

16th United European Gastroenterology Week (UEGW)

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Selected endoscopy reports

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Introduction: Julius Spicak (Institute of Clinical and Experimental Medicine, Prague, Czech Republic)

**World Organization of Digestive Endoscopy
Organisation Mondiale d'Endoscopie Digestive (OMED)
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Introduction:

For a third time, it is my pleasure to introduce - on behalf of Czech endoscopists - their reports of the endoscopic abstracts presented during the XVI United European Gastroenterology Week, held in Vienna last year. The attendance of the congress, far exceeding what had been achieved ever before, served evidence that the continuing development of the format of the meeting is heading in the right direction.

Particularly within the last decade, digestive endoscopy has increased the pace of its growth, adopting new technologies and new issues while maintaining its role as the driving force for progress addressing the needs of both research and clinical routine.

To assess the contribution of endoscopy to the scientific programme of Vienna's UEGW, one has to distinguish between research in endoscopy and endoscopy in research with a broader clinical focus (e.g., screening).

As usual, endoscopic performance consisted of educational and symposial lectures, free papers, live demonstrations, video cases, and teaching activities at the ESGE learning area. The expanding role of endoscopy was also evidenced by the fact that more than purely endoscopic issues made up a substantial part of 44 of the 120 sessions in total.

The progress in endoscopy reflected by the free paper presentations at the UEGW can be characterized by several features.

The field covered by capsule endoscopy is expanding as is the number of studies trying to outline the competition/complementation with enteroscopy.

After NBI and FICE, the third major endoscopic manufacturer also developed a sophisticated virtual chromoendoscopic technique. Still it is yet to be proved whether these new technologies, besides the new technicolor view, will meet the clinical demand – reliable detection of early malignant and premalignant lesions. We can see more, but is it relevant?

Endoscopic ultrasound is becoming to be an increasingly important tool also in the diagnostic work-up of biliary problems, and in evaluating pancreatic incidentalomas.

The improvements in metallic stents move them close to the ideal; nevertheless the clinical effect is biased by the selection of patients, and head-to-head comparison with surgery may bring a surprise.

Colonoscopy remains the key procedure in screening, the problem of overlooked lesions could be overcome by new optical systems.

The ESD and EMR techniques have been further refined. Interestingly, among 17 free papers in two sessions, 12 studies are from Japan, one from Korea, 4 from Europe and none from the US. Even in the era of globalization, the continental endoscopic schools differ considerably!

In NOTES, the most important issues remain unresolved; nevertheless, besides animal studies, two fairly large human series were presented.

In conclusion, the UEGW in Vienna furnished a lot of interesting information and again confirmed the dominant role of endoscopy in the management of digestive diseases.

Prof. Julius Spicak MD, PhD
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Upper GI

1. Diagnosis

Reporter: J. Martinek, Dpt. of Medicine, Central Military Hospital, Prague, Czech Republic

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Upper GI mucosal imaging

Tuesday, October 21, 2008

A SIMPLIFIED CLASSIFICATION ON MUCOSAL MORPHOLOGY IN BARRETT OESOPHAGUS: AN INTERNATIONAL OBSERVER AGREEMENT STUDY

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Several classification on mucosal morphology in Barrett oesophagus (BO) based on NBI have been published. The simplified classification based on evaluation of the regularity of mucosal pattern and followed by the evaluation of the regularity of vascular pattern is needed. The aim was to assess inter- and intraobserver agreement and correlation with histology. NBI images of BO were stored together with histology including 99 nondysplastic BO, 44 LGIN and 57 HGIN samples. Images were evaluated by NBI-expert endoscopists and endoscopists with no experience in NBI, blinded to the pathology results. 4 items were assessed: quality (visual analogue scale – VAS 1 - 5), suspicion for dysplasia, and regularity of mucosal and vascular patterns, and repeated after 9 weeks interval. Quality score was high. Overall interobserver agreement on the suspicion for dysplasia was moderate, kappa 0.44, and for regularity for both mucosal and vascular patterns 0.42. Intraobserver agreement ranged from kappa 0.60 to 0.62. 71% images with HGIN were correctly diagnosed as suspicions and 68% of the images without HGIN were correctly diagnosed as non suspicious. Expert and non-expert endoscopists did not differ significantly in accuracy. In conclusion, interobserver agreement of the new classification was moderate and intraobserver agreement substantial. There was no significant difference between experts and non-experts suggesting a short learning curve for the proposed classification. The accuracy to predict dysplasia is disappointing raising the question, whether virtual chromoendoscopy can replace histology.

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Barrett's oesophagus

Monday, October 20, 2008

AN AUDIT OF ENDOSCOPIC SURVEILLANCE PRACTICE IN THE MANAGEMENT OF COLUMNAR LINED OESOPHAGUS (BARRETT'S OESOPHAGUS) IN A TEACHING HOSPITAL

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This study reports results from an audit in the UK (a teaching hospital) concerning the use of endoscopy in patients with Barrett's esophagus. The numbers of biopsies taken and endoscopic surveillance intervals were compared with the national guidelines. Three hundred forty two episodes of endoscopy in patients with Barrett's esophagus were identified. An appropriate number of oesophageal biopsies were taken in 26% of all endoscopies and an inappropriate number in 33%. No biopsies were taken in 12%. An appropriate number of biopsies were more likely in patients without previous dysplasia under surveillance. For surveillance endoscopies the interval from the previous endoscopy was appropriate in only 23%, 53% were performed too soon. Thus, non-adherence to clinical guidelines in the endoscopic surveillance of Barrett's esophagus is a reality, at least in the UK.

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Barrett's oesophagus

Wednesday, October 22, 2008

HIGH RESOLUTION CHROMOENDOSCOPY WITH ACETIC ACID FOR BARRETT'S SURVEILLANCE: IS THERE STILL A PLACE FOR RANDOM BIOPSIES?

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The gold standard for endoscopic surveillance of Barrett esophagus (BE) includes four quadrant biopsies (4QB) every 1-2 cm. In recent years the introduction of high resolution endoscopy (HRE) and acetic acid chromoendoscopy have been introduced since it might improve detection of small high grade neoplasias (HGIN) or early carcinomas (EC). The authors investigated the efficiency of HRE plus acetic acid chromoendoscopy for surveillance in a BE population. Four hundred and twenty consecutive patients with BE (mean age 62 years; 336 men) were enrolled in the study. The patients were divided in the two groups: the low risk group (136 patients – no history of HGIN/EC) and the high risk group (284 patients with a history of endoscopic resection of HGIN/EC). In all patients, HRE and acetic acid chromoendoscopy with targeted biopsies and standard 4QB were performed and results were compared. 325 targeted biopsies (mean 0.8 ± 0.4 per patients) and 3095 4QB (mean 7.4 ± 4.2 per patient) were taken. Positive predictive value of HRE with acetic acid for lesions with HGIN/EC was 20.6 %. In the high-risk group, the number of biopsies needed to detect one HGIN/EC was 4.8 for targeted biopsies and 309 for 4QB. In the low risk-group 996 4QB in 136 patients were required to detect one patient with HGIN/EC. Thus, high resolution chromoendoscopy with acetic acid reduces the number of biopsies in patients with BE. In patients with high risk, 4QB might be replaced by targeted biopsies that allow exact localization of HGIN/EC. In the group of patients at low risk it is questionable if the high number of 4QB required to detect one patient with HGIN/EC justifies the procedure.

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Barrett's oesophagus

Wednesday, October 22, 2008

HOW ADEQUATE IS ENDOSCOPIC INSPECTION OF A BARRETT ESOPHAGUS WITH EARLY NEOPLASIA BY EXPERT ENDOSCOPISTS? AN INTERNATIONAL MULTICENTER STUDY WITH COMPLETE HISTOLOGICAL CORRELATION OF THE WHOLE BARRETT SEGMENT

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This is an interesting study assessing the ability to detect a submucosal cancer (SMC) after an endoscopic work-up in patients with early Barrett's cancer. The aim of this study was to evaluate the rate of missed SMC in patients treated with stepwise radical endoscopic resection (ER) after endoscopic work-up by expert endoscopists. Eligible patients had BE <5cm with high-grade dysplasia or intramucosal cancer in biopsies. Work-up consisted of high quality endoscopic inspection completed with EUS if desired. If there were no signs of deep submucosal invasion the endoscopically most involved area was resected followed by ER. All ER specimens were retrieved and reviewed by pathologists with extensive experience. Altogether 115 pts were included. After a median of 2 ER sessions eradication of dysplasia was achieved in 112 pts (99%). At the 1st session of ER 5 pts (4%) were diagnosed with SMC, all superficial (T1sm1). No SMCs were diagnosed in any of the specimens of subsequent sessions of ER to remove residual BE. The authors conclude that endoscopic work-up of BE patients with early neoplasia by experts accurately identifies the most involved area of the BE. Submucosal cancers are effectively identified as an endoscopically visual lesion and diagnosed after ER. This suggests that after ER of the most involved area with histological correlation, remaining BE can be safely treated with ablation therapy without significant risk of undiagnosed and undertreated SMC. The main disadvantage of this study was the absence of the control group (it means what would be the results of non-experts?). Also, the overall small number of submucosal cancers did not allow any firm conclusion.

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Management of functional dyspepsia, old problems and new approaches

Monday, October 20, 2008

HIGH PREVALENCE OF DUODENAL HISTOLOGICAL LESIONS IN PATIENTS WITH DYSPEPSIA AND NORMAL UPPER GASTROINTESTINAL ENDOSCOPY

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Coeliac disease/malabsorption syndromes and food enteropathies It is known that a lot of patients of gluten-sensitive enteropathy (GSE) patients may present dyspepsia, especially dysmotility-like symptoms. The prevalence of duodenal histological lesions compatible with GSE in these patients is unknown. The study assessed the prevalence of duodenal histological lesions compatible with GSE in patients with dysmotility-like dyspepsia and normal upper gastrointestinal endoscopy. The authors performed from January to December 2007 a total of 1565 upper GI endoscopy, 501 (32%) for dyspepsia evaluation. Of the 335 patients with dyspepsia and normal endoscopy, 181 with dysmotility like dyspepsia were included for the study (mean age 45.2±15.4; 23.4% males). Sixty eight patients (37.6%) had duodenal histological abnormalities: villous atrophy 18.2%, hyperplastic crypts 2.2% and lymphocytic enteritis 17.1%. Dyspeptic symptoms improved in 44/49 patients after a gluten free diet was started (Marsh I 18/20; Marsh II 1/3 and Marsh III 25/27). Only 4/68 patients (6%) had a

positive serologic test. The authors concluded that 1) Patients with dysmotility-like dyspepsia symptoms and normal upper GI endoscopy had a high prevalence of duodenal histological lesions compatible with GSE; 2) The results suggest the recommendation to take duodenal biopsies in all patients with dysmotility like dyspeptic symptoms. This must be, however, confirmed in another prospective studies.

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Endoscopy and imaging: Endoscopy (Upper GI, Colon, ERCP)

Monday, October 20, 2008

NOVEL ONE-STEP CHROMOENDOSCOPY USING AN ACETIC ACID-INDIGOCARMINE MIXTURE FOR THE DIAGNOSTIC ACCURACY OF GASTRIC CANCER

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The authors introduced a simple chromoendoscopic method employing an acetic acid-indigo carmine mixture(AIM) for diagnosis of EGC. The aim was to estimate the accuracy of a simple and new chromoendoscopic method using an AIM in diagnosing EGC. From 156 patients with 159 early gastric cancers were studied. Lesions were initially observed by white light (WL) after which indigo carmine (IC) solution was sprinkled onto the gastric mucosa. Images by each observation were recorded by digital filing system . The authors can achieve clearer visualization of tumor extent by the AIM than the IC method. Accordingly, AIM chromoendoscopy may be valuable for assessing and detecting small cancerous lesions.

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Coeliac disease - diagnosis

Monday, October 20, 2008

USEFULNESS OF CONFOCAL ENDOMICROSCOPY IN THE DIAGNOSIS OF COELIAC DISEASE

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Confocal laser endomicroscopy (CLE) is a recent development which enables surface and subsurface imaging of living cells in vivo at x1000 magnification. The gold standard for the diagnosis of coeliac disease is the presence of villous atrophy, crypt hypertrophy and increased intraepithelial lymphocytes on histology of biopsy specimen. The aim of the present study was to define confocal features of coeliac disease. Furthermore, the authors aimed to evaluate the usefulness of the CLE in the diagnosis of coeliac disease in children in comparison to histology. Five patients with median age 6.5 years with positive coeliac serology and 5 matched controls underwent upper GI endoscopy using the confocal laser endomicroscope. A total of 793 confocal images from both patients and controls were compared with 24 same site duodenal biopsies. Sensitivity and specificity of CLE for the diagnosis of coeliac disease were 100% and 90% with a high degree of inter-observer agreement between the paediatric gastroenterologists. In addition 74% of the images were considered to be of good quality. Confocal endomicroscopy is comparable to histology in the diagnosis of coeliac disease. In addition it offers the prospect of a diagnosis during ongoing endoscopy. It also enables targeting biopsies to abnormal mucosa and thereby increasing the diagnostic yield especially when villous atrophy is patchy in the duodenum.

