchanged: having ostomy bag, having surgery, energy level, uncertainty of the disease and pain or suffering. Seven patients/26 (26.9%) had a clinical relapse and 10/25 (40%) had an endoscopic recurrence at 3 months. Patients without clinical relapse did not have a significantly greater improvement of scores than those with clinical relapse. Patient without endoscopic recurrence had a greater improvement of scores than those with endoscopic recurrence

for bodily pain (P = 0.0169), complication (P = 0.0107) and body stigma (0.0349) scales. *Conclusion:* HRQL is greatly improved after surgery for CD and this reassuring message might be delivered to our patients. More patients are needed to confirm or not the predictive value of some HRQL scales in the occurrence of an endoscopic recurrence

[1] (1). Colombel JF et al. Gastroenterol Clin Biol, 1995; 19: 105A.

1515 Role of Verapamil and Norepinephrine in Acellular Reperfusion Injury of Small Bowel Grafts in Rats

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Introduction: the study of preservation and reperfusion injury in small bowel grafts includes many physiopathological events related to Free Radicals of Oxygen, Nitric Oxide, Prostaglandins, Neutrophil activation, and so on.

Aim of the study: to design a reperfusion solution which could maintain the normal metabolism of the small bowel graft after a long period of cold preservation, and therefore study the physiopathologic events related to isolated acellular oxigenated reperfusion injury.

Material and Methods: 40 male WAG rats (250 g) were used for harvesting the small bowel graft with a modificated technique of gut procurement. The isolated bowels were divided in four experimental groups (n = 10) and perfused during 40 min.: A) guts perfused after harvesting with Ringer's with glucose and bicarbonate (pH 7.4, 300 osmoles/kg). B) guts perfused after harvesting with a modified Ringer's (pH 7.4, 31 osmoles/kg) solution with verapamil and norepinephrine. C) Same perfusate as group A after 6 hours of hypothermic preservation in Collins solution. D) Same perfusate as group A after 6 hours of hypothermic preservation in Collins solution.

Aliquots of arterial flow, portal outflow, and gut luminal effluent, were collected during the experiment. At the end of the perfusion ileal tissue was collected and microscopically evaluated (Chiu scale). The data was collected and studied with the repeated measures ANOVA, and the Mann-Wihtney test.

Results: all the isolated small bowels were perfused without problems in groups A and B, metabolic parameters and vascular flows were similar in both groups, and no significative microscopically damage was found. But in group C attempts to perform the reperfusion failured after 10 minutes. The addition of verapamil, and norepinephrine to the solution made the perfusion possible during a period of 40 minutes. Even though as a result of the preservation and reperfusion injury significative changes were shown with groups A and B.

Conclusions: after 6 hours of preservation in Collins solution the small bowel grafts present and increased incidence of acute failures related to reperfusion injury. This vascular disturbances (probably related to NO physiopathologic role) can be reduced using verapamil and norepinephrine.