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Capsule endoscopy and enteroscopy: Complementary or competitive?

Tuesday, October 21, 2008

AGREEMENT BETWEEN DOUBLE-BALLOON ENDOSCOPY AND CAPSULE ENDOSCOPY IN PATIENTS WITH OBSCURE GASTRO INTESTINAL BLEEDING: A MULTICENTER STUDY

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The primary outcome was to evaluate diagnostic agreement between CE and DBE in patients referred for obscure GI bleeding. 193 patients (119 men) with obscure GI bleeding underwent both procedures. CE was performed prior to DBE. The authors concluded, that CE and DBE have good agreement for vascular and inflammatory lesions and but not for polyps or neoplasia. DBE provides valuable adjunctive information, in particular in patients with neoplastic or polyp findings at CE. DBE also appears to be of great diagnostic value in patients with only blood in the lumen detected at CE, since it clarified the origin of bleeding in two third of these patients.

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Oesophageal, gastric and duodenal disorders: Oesophageal malignant disease

Monday, October 20, 2008

PREDICTING SUBMUCOSAL INVASION FOR SUPERFICIAL ESOPHAGEAL CANCER - MAGNIFYING ENDOSCOPY OR EUS?

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EUS highly accurate in predicting tumor depth, magnifying endoscopy with assessment of IPCL pattern is another way to differentiate submucosal invasion. This study aimed to compare the accuracy of differentiating submucosal invasion between EUS and magnifying OGD. From October 2003 to March 2008, 26 lesions in 21 patients were identified. In 21 patients both methods were used. 5 patients underwent esophagectomy, 21 mucosal resection. Histopathology showed 20 mucosal and 6 submucosal cancers. The PPV of magnifying endoscopy was 90% and 10% respectively for both lesions, while that of EUS was 89% and 80%. The authors concluded, that magnifying endoscopy is as good as EUS in differentiating mucosal and submucosal invasion for superficial esophageal cancer. Does it mean, that endosonography can be avoided in planning therapeutic procedures? This is another example demonstrating the creativity of Asian endoscopic school.

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Capsule endoscopy and enteroscopy: Complementary or competitive?

Tuesday, October 21, 2008

USE OF A SPECIALLY DESIGNED 24-HOUR CAPSULE ENDOSCOPY IN MONITORING PEPTIC ULCER REBLEEDING AFTER THERAPEUTIC ENDOSCOPY

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The authors aimed to investigate whether a modified capsule endoscope with extended battery life was able to provide continuous in-situ monitoring of a peptic ulcer and assess its efficiency in detecting ulcer rebleeding. The experiment was performed on a total of 4 pigs. Three capsule endoscopes were able to last for 24 hours in vivo for image capturing and transmission. One capsule lasted for only 18 hours. A total of 24 observations were made. This study confirms that the modified capsule endoscope with extended battery life is a feasible and potentially useful adjunct in monitoring of peptic ulcer rebleeding after therapeutic endoscopy. In the porcine model, it can detect rebleeding on average 3 minutes earlier than any noticeable hemodynamic disturbance.

Upper GI

2. Treatment

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Oesophageal, gastric and duodenal disorders: Oesophageal malignant disease

Monday, October 20, 2008

RISK FACTORS FOR CHEST PAIN AFTER ENDOSCOPIC RESECTION OF EARLY ESOPHAGEAL CANCER

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This case control study wanted to identify factors associated with chest pain after endoscopic resection in the esophagus. The case group was 38 patients with 40 lesions who took an analgesic after endoscopic resection because of chest pain. The controls were 74 patients with 79 lesions who did not experience chest pain after endoscopic resection. Twenty patients with 20 lesions experienced chest pain, but did not take analgesic. Although, 58 patients with 60 lesions (45%) experienced chest pain, this was treatable by a common analgesic. Univariate analysis revealed that female sex and resection of posterior wall mucosa were significantly associated with chest pain. No significant association with chest pain was found for age, resection method, use of acid suppressing drugs, lesion size and site (upper or lower half of the esophagus). Logistic-regression analysis showed that significant risk factors for chest pain were female sex (odds ratio 3.45) and resection of posterior wall mucosa (odds ratio 3.13). It seems that female sex and resection of posterior wall mucosa are associated with chest pain after endoscopic resection in the esophagus.

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Oesophageal malignant disease
Wednesday, October 22, 2008

A RANDOMIZED PROSPECTIVE TRIAL COMPARING THE CAP-TECHNIQUE AND MULTI-BAND MUCOSECTOMY TECHNIQUE FOR PIECEMEAL ENDOSCOPIC RESECTION IN BARRETT ESOPHAGUS

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Endoscopic resection (ER) is an important treatment modality for patients with Barrett esophagus (BE) containing high-grade dysplasia (HGD) or early cancer (EC). There are two mainly used techniques of ER: the cap-technique (EMRC) which requires submucosal lifting and prelooping of a snare in the cap and the multi-band mucosectomy (EMRL) technique. It does not need the lifting and uses the standard multi-band ligator. The main aim of the study to prospectively compare EMRC and EMRL for piecemeal ER in BE. In an ongoing randomized trial, patients with BE-HGD/EC scheduled for piecemeal ER were included. Until now 45 pts with median Prague criteria C3M5 were randomized. Procedure time (29 vs 50 min) and costs (EUR 240 vs 322) were significantly less with EMRL compared to EMRC. EMRL resulted in smaller resection specimens than EMRC (18 vs. 21 mm). There were two perforations in the EMRC group, both were treated endoscopically. It seems from the preliminary results that EMRL is faster and cheaper than EMRC and may be associated with fewer complications. EMRL results in slightly smaller diameter specimens but the clinical relevance of this is questionable especially since depth of resection is not significantly different.

3

Therapeutic endoscopy/ Interventional radiology: Enteral dilatation and stenting (oesophagus, stomach, duodenum, colon)

Tuesday, October 21, 2008

COMPLICATIONS FOLLOWING CIRCUMFERENTIAL RADIOFREQUENCY ABLATION OF BARRETT ESOPHAGUS CONTAINING EARLY NEOPLASIA

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Primary circumferential radiofrequency ablation (RFA) followed by secondary focal radiofrequency ablation has been proven effective in eradicating dysplasia and intestinal metaplasia (IM) in patients with Barrett esophagus (BE). The aim of this study was to evaluate complications following primary RFA in patients with BE +/- dysplasia. All RFA were performed at one our centre (AMC) and prospectively entered into a dedicated database. Sixty five patients (50 men, median age 69 years, median Prague criteria were C4M6) were treated with primary RFA; in 47 patients a prior ER had been performed. Adverse events (or complications) included: fever (n=1), chest pain (n=2), injury to a previous ER site (n=1), a superficial laceration (n=4), bleeding (n=1), dysphagia (n=5). A majority of complication

occured in patients with previous ER. All complications were treated endoscopically or resolved themselves. Thus, primary circumferential radiofrequency ablation is safe in patients without prior ER. In patients with previous ER, a higher complication rate could be expected.

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Pathogenesis and treatment of gastric and oesophageal disease

Tuesday, October 21, 2008

COMPARISON OF ENDOSCOPIC MUCOSAL RESECTION AND ENDOSCOPIC SUBMUCOSAL DISSECTION FOR EN BLOC RESECTION OF EARLY ESOPHAGEAL CANCERS IN JAPAN

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Endoscopic mucosal resection (EMR) and endoscopic submucosal dissection (ESD) are now being used for the treatment of esophageal cancers. The study compared the en bloc and curative resection rates of ESD and two major EMR methods for treating esophageal cancers of less than 20 mm. A total of 136 patients with 171 lesions were enrolled. Of the 171 lesions, 168 were squamous cell carcinoma and 3 were adenocarcinoma. The en bloc resection rates were 100% for ESD, 87% for EMR with the transparent distal translucent cap (EMRC) and 71% for double-channel EMR. The curative resection rate of ESD (97%) was significantly higher than those of the other two methods. Furthermore, the curative resection rate of EMRC (71%) was significantly higher than that of double-channel EMR (46%). No difference between ESD and EMRC were found in lesions measuring <15 mm but the EMRC method was better than double-channel EMR. There were no differences in the complication rates. In this non-randomised, retrospective study the ESD was found to be the best endoscopic resection method for small esophageal cancers. For lesions measuring <15 mm the EMRC would be a good alternative. However, it should be noted that there is only limited experience with ESD in the esophagus, especially outside Japan.

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Pathogenesis and treatment of gastric and oesophageal disease

Tuesday, October 21, 2008

PROSPECTIVE RANDOMIZED COMPARISON BETWEEN EMR AND ESD FOR ENDOSCOPIC REMOVAL OF SUPERFICIAL OESOPHAGEAL CANCER

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Various endoscopic methods have been shown successful in removing oesophageal superficial tumours. The most often used are cap assisted mucosal resection (EMR-C) or endoscopic band ligation mucosectomy (EMRL). Endoscopic mucosal dissection (ESD) has been developed to provide en bloc specimens for adequate pathological evaluation of lateral and deep margins. The aim of this prospective and randomized study was to compare the safety and efficacy of oesophageal EMR-C and ESD. Patients with squamous carcinoma (SCC) or Barrett carcinomas (max. T1m tumors) with type IIa-c lesion and no lymph nodes were included. ESD was done with Flex-knife, IT-knife or Hook-knife. Twenty-seven patients were randomised with 13 ESD and 14 EMR-C. The size of the specimen was larger in the ESD group and the rate of free lateral margin was also higher (not significantly) as compared to EMR-C method. Depth of resection was comparable in both groups. Of interest, the largest

specimen removed measured 9.2 x 3.2 cm (ESD). There were no procedural severe complications. The costs of devices and accessories were significantly higher for ESD. ESD provided en-bloc removal of malignant oesophageal tumours with an increase of lateral free margins and R0 resection, but at significantly higher medical device cost and procedure length. Unfortunately, the study is very small and it does not show long-term data.

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Pathogenesis and treatment of gastric and oesophageal disease

Tuesday, October 21, 2008

LONG TERM SURVIVAL OF EARLY GASTRIC CANCER TREATED WITH ESD

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The authors evaluated the long-term efficacy of endoscopic submucosal dissection (ESD) for treatment of early gastric cancer (AC). The patients were divided into the three groups: 1. standard indication group (104 patients); 2. extended indication group (71 patients) for differentiated AC; 3. extended indication group (5 patients) for undifferentiated AC. The median follow up of all patients was 46 months. En-bloc resection was achieved in 93% (group 1), 90% (group 2) and 60% (group 3). Local recurrence was 0.9%, 0% and 0% and three-year survival rate was 96%, 92% and 80%, respectively. No deaths occurred because of gastric carcinoma in either group. The authors concluded that the indications of the ESD for early gastric cancer could be expanded. However, the study is retrospective, results of the ESD for undifferentiated carcinoma are based on only 5 patients and the follow-up did not reach 5 years.

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Dilatation & stenting in ther GI tract

Monday, October 20, 2008

PLACEMENT OF SELF-EXPANDABLE STENTS FOR NON-MALIGNANT ESOPHAGEAL PERFORATION

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This interesting retrospective study analyzed the efficacy of the emergency placement of self-expandable metallic stents in the treatment of esophageal perforation. The authors used this treatment in 21 patients with esophageal non-malignant perforation (12 of them were caused by Boerhaav's syndrome and 13 of them by iatrogenic instrumentation). Stents were successfully placed in all patients but 2 needed the esophagectomy the following day. In 7 patients, endoscopic re-intervention was necessary. Twenty four patients died within 2 months due to mediastinitis or other complications, no stent-related deaths occurred. Stents were easily removable after 5 weeks after placement. In conclusion, self-expandable stent placement can be of benefit in patients with acute esophageal perforation but many re-intervention are necessary. It would be interesting to see a randomized study comparing clipping vs. stents in this situation.

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Therapeutic endoscopy/ Interventional radiology: Enteral dilatation and stenting (oesophagus, stomach, duodenum, colon)

Tuesday, October 21, 2008

SELF EXPANDABLE PLASTIC STENTS (POLYFLEX®) IN THE TREATMENT OF POST-OPERATIVE ESOPHAGO-JEJUNO ANASTOMOSIS LEAK.

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Self-expandable plastic stents (SEPS) are commonly used to treat benign esophageal stenoses. But they are increasingly used for treatment of postoperative oesophageal leak. The authors used this treatment in three patients who developed a postoperative anastomotic leak. Only large stents (25/21 mm) were used and the migration did not occur. Two patients were successfully treated by those stents (one patient had to get two stents) and they were removed after 4 and 8 weeks, respectively. The third patient died due to mediastinitis already developed at the time of stent insertion. Thus, polyflex stents should be considered in patients with post-operative anastomotic leak.

9

Dilatation & stenting in the GI

Monday, October 20, 2008

GASTRO-DUODENAL STENT INSERTIONS; A LARGE SINGLE CENTRE EXPERIENCE

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The aim of this study was to evaluate the technical, clinical success and complications of gastro duodenal (GD) stent insertions in a UK tertiary hospital. During the six-year period, 145 patients underwent 166 GD stent insertions. The indications were gastric cancer in 61 patients (42%), cancer of the head of pancreas in 52 (35.8%), metastatic peritoneal cancer in 22 (15%), anastomotic recurrence in 8 (5.5%), ampullary cancer in 2 (1.3%). Technical success rate was 95% and clinical success rate was 89%. Complications occurred in 22 cases (13%) including stent obstruction in 15 (9%); stent migration in 3 (1.8%); persistent pain in 2 (1.2%) and one (0.6%) each of guide wire perforation and pancreatitis. The authors concluded, that GD stenting is safe, performed with great technical success and very effective in palliation of symptoms in malignant GD obstruction. Complications in the majority are due to disease progression. The direct comparison with surgery particularly in less advanced disease is needed.

Small intestine

3. Diagnosis

Reporter: L. Hrdlicka, Dpt. of Gastroenterology, Faculty Hospital Motol, Prague, Czech Republic

1

Endoscopy and imaging: Capsule Endoscopy

Tuesday, October 21, 2008

A SINGLE-CENTER EXPERIENCE WITH CAPSULE ENDOSCOPY IN CROHN'S DISEASE

Almeida, P. Figueiredo, S. Lopes, P. Freire, C. Lérias, H. Gouveia, M. C. Leitão:

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The Portuguese retrospective study evaluates diagnostic acuity and risks of CE in patients with suspected CD. In this study, 98 symptomatic patients were included. Total enteroscopy was possible in 81 patients (82.7%), with capsule retention by small bowel stenosis in 4 (4.1%). Endoscopic findings suggestive of CD were visualized in 40 patients (40.8%) and 34 of these 40 (85%) started new therapeutics after CE. Three patients were submitted to surgery. After a median follow-up of 32 months (6 to 79), CD was confirmed in 34 patients (32 with positive CE and 2 with negative CE) and excluded in 64 (8 with previous positive CE). Sensitivity, specificity, PPV and NPV for CE were, respectively, 94.1%, 87.5%, 80% and 96.6%. Author's data demonstrated CE as a valuable endoscopic method in patients with suspicion of CD. It had an excellent sensitivity and a fair reasonable specificity and PPV. A negative capsule examination almost excluded the possibility of small bowel CD in this study.

2

Endoscopy and imaging: Capsule Endoscopy

Tuesday, October 21, 2008

ABDOMINAL SURGERY AFFECTS SMALL BOWEL TRANSIT TIME AND COMPLETENESS OF CAPSULE ENDOSCOPY

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The interesting study of Japanese authors evaluated bowel dysmotility in patients who had a history of abdominal surgery by measuring both gastric emptying time and small bowel transit time of the CE and assessing the completeness of the examination. A retrospective case-controlled study included 26 patients with a history of abdominal surgery (postoperative group) and 52 non-postoperative controls. The caecal completion rate was significantly lower in the postoperative group (13/26 [50.0%]) than in the control group (42/52 [80.8%], $P = 0.005$). There was no significant difference in gastric emptying time between the postoperative group and the control. Small bowel transit time was significantly longer in the postoperative group (mean 338.3 min) than in the control group (mean 266.4 min, $P = 0.010$). This is the first available paper reporting that the CE small bowel transit time is significantly prolonged in patients who had a history of abdominal surgery, resulting in a lower frequency of complete examination.

3

Endoscopy and imaging: Capsule Endoscopy

Tuesday, October 21, 2008

COST-MINIMIZING STRATEGY FOR CAPSULE ENDOSCOPY VS. DOUBLE-BALLOON ENTEROSCOPY IN MID INTESTINAL BLEEDING

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The procedural cost of capsule endoscopy vs. double-balloon enteroscopy in mid intestinal bleeding examination was compared in this retrospective study in two tertiary endoscopy centres. CE was the primary investigation in 163 (87 %) and DBE in 24 (13 %) patients. 79 procedures per year denote the break-even point for CE and DBE in their cost model. The CE-first approach (CE followed by unidirectional DBE in case of necessary therapeutic intervention or biopsy) results total internal expenditure of €1124.86 per patient. The DBE-first sequence of procedures (both peroral and transanal DBE as well as diagnostic and therapeutic intervention in the same session) produces a total amount of €1180.0 per patient. Analysis disclosed personnel cost for DBE the most critical factor for cost increase. CE and DBE produce similar internal expenses when applied in a frequency of about 75 procedures per year according to these data. The cost of DBE is easily increased when performed less frequently or when a long investigation time has to be invested; CE is more robust in these factors.

4

Endoscopy and imaging: Capsule Endoscopy

Tuesday, October 21, 2008

EMERGENCY CAPSULE ENDOSCOPY: IMPACT ON DIAGNOSTIC ACCURACY AND THERAPEUTIC CHANGES IN SEVERE OVERT OBSCURE GASTROINTESTINAL BLEEDING

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This research work compares the diagnostic accuracy and the therapeutic impact of CE in setting of an overt severe OGIB according to the moment it is performed. 81 patients were divided in two groups. In the first group (group 1) - 37 patients were submitted prospectively to „emergency CE“ (ECE); the protocol schedule was upper endoscopy, full colonoscopy with oral purge and CE within 48 hours from OGIB diagnosis. The second group included a retrospective cohort of 41 patients submitted to CE within 15 days from diagnosis but more than 48 hours after presentation. Relevant lesions were found in 27 patients in „emergency CE group“ (71.1%) and in 24 patients in group 2 (54.5%). Although the diagnostic accuracy was higher in ECE, there were not statistically significant differences between groups. CE showed active bleeding in 9 patients of ECE group (33.3%) and 4 patients of group 2 (16.7%, $p < 0.05$). No significant differences were detected in the clinical management of patients. Author's data suggest that ECE (<48 hours) has a higher diagnostic accuracy than studies performed 48 hours after the event. Clinical management of patients does not change in spite of timing to perform CE, probably because of the small sample size of the study. Enlargement of patient's group and further prospective examination could be recommended.

5

Endoscopy and imaging: Capsule endoscopy and enteroscopy - Complementary or competitive?

Tuesday October 21, 2008

AGREEMENT BETWEEN DOUBLE-BALLOON ENDOSCOPY AND CAPSULE ENDOSCOPY IN PATIENTS WITH OBSCURE GASTRO INTESTINAL BLEEDING: A MULTICENTER STUDY

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Italian colleagues tried especially to evaluate diagnostic agreement between CE and DBE in patients referred for obscure GI bleeding; the secondary outcome was to evaluate the diagnostic gain of DBE when the positive finding at CE was blood in the small-bowel lumen. 193 patients underwent both procedures. CE was performed prior to DBE. The DBE insertion route was oral in 105 (54.4%), anal in 32 (16.6%), oral-plus-anal in 45 (26.9). The most frequent positive findings at CE were vascular lesions in 74 pts (39.4%), blood or clot in the lumen in 34 (18.1%) and neoplasia in 20 (10.6%). The most frequent findings detected by DBE were vascular lesions in 72 patients (37.5%), neoplasia in 30 (15.6 %) and ulcers-inflammatory lesions in 12 (6.3%). The overall Kappa coefficient was 0.46 [95% CI: 0.54-0.38]. CE and DBE showed good agreement for vascular and inflammatory lesions and but not for polyps or neoplasia in this study. DBE provides valuable adjunctive information, in particular in patients with neoplastic or polyp findings at CE. DBE also appears to be of great diagnostic value in patients with only blood in the lumen detected at CE, since it clarified the origin of bleeding in two third of these patients.

6

Endoscopy and imaging: Capsule endoscopy and enteroscopy - Complementary or competitive?

Tuesday, October 21, 2008

CAPSULE ENDOSCOPY COMPLICATIONS: RETROSPECTIVE ANALYSIS OF 4656 CASES

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Spanish authors brought excellent multicentric investigations of CE complications. The aim of this study was to evaluate the incidence, type and management of CE-related complications in a large patient population. Data from 4656 procedures performed were retrospectively analyzed. The overall incidence of CE-related complications was 2.1% : 2.2% with the SB capsule, 1.1% with the esophageal capsule and 0.7% for the colon capsule. SB capsule retention was the most frequent complication (86.3%) - due to: inflammatory strictures in 60.8% of the cases (60.7% related to inflammatory bowel disease, 19.5% related to drugs, radiation and peptic ulcers, and 19.8% of unknown origin), malignant strictures in 23.9% of the cases and other lesions in 15.3%. Previous barium x-ray and abdominal CT were normal in 34% of these cases. Asymptomatic capsule retention was observed in 60.7% of the patients while those patients with symptomatic retention (39.3%) suffered from abdominal pain in 75% of the cases. Mean time of capsule retention until resolution was 87.4 ± 191.7 days (101.5 ± 204.5 for SB retention days versus 4.7 ± 6.3 for non-SB retention; p<0.05). The therapy was non-surgical in 63.5% of the cases. Other complications were esophageal

retention (8.8%), gastric retention (2%), tracheal aspiration (2%) and colon retention (1%). No deaths related to CE complications were observed. According these results CE-related complications are relatively uncommon and quite difficult to predict by radiological examinations. SB retention, that is usually asymptomatic, is the most frequent CE-related complication.

7

Capsule endoscopy and enteroscopy - Complementary or competitive?

Tuesday, October 21, 2008

IMPROVEMENT IN CECAL INTUBATION RATE BY DOUBLE BALLOON ENTEROSCOPY (DBE) AFTER INCOMPLETE OR TECHNICALLY DIFFICULT COLONOSCOPY: A RANDOMIZED COMPARATIVE TRIAL

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This randomized comparative study was designed to evaluate the utility of DBE for complete examination of the colon by comparing it with colonoscopy with magnetic endoscope imaging plus transparent cap (MEI-Cap) after incomplete colonoscopy (defined by the failure to achieve cecal intubation by experienced colonoscopists within 30 min.). 50 patients with incomplete or technically difficult colonoscopy were randomly assigned to either DBE or colonoscopy with MEI-Cap. The primary end point was caecal intubation rate within 30 min. Other outcome measures included intubation time, pain score according to a visual analog scale, requirement abdominal pressure, amount of sedoanalgetic medication and change of patient's positions during colonoscopy. The caecal intubation rate of DBE (100%) was significantly higher than that of MEI-Cap (47.1%) ($p < 0.01$). The mean time to reach the caecum of DBE (11.7 ± 5.9 min) was also faster than that of MEI-Cap (24.5 ± 9.5 min) ($p < 0.05$). No complications occurred in either group. The study identified that DBE has a high intubation rate in patients with incomplete or technically difficult colonoscopy, compared by MEI-Cap, and demonstrated a minor indication for DBE use.

8

Endoscopy and imaging: Enteroscopy

Wednesday, October 22, 2008

INDICATIONS AND DIAGNOSTIC YIELD OF DOUBLE-BALLOON ENTEROSCOPY IN CROHN'S DISEASE

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Aim of the Italian study is to assess the use of DBE in a series of CD patients with respect to indications and diagnostic yield. 45 DBEs in 34 patients with CD were performed. Indications to DBE were: first diagnosis or staging in 14 cases; suspicion or definition of a stenosis in 5; mid-GI bleeding in 10; suspected neoplasia in 4; postsurgical evaluation in 1. Twenty DBEs were performed from the oral route and 16 from the anal. In 4 patients DBE was performed from both ways. Mean insertion depth from the oral rout was 266.5 ± 100 cm and from the anal 72.5 ± 60 cm. The ileocecal valve intubation was possible in 11/16 patients (69%), but in 4 patients DBE was able to explore less than 50 cm of terminal ileum. In 20/34 patients (59%) DBE achieved a diagnosis which was considered clinically significant. This rate was lower when DBE was performed to diagnose or stage CD (42.8%) due to the

incompleteness of the intestinal exploration. The rate of diagnostic DBE was higher when the procedure was conducted on the basis of a previous investigation able to determine the proper DBE introduction route (77.8% vs 37.5%, $p=0.03$, OR 2.4, 95%CI 1.0-5.8). Authors have identified some possible indications to mid GI investigation in CD patients by means of DBE and demonstrated a diagnostic yield of about 50%, similar to that achieved by DBE in obscure GI bleeding. This result was obtained in spite of the more difficult ileocecal valve intubation in CD. Definition of the proper introduction route by means of one or more previous investigations was associated to an higher diagnostic yield of the procedure.

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Endoscopy and imaging: Enteroscopy

Wednesday, October 22, 2008

DIAGNOSIS YIELD OF NEW APPROACHES FOR SMALL BOWEL EXAMINATIONS

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This study assessed the clinical benefit of combined approach using video capsule endoscopy (VCE) for screening and Single Balloon Enteroscopy (SBE) as a final diagnosis tool and treatment. 163 VCE were carried on, 152 SBE was performed under general anaesthesia for the upper approach (98 exams) and under Propofol sedation for lower route (54 exams). VCE was able to detect: angiomas (66), Crohn's diseases (12), polyps (11), celiac diseases (8) and miscellaneous disorders (19). SBE was able to diagnose lesions missed by the VCE in 14% of cases. It was mainly angiomas (17) and polyps (4) in patients referred after a positive VCE examination. Treatments with APC, clips, polypectomy or mucosectomy were carried on during the same session but endoscopic treatment is still limited by the lack of adapted device to the 2.8 biopsy channel. Authors should also underline the safety of SBE as they did not observe major complications. The use of only one balloon fixed on the overtube probably explained the reduced time examination with SBE. Progression was also facilitated by the use of home made stiffening wire introduced through the biopsy channel in order to reduce the gastric loop. Although VCE is a major new tool for diagnosis, it is important to confirm and treat patients with SBE. Authors pointed out that specialized units able to provide both technologies have to be organised in order to achieve a better diagnostic yield and therapeutic outcome for patients with suspected small bowel diseases.

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Capsule endoscopy and enteroscopy - Complementary or competitive?

Tuesday, October 21, 2008

IS IT THE END OF THE SINGLE CAMERA SMALL BOWEL CAPSULE AS WE KNOW IT?

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The aim of the study was to determine if using a dual camera device to perform small bowel enteroscopy would increase significantly the number of findings and so, diagnostic acuity. Ten patients (7 men; mean age – 62.3 ± 12.1 years) submitted to capsule examination with colon capsule (PillCam Colon, Given Imaging) were prospectively included. Small bowel images were then visualized by three experienced investigators blinded to each other results. One observed exclusively the images from the “yellow” pole, the other from the “green” and the last one observed both video streams. All results were then reviewed by a fourth, independent

observer. There were small bowel findings in all but one patient. Total number of findings was 44 (24 exclusively for “yellow” camera, 13 for “green” one and 7 for both). Interobserver agreement for each camera side was very good with a = 0.806 for the yellow pole and = 0.719 for the green one, demonstrating reproducibility concerning findings for these three gastroenterologists. Thus, small bowel enteroscopy with a two camera device allows detection of more findings in a single examination.

Small intestine

4. Treatment

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1

Capsule endoscopy and enteroscopy: Complementary or competitive?

Tuesday, October 21, 2008

DOUBLE BALLOON ENTEROSCOPY: AN EFFECTIVE METHOD OF DIRECT PERCUTANEOUS ENDOSCOPIC JEJUNOSTOMY (DPEJ) TUBE INSERTION

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Long-term jejunal feeding may be provided through various routes, including percutaneous endoscopic gastro-jejunostomy (PEGJ) and direct percutaneous endoscopic jejunostomy (DPEJ) tube insertions, radiologically inserted jejunostomies and surgical jejunostomies. The authors presented a retrospective analysis of a comprehensive database of all DBE procedures performed at St Mark's Hospital Endoscopy Unit, London. DPEJ tube insertion by DBE was successful in 4 of the 5 cases in which it was attempted. In the first case, the attempt failed due to inability to visualise the seeker needle despite adequate trans-illumination and fluoroscopy. The patient had no complications from the procedure and underwent successful jejunostomy. We subsequently instilled 5ml of dilute methylene blue to improve visualisation in all other cases. DPEJ insertion in these 4 other cases was successful with no immediate or late complications. The authors concluded, that this proof-of-concept analysis demonstrates that DPEJ tube insertion by DBE is a safe and effective method of long-term post-pyloric feeding tube insertion.

2

Endoscopy and imaging: Capsule endoscopy and enteroscopy - Complementary or competitive?

Tuesday, October 21, 2008

DOUBLE BALLOON ENTEROSCOPY: AN EFFECTIVE METHOD OF DIRECT PERCUTANEOUS ENDOSCOPIC JEJUNOSTOMY (DPEJ) TUBE INSERTION

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E.J.Despott and colleagues presented new indication for double balloon enteroscopy (DBE) - direct percutaneous endoscopic jejunostomy (DPEJ) placement. A retrospective analysis of a

comprehensive database of all DBE procedures performed at St Mark's Hospital Endoscopy Unit, London, UK since the introduction of the DBE service in 2005 showed that 5 DPEJ tube insertions were attempted. The patients all required DPEJ feeding due to recurrent aspiration in the setting of diabetic gastroparesis (1 case), gastric resection (2 cases) and neurological disability (2 cases). All cases were performed under general anaesthesia, fluoroscopy, along with trans-illumination, was used to confirm the position of the DBE scope in a superficial loop of jejunum. DPEJ tube insertion by DBE was successful in 4 of the 5 cases in which it was attempted. In the first case, the attempt failed due to inability to visualise the seeker needle despite adequate trans-illumination and fluoroscopy. The patient had no complications from the procedure and underwent successful jejunostomy. DPEJ insertion in next 4 other cases was successful with no immediate or late complications. This proof-of-concept analysis demonstrates that DPEJ tube insertion by DBE is a safe and effective method of long-term post-pyloric feeding tube insertion. DBE with its inflated balloons and overtube provides greater stability affording potentially easier direct percutaneous endoscopic jejunostomy (DPEJ) placement than push enteroscopy. This novel indication extends DBE role in digestive endoscopy.

3

Endoscopy and imaging: Enteroscopy

Wednesday, October 22, 2008

PATIENTS WITH SMALL BOWEL ANGIODYSPLASIA TREATED WITH ARGON BEAMER DURING DOUBLE BALLOON ENTEROSCOPY. PROSPECTIVE STUDY WITH ONE YEAR FOLLOW UP

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Endoscopy Unit, Centro Médico Teknon, Endoscopy Unit, Centro M, Barcelona, Spain

The authors aimed to investigate the long term follow up of patients with small bowel angiodysplasia after initially successful DBE and electrocoagulation with argon beamer of SBA. Twenty-five patients were diagnosed and treated of SBA during DBE. Twenty-four of them were followed up for one year. Five patients rebled during the first 6 months (20%) and other two in the next six months (8%). All but one, that was operated, were managed without prior endoscopies. Blood transfusion requirements were significantly lower in the rebleeding episode than prior to DBE. Patients with more lesions treated in the index enteroscopy rebled less than patients with few lesions (6 and 3.6 respectively). The authors concluded, that the recurrence of bleeding after DBE for SBA is high (28%) at one year, although transfusion requirements are lower than before treatment. The recurrences are almost always less serious than the index bleeding and occur mainly in patients with few lesions treated during DBE

4

Surgery, endoscopy and pancreas

Wednesday, October 22, 2008

IS THERE A TEMPORAL LIMIT FOR THE POSITIVE IMPACT OF DOUBLE-BALLOON ENTEROSCOPY IN MID-GASTROINTESTINAL BLEEDING?

N. Almeida, P. Figueiredo, S. Lopes, H. Gouveia, M. C. Leitão

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Therapeutic potential of double-balloon enteroscopy (DBE) is indisputable but the results about its long-term efficacy are scarce. Authors presented a retrospective analysis of the clinical results of DBE in a single center. They investigated by DBE 46 patients presented with MGIB (27 males, 19 females). These 46 patients were submitted to 61 procedures with

the following routes of insertion: oral - 36 patients; anal - 5 patients; oral and anal - 4 patients; oral and ileostomy - 1 patient. Total enteroscopy was possible in only two patients with ileum observation in 31 and jejunum in 13. Abnormal small bowel findings were detected in 35 patients (angiodyplasia - 25; ulcers - 7; subepithelial lesions - 3; active bleeding - 2; neoplasm - 1; portal hypertension enteropathy - 1. Endoscopic therapeutic procedures took place in 25 patients (54.3%). Rebleeding occurred in 14 (56%). Four of the 6 patients submitted to DBE because of a rebleeding episode were submitted to specific therapy. In this study the technique of DBE was useful and safe. Endoscopic therapy was feasible in 54.3% of the patients, and successful in almost half of them. Even in the case of rebleeding, a significant reduction in blood transfusion requirements occurred in the first 6 months after treatment (0.5 ± 0.5 vs 1.8 ± 0.8 units/month; $p=0.001$). The efficacy of endoscopic treatment of MGIB is debatable. Its role has to be further evaluated in other studies and long term perspective.

5

Surgery, endoscopy and pancreas

Wednesday, October 22, 2008

DIAGNOSIS AND TREATMENT OF OBSCURE GI BLEEDING RELATED TO NSAIDS USE ONLY BY DOUBLE BALLOON ENDOSCOPY, ONE SINGLE CENTER EXPERIENCE

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Obscure Gastrointestinal Bleeding (OGIB) has been reported to be associated with chronic NSAIDs use. Double balloon endoscopy contributes not only to diagnosis but to treatment of the disorders. Authors investigated the diagnostic yield and the usefulness of treatment by DBE in patients with OGIB and NSAIDs use. Retrospectively they collected 55 patients who underwent double balloon endoscopy. A total of 107 DBE procedures (diagnostic and therapeutic) were performed. Detailed information, including NSAIDs use (type, period), of each patient was obtained from each medical chart. Overall diagnostic yield was 71.8%. NSAIDs use was a significant factor for diagnosis of ulcers and vascular lesions in small intestine at DBE. Furthermore, 6 of 23(26%) patients taking NSAIDs required therapeutic DBE.

6

Endoscopy and imaging: Enteroscopy

Wednesday, October 22, 2008

USEFULNESS OF THE DOUBLE BALLOON ENDOSCOPY FOR RETRIEVAL OF A RETAINED CAPSULE ENDOSCOPY

K. Mitsui, S. Tanaka, S. Fujimori, Y. Takahashi, Y. Yamada, A. Ehara, T. Kobayashi, Y. Sekita, Y. Shibata, T. Seo, M. Yonezawa, A. Tatsuguchi, C. Sakamoto

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Retention of CE is one of the complications which may lead to operation. The aim of this study was to determine whether DBE was useful for retrieval of retained CE. The authors examined seven consecutive patients who retained CE underwent the retrieval of CE by DBE. In 6 of 7 patients (85.7%), retrieval of CE was succeeded by antegrade DBE. No complication was encountered. In one OGIB patient who was diagnosed as Crohn's disease, CE was

retained among two stenoses and proximal stenosis could not be passed by the DBE. Only one patient, who did not have any stenotic symptom, could not be retrieved by DBE. It can be concluded, that the retrieval of retained CE was performed by DBE safely and successfully.

7

Endoscopy and imaging: Enteroscopy

Wednesday, October 22, 2008

CLINICAL USEFULNESS OF A SINGLE-BALLOON ENTEROSCOPE (SIFQ260) FOR THE DIAGNOSIS AND TREATMENT OF SMALL-INTESTINAL DISEASES

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The clinical usefulness of double-balloon enteroscopy is well known, however the efficacy of the new instrument has to be explored. The authors examined the clinical usefulness of the single balloon enteroscope (SBE; SIF-Q260). This study group comprised 55 patients (68 sessions) with small-intestinal diseases who underwent enteroscopy with SBE. Enteroscopy with SBE was mainly performed to evaluate small-intestinal bleeding in 20 patients (30 sessions), to diagnose and treat small intestinal strictures in 10 (12 sessions), to confirm suspected small-intestinal protruding lesions in 9 (10 sessions), and to perform endoscopic retrograde cholangiography after gastrectomy in 8 (8 sessions). The investigators concluded, that the advantage of SBE is convenience and compatibility with conventional systems. The direct comparison with the double-balloon enteroscopy would be interesting, but uneasy to organize.

8

Dilatation & stenting in the GI

Monday, October 20, 2008

ENDOSCOPIC DILATION OF GASTROJEJUNAL ANASTOMOTIC STRICTURES AFTER LAPAROSCOPIC GASTRIC BYPASS. PREDICTORS OF INITIAL FAILURE

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Laparoscopic gastric bypass (LGB) is one of the most extended techniques used in bariatric surgery being the gastrojejunal anastomotic stricture (GAS) the most frequent postoperative complication. Endoscopic dilation is the standard treatment for this complication although sometimes more than one session must be performed. The objective of the study was to look for predicting factors that would indicate the need of repeated dilations. 1330 patients with morbid obesity underwent LGB at authors institution. All strictures were dilated with TTS balloons. One hundred-five of the 1330 patients (7.8%) developed a GAS. Clinical success was accomplished in 100% of the cases with a medium of 1.6 dilations (1-4). Sixty patients required only one dilation (56.7%), 30 required two dilations (28.8%), 12 required 3 dilations (11.5%) and 4 patients had 4 dilations (2.8%). All the patients (100%) remained asymptomatic after 6 months of the last dilation. There were three cases of perforation (1.8%), all managed with conservative medical treatment and 1 case of hemorrhage controlled with sclerosis. The authors concluded, that GAS after LGB is a relatively common complication during the first three months after surgery (7.8% in our series). Time from surgery to the stricture and diameter achieved in the first dilation are the only predicting factors of the need

of more than one dilation. It was shown that endoscopic dilation resolved the problem in all cases and in most of them with only one or two sessions.

9

Mucosal healing & disease outcome in IBD

Monday, October 20, 2008

LONG TERM OUTCOME OF ENDOSCOPIC DILATION IN PATIENTS WITH CROHN'S DISEASE IS NOT AFFECTED BY DISEASE ACTIVITY OR MEDICAL THERAPY

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The aim of the present retrospective study was to assess long term safety and efficacy outcomes of CD stricture dilation in a large referral center cohort. 237 dilations were performed with through-the-scope balloons of 18 mm. diameter in 138 patients (mean age 50.6±13.4, 56% female) for a clinically obstructive CD stricture. Immediate success (passing with a colonoscope) was achieved in 97% of first dilations with a 5.0% serious complication rate. Perforations occurred in 7/237 dilations, 5 necessitating surgery. After a median follow up of 5.8 yrs (IQR 3.0-8.4), recurrent obstructive symptoms led to a new dilatation or surgery in 41 (57/138)% and 21% of these patients respectively. In Kaplan Meier analysis we found no difference in the progression to a new dilation or surgery based on elevated CRP (Log rank: p=0.97), or endoscopic activity (i2-i4 vs. i0-i1: p= 0.90). Concomitant medical therapy was started or continued in 83 % of patients after dilation (mesalamine only: 31%, azathioprine/6-MP: 25%, budesonide 18%, anti-TNF 15%, MTX 5%), but none of these had an influence on outcomes. In conclusion, this largest series ever reported confirms that long term efficacy of endoscopic CD stricture dilation outweighs the complication risk. Active disease at time of dilation or medical therapy afterwards does not predict recurrent dilation or surgery.

10

Therapeutic endoscopy/Interventional radiology: Enteral dilation and stenting (esophagus, stomach, duodenum, colon) - Lower GI

Tuesday, October 21, 2008

LOCAL INJECTION OF INFlixIMAB IN THE POSTOPERATIVE SYMPTOMATIC RECURRENCE OF CD

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Local injections induced healing of 75% of complex fistula tracts in patients with perianal Crohn disease (CD). The aim of this study was to verify the efficacy of the treatment of symptomatic post-operative recurrence with scheduled injections of Infliximab in the site of the lesions. Authors evaluated 10 patients with a severe endoscopic recurrence (Rutgeerts grade 4) with large ulcers at the site of anastomosis and 2 with ulcers in the ileum above the anastomosis (<10 cm). No other localization of the disease was found. Endoscopies with local Infliximab injections (30 mg in 20 ml of saline solution) around ulcers were performed every 2 months until ulcers healing or until a stable value of Hb was achieved. Three out of 10 received only one Infliximab injection. Seven out of 10 received more injections (median 6,42 injections range, 3-12). 5/7 have normal value of Hb and in 4/5 mucosal healing was achieved; 2/7 have still chronic bleeding but the need of periodic i.v. iron support was

significantly reduced. In all the patient the number and the extent of the lesions was decreased. No side effect was observed during the follow-up of patients. This is valuable information showing that the contribution of Infliximab treatment of CD can even expand.

Colon and rectum

5. Diagnosis

Reporter: M.Benes, Dpt. of Hepatogastroenterology, IKEM, Prague, Czech Republic

1

Colonoscopic mucosal imaging

Monday, October 20, 2008

THE IMPACT OF NARROW BAND IMAGING IN SCREENING COLONOSCOPY: A RANDOMISED CONTROLLED TRIAL

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Narrow band imaging (NBI) is a newly developed technology which allows a better definition of mucosal micro-capillaries. The authors aimed to test in a randomised controlled trial whether the routine use of NBI in the withdrawal phase of the procedure compared to white light (WL) enhances the detection of either polypoid or non-polypoid adenomatous lesions in patients undergoing screening colonoscopy. 180 series colonoscopes with push button switch from WL to NBI were used. 215 subjects were included. The significant difference in detecting of flat lesions was demonstrated (23.1% vs. 12.1%). The authors concluded, that routine use of NBI during the retraction phase of colonoscopy does not seem to increase the adenoma detection rate. However, the prevalence of non-polypoid (flat or depressed) adenomas in this setting is substantial, and our study evidences an objective benefit of the NBI technique in the detection of these lesions, which appear to be more aggressive. However, the histology of the flat lesions was not documented.

2

Technical developments in colonoscopy

Monday, October 20, 2008

HIGH-DEFINITION 170 ° WIDE-ANGLE COLONOSCOPY VERSUS STANDARD-RESOLUTION STANDARD-ANGLE VERSUS HIGHRESOLUTION STANDARD-ANGLE COLONOSCOPY FOR DIAGNOSING NEOPLASTIC COLORECTAL LESIONS - A PROSPECTIVE SINGLE CENTER STUDY

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The aim of this study was to compare standard-resolution (<480 000 pixels) standard (140°) angle-view (SRC), high-resolution (>480 000 pixels) standard angle-view (HRC) and high-definition (1080 visible horizontal scan lines) wide (170°) angle-view colonoscopy (HDWAC) in a prospective single center study in terms of adenoma detection. A total of 592 polyps were detected in 507 patients, of which 255 were hyperplastic, 331 adenomas, 3

intramucosal carcinomas and 3 invasive carcinomas. The total number of polyps, adenomas and flat adenomas detected per patient was significantly higher in HDWAC group than in both - HRC and SRC groups. No significant difference in the total number of polyps, adenomas and flat adenomas per patient was observed between HRC and SRC. Significantly higher number of patients with = 1 adenoma as well as adenoma with high-grade intraepithelial neoplasia (HG IEN) <10 mm in diameter was in HDWAC group than in both SRC and HRC groups. The same prevalence of multiple (=3) adenomas was in HDWAC, HRC and SRC groups. The authors concluded, that the overall detection of colorectal adenomas is significantly improved by using HD colonoscope with 170° angle of view compared with both SR and HR colonoscopes with 140° angle of view. The increase in overall adenoma detection is primarily accounted for by the increase in detection of adenomas, including flat adenomas, that are <10 mm in diameter. There is still place for the improvement of colonoscopic technology.

3

Colonic and anorectal disorders: Other colonic and anorectal disorders

Tuesday, October 21, 2008

SCREENING COLONOSCOPY FOR EARLY COLORECTAL CANCER IN AVERAGE-RISK ASYMPTOMATIC POPULATION: IS IT ADEQUATE TO START AT AGE 50 IN KOREA?

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The investigators evaluated the prevalence of advanced neoplasia with colonoscopy according to age and evaluated the optimal age of screening colonoscopy. They reviewed the medical records of average-risk asymptomatic 1745 persons performed screening colonoscopy from January 2001 to December 2006. Overall prevalence of colorectal adenoma was 38.9% and prevalence of advanced adenoma was 2.06%. 0.47% had cancer. They concluded, that the prevalence of advanced neoplasia in 40-49 and 50-59 age groups was lower than previous study, but show similar prevalence of advanced neoplasia between 40-49 and 50-59 age groups. Therefore, we should consider screening colonoscopy for colorectal cancer earlier than 50 in average-risk asymptomatic population. The age stratification of colonic neoplasia occurrence has to be established in ethnic groups.

4

Endoscopy and imaging: Capsule Endoscopy

Tuesday, October 21, 2008

LARGE BOWEL NEOPLASTIC DISEASE EVALUATION WITH PILLCAM COLON CAPSULE ENDOSCOPY AND COLONOSCOPY: EARLY RESULTS IN EVERYDAY PRACTICE

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The aim of study was to compare capsule endoscopy of the large bowel (Pillcam Colon, CELB) and conventional colonoscopy in large bowel polyp and neoplastic lesion

identification. 25 pts. who underwent full colonoscopy with either large bowel cancer or polyps, were evaluated with CELB. Colonoscopy was completed in 20 patients and CELB in 17. Examination sensitivity for neoplastic lesions was 100% for colonoscopy and 88% for CELB and specificity was 100% for colonoscopy and 92% for CELB. In total 27 polyps (10 significant and 17 minor) were identified in 15 patients. Colonoscopy identified 90% significant and 82% small polyps, while CELB found 70% significant and 65% small polyps. Therefore the sensitivity of colonoscopy for polyp identification was 86% and of CELB 73%, while specificity was 93% for colonoscopy and 87% for CELB. CELB seems to be inferior in visualisation of small lesions, but the study suffers by small size.

5

Colonic and anorectal disorders: Other colonic and anorectal disorders

Tuesday, October 21, 2008

THE LIMITATION OF BIOPSY ON SUBMUCOSAL ELEVATION AT THE
ENDOSCOPIC RESECTION FOR RECTAL CARCINOIDS

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The colonoscopic biopsy at the time of detection leads to scar and ulcer formation and cause unpredicted difficulty in the endoscopic resection. This study was evaluated the relationship between the post-biopsy change and limitation of submucosal elevation in the endoscopic resection for rectal carcinoids. The limitation of submucosal elevation was observed in 77% in the biopsy group, significantly more frequent than 45% in the non-biopsy group. Regarding the endoscopic resection method, ESD was frequently adopted (23% vs 5%) in the biopsy group. They postulate, than post-biopsy change can affect the submucosal elevation in endoscopic resection for rectal carcinoid. The approach first cut then diagnose has to be further debated.

6

Colonic and anorectal disorders: Other colonic and anorectal disorders

Tuesday, October 21, 2008

ACROMEGALY AND COLORECTAL NEOPLASIA - CLINICAL AND ENDOSCOPIC
CHARACTERIZATION

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The aim of the study was, to characterize colonic findings in acromegalic patients. Medical records of patients with acromegaly submitted to colonoscopy were retrospectively reviewed. Fifty-three patients were included. Median age at first colonoscopy: 48 years. None of the patients had personal or familial history of CRC. Total colonoscopy was possible in 21 (39.6%) patients. In the remaining 32 was impossible to reach the cecum. A total of 45 polyps were identified in 16 patients. Histology was available for 22 polyps: adenoma - 5; hyperplastic - 17. Four of the 5 adenomas were advanced. No cases of CRC were diagnosed. Since the rate of caecal intubation in acromegaly is poor, other imaging methods such as colonoscopy with balloon enteroscope or capsule colonoscopy have to be considered.

7

Colonic and anorectal disorders: Other colonic and anorectal disorders
Tuesday, October 21, 2008

COLONIC INFLAMMATION; ENDOSCOPIC AND HISTOLOGICAL CORRELATION
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In the investigation of individual patients, there may sometimes be discrepancies in the endoscopic and histological findings. In a normal colonoscopy the histology can reveal microscopic colitis, or, minor changes reported by an endoscopist are not confirmed by histology. The aim of the study was to identify all cases of discrepancy between colonoscopy findings and histology. In cases where the endoscopist suspects a diagnosis of ulcerative colitis, he is correct in only 70% of cases. The correlation between endoscopic suspicion and biopsy is better in Crohn's Disease (88% agreement). The investigators demonstrated the need for formal clinico-pathological review on all patients with colonic inflammation. The interobserver variability could be of interest.

8

Colonic and anorectal disorders: Other colonic and anorectal disorders
Tuesday, October 21, 2008

CYTOMEGALOVIRUS COLITIS IN IMMUNOCOMPETENT PATIENTS: A CLINICAL AND ENDOSCOPIC STUDY
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The aim of this study was to investigate the clinicopathologic and endoscopic features of CMV colitis and its prognosis in immunocompetent patients. 8 immunocompetent patients diagnosed with CMV colitis via immunostaining for CMV antibodies and/or nested PCR for CMV DNA based on the histological examination of tissues biopsied at colonoscopy were retrospectively reviewed. This colitis was at other comorbidities including diabetes (n = 2), CRF (n = 2), ARF (n = 1) and alcoholic pancreatitis (n = 1). The most common initial presenting symptom was gastrointestinal (GI) bleeding (n = 6) and the associated symptoms were abdominal pain (n = 3) and diarrhea (n = 3). Endoscopic examination showed multiple ulcers (n = 3), a large well-demarcated ulcer (n = 3) and ulcers combined with inflammatory mucosa. The investigators concluded, that CMV colitis in immunocompetent patients was presented mainly in older patients and in those with other comorbidities. CMV colitis should be considered in the differential diagnosis of bloody diarrhea and/or abdominal pain in immunocompetent patients with other comorbidities.

9

Colonic and anorectal disorders: Other colonic and anorectal disorders
Tuesday, October 21, 2008

COMPARISON OF ANORECTAL ULTRASOUND (AUS) AND ANORECTAL MANOMETRY (AM) IN PATIENTS WITH FECAL INCONTINENCE
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The aim of the study was to compare findings of AM and AUS in patients with fecal incontinence. 50 patients completed the Mayo questionnaire form and underwent both examinations. Each AUS was performed by the same endoscopist who was blinded to the results of AM. Anal sphincter tears on AUS did not completely correlate with weak pressures on AM. External anal sphincter full length defect on AUS predicts weak maximal squeezing pressure on AM. AUS is the important adjunct in diagnostic work-up of patients with fecal incontinence.

10

Oncology: Diagnosis and treatment of malignant disease

Monday, October 20, 2008

RECTAL CANCER STAGING WITH ENDOSONOGRAPHY VS MAGNETIC RESONANCE IMAGING: PROSPECTIVE COMPARISON

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The aim of this study was to compare the accuracy of EUS versus MRI for rectal cancer staging. During the inclusion period the authors diagnosed a rectal cancer in 93 patients but only 21 patients met inclusion criteria. The authors concluded, that T and N staging of rectal cancer with EUS show a "Moderate" correlation with MRI staging. The correlation of EUS staging with the pathological staging is also "Moderate" according to the kappa index classification. The authors found in their series a tendency to perform a better T staging with EUS, but no significant differences were found between both techniques.

Colon and rectum

6. Treatment

Reporter: I. Hejlova, Dpt. of Hepatogastroenterology, IKEM, Prague, Czech Republic

1

Dilatation & stenting in the GI tract

Monday, October 20, 2008

CLINICAL EXPERIENCE WITH A NITINOL SELF-EXPANDING COLONIC STENT IN THE WALLFLEX-ER COLONIC INTERNATIONAL REGISTRY

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Klinik Cottbus, Cottbus, Germany 17 Tata Memorial Hospital, Mumbai, India 18 Derriford Hospital, Plymouth, United Kingdom

Self expanding metal stents (SEMS) are an alternative to surgery for malignant large bowel obstruction. Surgeons and gastrointestinal endoscopists completed enrollment of 213 pts with malignant colo-rectal obstruction. Pts received a WallFlex™ Colonic Stent (Boston Scientific, Natick, USA). 135 pts, 96 PAL and 39 BTS. Technical success in 122/135 (90%) pts. Incorrect stent placement in 13 pts. Clinical success in 121/135 (90%) pts. The authors concluded, that colonic SEMS used per local standards of practice provide safe and highly successful treatment of malignant colo-rectal obstruction, allowing most curable pts to have one-step resection after decompression by SEMS and providing most incurable pts minimally invasive palliation instead of surgery. The results are convincing, but with it would be important to know whether all consecutive patients were enrolled, and what was cancer location.

2

Dilatation & stenting in the GI tract

Monday, October 20, 2008

COLONIC STENTING AS BRIDGE TO SURGERY VERSUS EMERGENCY SURGERY FOR MANAGEMENT OF ACUTE LEFT-SIDED MALIGNANT COLONIC OBSTRUCTION: A MULTICENTER RANDOMIZED TRIAL (STENTIN 2 STUDY)

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Stent placement as bridge to elective surgery has been suggested to improve the patient's clinical condition, thus decreasing mortality, morbidity and the number of colostomies. This study was a prospective multicenter (25 centers) randomized controlled trial. The aim of this study was compared endoscopic approach and surgery. 29 patients (13 men, mean age 69 years) were enrolled by 13 centers. Fourteen patients were randomly assigned to emergency surgery and 15 to endoluminal stenting as bridge to elective surgery. All patients randomized for emergency surgery were treated accordingly. Of those randomized to endoluminal stenting 6 did not receive an enteral stent: 4 appeared to have a diverticular stenosis, 1 patient had a tumor fistula to the small bowel and in 1 patient there was a logistic problem. Pathology confirmed malignancy in 13 of the 14 patients assigned to emergency surgery and in 11 of the 15 patients allocated to enteral stenting. The authors concluded, that endoscopic colonic stent placement as bridge to elective surgery seems to be an attractive alternative to emergency surgery in patients with acute left-sided malignant colonic obstruction. This is valuable approach how to evaluate the efficacy of stenting. It would be good to know why only 29 patients within 12 months in 25 centers were enrolled.

3

Dilatation & stenting in the GI tract

Monday, October 20, 2008

BRIDGE TO SURGERY STENTING WITH WALLFLEX COLONIC STENT: SPANISH PROSPECTIVE MULTICENTER REGISTRY

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1 Endoscopy Unit. Gastroenterology Dpt., Hospital de Navarra, Pamplona, 2 Gastroenterology Dpt., Hospital Virgen de la Luz, Cuenca, 3 Gastroenterology Dpt., Hospital Universitario, Salamanca, 4 Gastroenterology Dpt., Hospital Universitario, Alicante, 5 Gastroenterology Dpt., Hospital La Macha Centro, Alcazar de San Juan, 6 Gastroenterology Dpt., Complejo Hospitalario, Pontevedra, 7 Gastroenterology Dpt., Hospital Mutua Tarrasa, Tarrasa, Spain

Endoscopic colonic stent insertion can effectively decompress the obstructed colon allowing bowel preparation and elective resection with primary anastomosis. The aim of the study was to assess the effectiveness and safety of Wallflex colonic stent (Boston Scientific, USA) in patients with acute malignant colorectal obstruction. 96 BTS patients were included. 89 patients (92.7%) presented with sub-occlusive symptoms or complete obstruction. Technical success was achieved in 93 cases (96.9%). Failures were due to improper stent placement (2) and improper stent expansion (1). Clinical success was achieved in 87 cases (90.6%). The authors concluded, that Wallflex colonic stent is effective in patients with acute malignant colonic obstruction as a bridge to surgery treatment, restoring luminal patency and allowing elective surgical resection with primary anastomosis. The use of this stent is safe and associated with an acceptable complication rate, considering reported data about other stents and emergency surgical treatment. Similar results to the previous study, and the same question has to be erased.

4

Nerve gut and motility: Upper and Lower GI motility

Tuesday, October 21, 2008

PERCUTANEOUS ENDOSCOPIC CAECOSTOMY (PEC): A NEW THERAPEUTIC OPTION IN THE TREATMENT OF INTRACTABLE FECAL INCONTINENCE AND SEVERE CONSTIPATION

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The Malone antegrade continence enema (MACE) has been shown to be an effective treatment of intractable fecal incontinence and severe constipation, but the complications particularly the leakage from the appendiceal stoma are frequent. Percutaneous endoscopic caecostomy (PEC) was developed as an alternative to MACE but has been poorly investigated. The aims of this pilot study were to assess the feasibility, morbidity and functional outcome of PEC. 10 patients attempted a PEC procedure for intractable fecal incontinence and/or severe constipation. During total colonoscopy the caecum was fixed to abdominal wall with anchors and stoma was created. The functional outcome was assessed by the patient using generic and specific questionnaire. PEC was successfully implanted in 8 patients, with no adverse event. The 2 failures were related to an endoscopic difficulty for caecum exposition. Continence, constipation, and quality of life improved significantly. The authors concluded, that PEC using a new introducer technique is a feasible, safe and effective method to provide antegrade enemas in patients with intractable fecal incontinence and/or severe constipation. The technique should be compared with mace and long-term results are of interest.

5

Technical developments in colonoscopy

Monday, October 20, 2008

CLINICAL FEASIBILITY OF A NEW COLONIC ACCESS DEVICE (MEGACHANNEL™) FOR INTERVENTIONAL PROCEDURES AT COLONOSCOPY: A PROSPECTIVE, MULTICENTER TRIAL

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Megachannel is a new colonic access system allowing rapid, multiple passes of the colonoscope to the right colon. The Megachannel was applied in 20 patients undergoing colonoscopy. The cecum was reached in 17/20 patients within 18 min, with 73 cm (60 to 90 cm) of the overtube being inserted into the colon. Mild tissue bruises were observed in 5 patients, mild to moderate pain was reported in 3. In 3 patients the Megachannel assisted the removal of multiple polyps as tissue was repeatedly retrieved through the device. In one patient a EUS scope was delivered for evaluation of tumor wall infiltration before submucosal resection, in another patient a suction cap was successfully delivered to the right flexure for removal of an incomplete-lifting polyp. The authors concluded, that this new colonic access system can be safely placed in the right colon and is useful for a variety of colonic interventions that require repeated insertion of the scope or delivery of bulky instruments such as EUS or suction caps. This new device can simplify the difficult therapeutic procedures in the right colon.

6

Video Case Session I ESD/EMR

Tuesday, October 21, 2008

ENDOSCOPIC SUBMUCOSAL DISSECTION OF COLORECTAL SUBMUCOSAL CANCERS

Y. Saito, S. Fukunaga, T. Sakamoto, S. Kiriya, T. Nakajima, T. Matsuda:
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The aim of the authors was to evaluate vertical tumour free margins and associated complications for colorectal sm cancers including carcinoid tumours treated by ESD primarily performed using bipolar needle knife (B-knife), ball tip B-knife and insulation-tip knife (IT knife) with carbon dioxide insufflation. Out of 300 recent colorectal ESDs, 70 sm lesions (23%) included 32 sm1 (<1000 µm) and 36 sm2 (=1000 µm) cancers and two carcinoid tumours. Most sm1 cancers successfully treated with 97% (31/32) having vertical tumour free margins; 63% (24/38) of sm2 cancers had vertical tumour free margins; and there were no complications. The authors concluded, that ESD can safely and effectively resect colorectal sm cancers when restricted to sm1 and some sm2 cases, but this procedure currently permits only limited local resection without LN dissection.

7

IBD: Treatment

Tuesday, October 21, 2008

MANAGEMENT OF PERIANAL FISTULAS OR ABSCESSSES USING TRANSPERIANAL EUS-GUIDED APPROACH: A PILOT STUDY

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Transperianal EUS-guided (TP US-guided) approach is a new technique to treat anal fistulas or abscesses. The aim of this study was to assess the feasibility, the efficiency and morbidity of this method. 24 patients underwent TP EUS-guided treatment. 20 patients had Crohn's disease. An 18 Gauge needle was percutaneously inserted through the perianal area under general anaesthesia and under direct endosonographic guidance with a 7.5-10 MHz electronic linear rigid anal probe (Hitachi U533, Japan). Fistulas were obturated with intrafistulous injection of fibrin glue (Beriplast™, Aventis) or cyanoacrylate (Glubran™). 20 patients (83%) underwent TP US-guided treatment for one or more fistulas, 3 for abscesses and one for both. 10 patients received concomitant immunosuppressive therapy. No complication occurred. The authors concluded, that the treatment of perianal fistulas or abscesses by TP US-guided approach is a simple method with low morbidity that can be performed as an ambulatory procedure. The immediate efficacy is good but a high recurrence rate occurred in patients with Crohn's disease thus requiring an associated immunosuppressive therapy.

8

Colonic and anorectal disorders: Others colonic and anorectal disorders

Tuesday, October 21, 2008

ENDOSCOPIC TREATMENT OF ANORECTAL CONDYLOMATA ACUMINATA WITH ARGON PLASMA COAGULATION: A PROSPECTIVE STUDY

G. Alexandrakis¹, P. Mavrogianni¹, P. Apostolopoulos¹, G. Rouvas¹, C. Kalantzis¹, C. Stefanaki², E. Nikolaidou², A. Katsambas², N. Kalantzis¹

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The aim of this prospective study is the evaluation of Argon Plasma Coagulation (APC) in the management of anorectal condylomata. 18 consecutive patients with anorectal warts underwent treatment with APC. There were 3 groups of patients: group A (n = 7) with intra-anal warts, group B (n = 7) with intra-anal and anal canal warts, group C (n = 4) with intra-anal, anal canal and proximal perianal warts. Eradication of warts had required 2 APC sessions in 9/18 patients (50%), 3 APC sessions in 3/18 patients (16.6%), 4 APC sessions in 2/18 patients (11.1%) and 5 APC sessions in 4/18 patients (22.2%). The number of required APC applications and recurrences seems to be dependent from the number and size of warts, coexistent HIV infection, compliance and collaboration of the patient and simultaneous cure of other affected areas. None of the patients had to interrupt his treatment because of those side effects. The authors concluded, that APC is an effective and safe method in treatment of anorectal warts.

9

Video Case Session I ESD/EMR

Tuesday, October 21, 2008

DEVELOPMENT OF BALL TIPPED FLUSH KNIFE FOR THE EFFICIENCY OF ENDOSCOPIC SUBMUCOSAL DISSECTION

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The authors invented short needle knives that can emit a jet of water from the tip of a sheath (Flush knife) in 2005. This time they have developed Ball tipped Flush knife (Flush knife-BT) for the further improvement of the operability of the knife and the ability of the hemostasis by the knife itself. A total of 37 consecutive lesions resected by ESD between March and April 2008 were enrolled in this study. These lesions were subdivided into two subtypes based on the instruments used; Flush knife (F) group and Flush knife-BT (BT) group. The authors concluded, that coagulation ability was significantly improved by Flush knife-BT, because of decreasing the current density. Operability was also obviously improved by hooking and scooping the object with mild cutting ability, and especially the advancement of the homogeneousness of the depth on the mucosal incision and progress of the dissection to the forceps aperture side that were difficult with Flush knife. Our newly developed Flush knife-BT is suggested to be the extremely promising operative instrument for the efficiency of ESD.

10

EMR and ESD: The cutting edge

Wednesday, October 22, 2008

EFFECTIVENESS OF FLUSH KNIFE FOR ESD OF LATERALLY SPREADING TUMORS IN THE COLORECTUM

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This study aims to examine the effectiveness of Flush knife for ESD of LSTs. Flush knife is our newly developed short needle knives that can emit a jet of water from the tip of a sheath in order to perform ESD more easily, safely, and efficiently. The authors removed 268 colorectal LSTs (=20 mm) from May 2002 to May 2007. Flush knife was introduced after June 2005, and Flex knife was used before. For both periods, we used together Small calibered Transparent hood (ST), Needle knife (Needle), Hook knife (Hook) depending on the situation such as the fibrosis in the submucosal layer was severe and manipulation was complicated. The newly developed Flush knife enables more effective and safer ESD of LSTs, especially LST-NG in the colorectum.

Pancreato-biliary tract

7. Diagnosis

Reporter: S. Frankova, Dpt. of Hepatogastroenterology, IKEM, Prague, Czech Republic

1

Efficacy of therapeutic ERCP

Monday, October 20, 2008

INTRADUCTAL ULTRASONOGRAPHY COMBINED WITH PERCUTANEOUS TRANSHEPATIC CHOLANGIOSCOPY FOR PREOPERATIVE EVALUATION OF TUMOR EXTENSION IN HILAR CHOLANGIOCARCINOMA

H. Kim¹, J. Park², K. Kim³, M. Park⁴, M. Kim⁴, Y. Park⁵, S. Park¹, S. Song¹, J. Chung¹, S.W. Park¹

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In hilar cholangiocarcinoma, evaluation of tumor extension to secondary bifurcation is important to determine resectability. Patients with hilar cholangiocarcinoma underwent multidetector computed tomography (MDCT) and magnetic resonance cholangiography (MRC) for initial tumor staging. In case of potentially resectable tumor, percutaneous transhepatic cholangioscopy (PTCS) with biopsy was performed at the left or right bile duct in Bismuth type IIIa or IIIb, respectively, to evaluate longitudinal tumor extent. After PTCS, IDUS was performed sequentially. The accuracy of IDUS, PTCS, MDCT and MRC in assessing longitudinal tumor extent was 86.7%, 80.0%, 73.3% and 78.6%, respectively, compared with intra- and post-operative histologic findings. In 13 patients with Bismuth type IIIa, IIIb or IV, the accuracy of IDUS, PTCS, MDCT and MRC was 92.3%, 84.6%, 76.9% and 76.9% on longitudinal tumor extent, respectively. The combination of IDUS and PTCS produced a diagnostic accuracy of 100% on longitudinal tumor extent. In conclusion, the combined modality of IDUS and PTCS with biopsy demonstrates high accuracy in assessing longitudinal tumor extent to determine resectability, which helps to make an optimal surgical plan in advanced hilar cholangiocarcinoma, especially in Bismuth type IIIa, IIIb and IV.

2

Biliary: Hepato-biliary tumours

Wednesday, October 22, 2008

DIAGNOSTIC ABILITY OF EUS AT BILIARY STRICTURES WITHOUT AN IDENTIFIABLE MASS ON HELICAL DYNAMIC CT

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This study evaluates the diagnostic sensitivity of endoscopic ultrasonography (EUS) for detecting biliary stricture caused by surrounding malignant tumors that were undetected by CT. EUS was performed in 31 patients (15 men, 16 women, mean age 71.4 years) with biliary duct strictures diagnosed by ERCP or MRCP with no adjacent mass or thickening of the bile duct in CT scanning. Final diagnosis of the underlying diseases was made by pathological examination or by clinical follow-up. The sensitivity, specificity, positive predictive value, and negative predictive value for recognizing biliary obstruction were 96.1%, 100%, 100%, and 83.3%, respectively. The sensitivity, specificity, positive predictive value, and negative predictive value for diagnosis of malignancy were 95.2%, 70%, 86.9%, and 87.5%, respectively. On EUS, a malignant mass significantly tended to show hypoechoic, irregular margin, disruption of the biliary duct, and invasion to the surrounding tissue ($p < 0.05$). In conclusion, EUS can diagnose biliary strictures caused by malignant tumors that were undetectable by CT scanning. EUS seems to be an important adjunct to diagnostic work-up not only in pancreatic mass, but also at biliary strictures.

3

Pancreas: Pancreatic cancer

Tuesday, October 21, 2008

SCREENING, SURVEILLANCE AND DIAGNOSTIC YIELD OF EARLY PANCREATIC NEOPLASIA

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In a study period of 3 years, 126 high risk individuals for pancreatic cancer (relatives from families with at least 1 affected first degree relative, individuals with Peutz- Jeghers syndrome, individuals who are known carriers of a BRCA-2 and individuals with chronic pancreatitis) were included and screened with EUS. In 13/126 (10%), the authors detected early pancreatic neoplasia: 3 main duct, 6 single and multiple branch duct IPMNs, 3 PanINs and 1 pancreatic ductal adenocarcinoma (stage T2 N0). Thus, it was suggested there is potential for detection of early pancreatic neoplasms in high risk individuals. Surveillance of high risk individuals is also recommended since the authors detected preneoplastic lesions 18 months after baseline screening. Similarly to previous study, the positive message has to be tempered. Whether there is a chance for increased survival is questionable.

4

Pancreas: Pancreatic cancer

Tuesday, October 21, 2008

ENDOSCOPIC ULTRASONOGRAPHY IS A VALUABLE TOOL WITH HIGH YIELD IN SCREENING OF PATIENTS AT HIGH-RISK FOR PANCREATIC CANCER

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The authors investigated the use of endoscopic ultrasonography (EUS) in screening for precursor lesions of PC. 48 patients underwent screening with EUS. Genetic background was diverse: 14 patients (9 were known p16 mutation carriers) from families with FAMMM (familial atypical multiple mole melanoma), 22 patients from familial pancreatic cancer (FPC) families, 3 patients with hereditary pancreatitis (proven mutations in PRSS1 gene), 2 Peutz-Jeghers syndrome (PJS) patients, 3 BRCA1 and 2 BRCA2 mutation carriers and 2 patients with a p53 mutation. In 3 patients (2 proven FAMMM, 1 BRCA2 mutation) asymptomatic mass lesions (12, 27 and 50 mm) were found in the pancreas. The smallest lesion was not visualised on CT and MRI. All underwent surgery and were found to have moderately differentiated adenocarcinomas. Sidebranch intraductal papillary mucinous neoplasias (IPMN) 'like' lesions were found in 7 patients: 3 in patients with FAMMM, 3 in patients with FPC (1 multifocal) and 1 in a BCRA1 mutation carrier. The authors conclude that screening patients at high-risk for PC with EUS is feasible and safe. The incidence of clinically relevant findings in their series was high with 6% asymptomatic cancers and 15% sidebranch IPMN 'like' lesions. The latter lesions may serve as a precursor lesion for early intervention. Whether screening will actually improve survival remains to be proven, as is the optimal interval for screening.

5

Pancreas: Pancreatic cancer

Tuesday, October 21, 2008

A COMPARATIVE STUDY OF ENDOSCOPIC ULTRASONOGRAPHY AND
MAGNETIC RESONANCE IMAGE IN THE DIAGNOSIS OF PANCREATIC CYSTIC
NEOPLASM CONFIRMED BY HISTOPATHOLOGY

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The authors report a comparative study of the accuracy of EUS and MRI in the diagnosis of pancreatic cystic neoplasm confirmed by histopathology. 51 patients who underwent pancreatic resection for pancreatic cyst were enrolled. Definitive histopathologic diagnoses were serous cystadenoma (SCA) in 14 cases, mucinous cystadenoma (MCA) in 14 cases, intraductal papillary mucinous neoplasm of the pancreas (IPMN) in 12 cases, solid and papillary epithelial neoplasm (SPEN) in 11 cases, mucinous cystadenocarcinoma (MCAC) in 3 cases. The sensitivity, specificity, PPV and NPV of EUS in SCA, MCA, SPEN were superior to that of MRI, while the sensitivity of MRI in IPMN was superior to EUS. Overall diagnostic accuracy of cystic lesion was 82.3% in EUS and 64.7% in MRI ($p < 0.05$). They conclude that the overall accuracy of EUS is superior to MRI but a combination of EUS and MRI is needed for proper evaluation and diagnosis of pancreatic cystic lesions.

6

Pancreas: Pancreatic cancer

Tuesday, October 21, 2008

CYST FLUID ANALYSIS OF MUCIN EXPRESSION PATTERN BY PROTEOMICS
MAY BE HELPFUL IN THE DIFFERENTIAL DIAGNOSIS OF PANCREATIC CYSTIC
LESIONS

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Mucin expression pattern has been shown to correlate with prognosis for intraductal papillary mucinous neoplasms (IPMNs) and mucinous cystic neoplasms (MCNs). The authors set out to analyze mucin expression in different PCLs by proteomics, hypothesizing that it may be used as a diagnostic/prognostic marker. Patients referred for endoscopic ultrasound (EUS) with fine needle aspiration of a PCL were prospectively included and analysis was performed. The results of proteomics were compatible with surgical pathology/EUS morphology for at least 13/15 PCLs. Mucins were detected in 8 samples by proteomics, only 4 of these had been mucus-positive in the cytological examination. Mucins were found in 3 samples (6-8) that had stained negative for mucus: 2 suspect IPMNs and one serous cystadenoma. Inversely, cytology was positive for mucus in 2 PCLs where mucins were not found. The authors conclude that their results indicate that mucin analysis by proteomics is helpful in the differential diagnosis of PCLs. Compared with conventional mucus stains and CF CEA, it may correlate better with clinical and EUS evaluation, and requires minute amounts (<20 μ l) of cyst fluid.

7

Video case session II miscellaneous

Wednesday, October 22, 2008

PANCREATIC CYST BRUSHINGS: CELLULAR YIELD, DIAGNOSTIC ACCURACY
AND VIDEO DEMONSTRATION

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This study evaluated the cellular yield of EUS guided pancreatic cyst wall brushing. The echobrush (WilsonCook, Ireland, UK) was advanced through the needle till the whole brush could be visualised in the cyst and the wall of the cyst was then brushed. Out of the 26 cysts evaluated, in 8/26 (30.7%) samples were acellular or insufficient for cytological evaluation. The diagnostic accuracy was 65%. In conclusion, although the cellular yield of cyst brushing for diagnosis of cystic lesions seems moderate it has an overall diagnostic accuracy of 65%.

8

Video case session II miscellaneous

Wednesday, October 22, 2008

ENDOSCOPIC DIAGNOSIS FOR INTRADUCTAL PAPILLARY-MUCINOUS NEOPLASM (IPMN) USING PERORAL PANCREATO-VIDEOSCOPE (PPS) AND NARROW BAND IMAGE (NBI) SYSTEM

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The aim of the study was to evaluate the value of peroral pancreatoscopy (PPS) in diagnosing and evaluating pancreatic lesions. PPS was performed in 15 patients. Pancreatoscope was successfully inserted into the main pancreatic duct in all cases. Adenocarcinomas appeared as large papillary lesions with a characteristic tumor vasculature, whereas adenomas were small papillary or nodular lesions without tumor vasculature. Based on these results, it can be concluded that PPS may be useful adjunct for the diagnosis of IPMNs.

9

Efficacy of therapeutic ERCP

Monday, October 20, 2008

USEFULNESS OF MEASUREMENT OF URINARY TRYPSINOGEN-2 FOR EARLY PREDICTING THE SEVERITY OF POST-ERCP PANCREATITIS

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This prospective multicenter clinical study aimed to evaluate whether a dipstick test for urinary trypsinogen-2 is useful for early prediction of the development of post-endoscopic retrograde cholangiopancreatography (ERCP) pancreatitis. Dipstick positivity, urine trypsinogen -2 levels and serum amylase levels were evaluated. Post-ERCP pancreatitis developed in 22 of 301 patients (7.3%). The sensitivity and specificity of urinary trypsinogen-2 by dipstick test were 59% and 85%, respectively, which were not superior to those of conventional serum amylase measurement 2 hours after ERCP (86% and 83%). However, the urine levels of trypsinogen-2 significantly correlated with the severity of the post-ERCP pancreatitis. To correctly diagnose moderate post-ERCP pancreatitis, cut off level above 2007 g/l of urine trypsinogen-2 could have sensitivity of 100% and specificity of 98%. In

conclusion, although the dipstick test for urinary trypsinogen-2 in the first urine sample is not superior to measurement of serum amylase 2 hours after ERCP for prediction of post-ERCP pancreatitis, measuring urinary trypsinogen-2 level in the first urine is useful for predicting the severity of post-ERCP pancreatitis. Early prediction of severity of pancreatitis would improve management of these patients.

10

Pancreas: Pancreatitis

Wednesday, October 22, 2008-12-18

RECURRENT ACUTE PANCREATITIS: IS ERCP STILL REMAINING THE GOLD STANDARD METHOD FOR DIAGNOSING ITS ETIOLOGY?

KE Goumas, AC Poulou, SI Bartzokis, SV Makreas, VK Paloglou, DC Dandakis, EE Dellaporta, MS Koursari, DC Soutok:

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The aim of the study was to evaluate the usefulness of ERCP in diagnosing the etiology of acute recurrent pancreatitis (RAP), otherwise unrevealed by non-invasive methods. The cause of RAP was revealed by ERCP in 127 patients out of the 133 (95,5%). Microlithiasis was diagnosed in 75 patients, choledocholithiasis, due to small stones mainly, in 38 (28,6%), chronic pancreatitis in 7 (5,3%), pancreas divisum in 3 (2,3%), sphincter of Oddi dysfunction in 2 patients (1,5%), while anomalous confluence of the main bile and pancreatic ducts was detected in a single patient and choledochocoele in another one. The authors concluded that ERCP is indicated for revealing or validating the etiology of recurrent acute pancreatitis in a substantial percentage of patients.

Pancreato-biliary tract

8. Treatment

Reporter: D. Kamenar, Dpt. of Hepatogastroenterology, IKEM, Prague, Czech Republic

1

Biliary: Gallstones

Tuesday, October 21, 2008

CLINICAL AND ECONOMIC IMPACT OF EUS PLUS ERC IN ONE SESSION VERSUS EUS PLUS ERC IN TWO SESSIONS FOR CHOLEDOCHOLITHIASIS: A RANDOMIZED STUDY

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The aim of this randomized trial is to test, in patients with non-high-risk for CDBS, the clinical and economic impact of EUS plus ERC in one endoscopic session versus EUS plus ERC in two sessions and the ability of EUS to prevent inappropriate ERC. During the study period 80 patients (18 with low, 35 with intermediate and 27 with moderate risk) were recruited and were randomized to receive respectively 40 EUS plus ERC in one session and 40 in two sessions. The sensitivity, specificity, positive predictive value and negative predictive value of EUS was respectively of 100, 98, 100 and 98% and the number of ERCs

avoided were 33/80. The average procedure time and the hospitalization days was significantly shorter in the one session group compared with the two session group ($p = 0.000$) and also the rate of hospitalization and total costs was lower in the one session group compared to the two session group ($p = 0.000$). The authors concluded that using EUS to select non-high risk patients for CDBS was useful in avoiding unnecessary ERC. When stone are demonstrated by EUS, ERC with sphincterotomy and extraction can be performed in the same session with a reduction of costs and time of procedures.

2

Biliary: Gallstones

Tuesday, October 21, 2008

SUCCESS RATE OF INTRADUCTAL ELECTROHYDRAULIC- AND LASER LITHOTRIPSY IN THE MANAGEMENT OF DIFFICULT COMMON BILE DUCT STONES

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Endoscopic procedures with electro hydraulic lithotripsy (EHL) or intraductal laser lithotripsy (ILL) of common bile duct (CBD) stones are advanced methods of choice in the management of difficult CBD stones. Here the authors present ten years of Swedish experience with motherbaby scope assisted CBD stone fragmentation by EHL and ILL in 44 patients with CBD stones, in whom conventional endoscopic stone fragmentation had failed. Following EHL/ILL treatment±conventional ERCP; 34 (77%) of the 44 patients were considered completely stone free and ten (23%) patients were classified as failures. Peroperative complications occurred in two patients, both with stone basket impaction. The authors find the peroral endoscopic EHL or ILL, under direct cholangioscopic visualization by motherbaby endoscopic system a safe and effective treatment option for difficult common bile duct stones, even though it may require several endoscopic attempts. The use of this technic would always be exceptional and success rate is related to selective criteria.

3

Pancreas: Pancreatitis

Wednesday, October 22, 2008

MICROLITHIASIS AS A COMMON CAUSE OF RECURRENT ACUTE PANCREATITIS

M. Kujundzic, B. Bilic, Z. Bogdanovic, T. Bokun, Z. Babic, M. Banic, Z. Cabrijan, I.

Grgurevic, D. Kardum, L. Petricusic, M. Tadic, M. Crncevic-Urek, Z. Puljiz:

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The aim of this study was to determine if microlithiasis is one of the causes of recurrent and idiopathic acute pancreatitis. During a period of 5 years, the authors analyzed a total of 47 patients that suffered from at least one or more attacks of idiopathic pancreatitis. All patients microscopic analysis of bile collected at ERCP. A total of 31 patients (66%) were found to have microlithiasis. Sphincterectomy was performed on all patients with microlithiasis. Twenty nine out of 31 with microlithiasis and sphincterectomy had no recurrent episode of acute pancreatitis in the next 2 years, while two did. The authors state that microlithiasis is, in many cases, the cause of recurrent acute idiopathic pancreatitis. Sphincterotomy seems to be the optimal therapeutic option and preventive measure. The question remains, whether in patients with microlithiasis either sphincterotomy or cholecystectomy should be the first option.

4

Efficacy of therapeutic ERCP

Monday, October 20, 2008

LONG-TERM OUTCOMES OF ENDOSCOPIC SPHINCTEROTOMY IN COMPARISON TO ENDOSCOPIC PAPILLARY BALLOON DILATION IN PATIENTS WITH BILE DUCT STONES: A RANDOMIZED CONTROLLED MULTICENTER TRIAL

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The primary endpoint of this study was to compare the long-term outcomes of EST in comparison to endoscopic papillary balloon dilation (EPBD). A randomized controlled multicenter trial of 144 patients assigned to EST and 138 patients to EPBD was carried out, and the patients were followed periodically. The median duration of the follow-up was 6.7 years. Morbidity was observed in 43 patients (30%) and 19 patients (14%). A Kaplan-Meier analysis revealed a significantly higher incidence of biliary complications such as recurrent bile duct stones and cholangitis in the EST group than in the EPBD group. Thus the authors concluded, that papillary dysfunction after EST results in additional late complications during long-term follow-up. Interesting conclusion means that at least in well selected young patients, the papillary dilation could be preferred.

5

Efficacy of therapeutic ERCP

Monday, October 20, 2008

VERY-LONG TERM RESULTS OF ENDOSCOPIC MANAGEMENT OF POSTOPERATIVE BILIARY STRICTURES WITH MULTIPLE STENTS.

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Endoscopic dilation of post-operative bile duct strictures (POBS) with increasing numbers of stents was first described by this group with promising results. The aim of this study was to verify the results at a very long-term follow-up. The group of 42 patients published in 2001, that had undergone endoscopic dilation of POBS with the “multistenting” technique, was re-analyzed. 6 patients (14.2%) died for unrelated disease after a mean time of 4.2 years (range 0.8-13.5). One (2.4%) patient was lost to follow-up. Overall mean follow-up for 35 living patients is 12.1 years (range 10-18.1). Seven patients had recurrent acute cholangitis after a mean of 6.1 years (range 1.5-11.7) from the end of treatment. All these 7 patients underwent

ERCP that showed POBS recurrence (n=4, 11%) that was retreated endoscopically and the presence of common bile duct stones (n=3) that were extracted. No stricture or bile duct stones recurrence after re-treatment were recorded after a mean of further 5.4 years (range 0.7-10.2). Twenty-eight (80%) patients remained completely asymptomatic with normal LFTs and abdominal US after a mean time of 12 years (range 10-18.1). In summary, stricture recurrence rate after POBS is low and can be retreated endoscopically.

6

Efficacy of therapeutic ERCP

Monday, October 20, 2008

PREDICTIVE FACTORS OF A SUCCESSFUL ENDOSCOPIC DRAINAGE IN MALIGNANT HILAR STRICTURES

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The main aim of this study was to identify predictive factors of a successful endoscopic drainage of malignant hilar strictures, especially regarding the extent of the drainage. Patients were divided into 3 groups according to the type of drainage: Group A: one single sector opacified and drained, Group B: at least 2 sectors opacified and all extensively drained, Group C: several sectors opacified but incompletely drained. Drainage success rate (bilirubin level < 50%) was 72% and median survival time was 88 days. Group B presented a statistically significant superiority versus the two others, both in term of drainage success (82% vs 60%, p= 0.02) and in term of long term (>30 days) survival time (132 vs 58 days, p=0,02). The main factor of drainage success was the drainage of more than 50% of the liver (Odds Ratio (OR) 4.5, p=0.001), which, in most of the cases, means draining 2 hepatic sectors (OR 3.08, p=0.01). An efficient drainage improved performance status and median survival time (119 vs 59 days, p=0.005). In conclusion, drainage of more than 50% of liver volume, which requires most frequently a bilateral drainage, is associated with a higher success rate of endoscopic drainage and a prolonged long term survival.

7

Therapeutic endoscopy/Interventional radiology: Biliary and pancreatic stenting

Wednesday, October 22, 2008

TEMPORARY PLACEMENT OF COVERED SELF EXPANDABLE METALLIC STENTS (CSEMS) IN ANASTOMOTIC BILIARY STRICTURES AFTER LIVER TRANSPLANTATION

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The aim of this study was to prospectively study the ability of placement and removal of partially CSEMS in anastomotic biliary strictures after liver transplantation. CSEMS placement could be performed in all 13 patients, after endoscopic dilation of the stricture in 4 patients, and biliary sphincterotomy in 11 patients. Complications associated with placement were minor and included post ERCP pancreatitis (n = 2), pain (n = 1) and cholangitis (n = 1). CSEMS removal could be performed after 2 months in all patients, with a snare (n = 4), a rat tooth (n = 4), or both (n = 2). Proximal migration of the csems occurred in 3 patients. In these patients removal was performed with a rat tooth after infundibulotomy (n = 1) or Argon Plasma coagulation of the papilla (n = 2). After removal, cholangiogram showed resolution of

the stricture in 11 patients and a persistent stricture in one patient, treated with CSEMS placement. Mean follow up after CSEMS removal was 8.9±3.4 months. Recurrence of anastomotic stricture occurred in 4 patients after 5±2.4months, treated with CSEMS placement. The authors concluded, that temporary placement of CSEMS in anastomotic biliary strictures after liver transplantation is feasible. Important is, that CSEMS removal was possible in all cases. Proximal migration of the stent may occur, thus requiring a combination of techniques for removal.

8

Efficacy of therapeutic ERCP

Monday, October 20, 2008

A MULTI-CENTER, SINGLE ARM, PROSPECTIVE STUDY OF A NEW PARTIALLY COVERED NITINOL SELF-EXPANDING STENT FOR THE PALLIATIVE TREATMENT OF MALIGNANT BILE DUCT OBSTRUCTION

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The new WallFlex™ Biliary Partially Covered Stent is indicated for palliative treatment of bile duct obstructions caused by malignant neoplasms. Enrollment in a 70 patient prospective multi-center trial is complete and follow-up is 87% (60/69) complete. Malignancy was pancreatic carcinoma in 68% (47), bile duct in 13% (9), gallbladder in 4% (3), ampulla in 6% (4), gallbladder in 4% (3), other in 9% (6). 67 patients received 1 stent and 2 patients received 2 stents. 56% of patients received the SEMS de novo and 44% in exchange of a previously implanted plastic stent. Mean procedure duration was 28 minutes. Technical success at stent placement was 97%. To date 24 (35%) patients have completed follow-up to 6 months and 36 (52%) have died. There have been 5 (7.2%) cases of recurrent biliary obstruction to date: 3 (4%) due to stent migration (day 2, 111, 189), 1 stent occlusion due to tumor overgrowth (day 36), and 1 due to sludge (day 108). Thus far there were 8 (11.6%) device related complications: 3 stent migration, 2 cholecystitis, 1 pancreatitis, 1 RUQ abdominal pain, and 1 fever. In conclusion, This new self-expandable partially covered nitinol stent has proven to be easily implantable, safe, and effective in the long-term palliation of symptoms of biliary obstruction secondary to inoperable cancer. Is in the stent construction still any place for the improvement?

9

Therapeutic endoscopy/Interventional radiology: Biliary and pancreatic stenting

Wednesday, October 22, 2008

EMERGENCY PANCREATIC DRAINAGE WITH POSTPONED BILIARY SPHINCTEROTOMY IN PATIENTS WITH ACUTE BILIARY PANCREATITIS: SPARING LITTLE TIME MAY SAVE A LOT

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The aim of the present pilot study was to study the effect of emergency ERCP and PD stenting with small calibre prophylactic stents on the clinical outcome of ABP in pts, in whom biliary EST was failed or contraindicated. 70 consecutive patients with ABP were evaluated. In 55 ABP pts successful ERCP, EST, and stone extraction were performed. In the remaining 15 pts small calibre (4-5 F, 4 cm, Geenen) pancreatic stent insertion was applied. The indication of PD stenting with postponed sphincterotomy was failed selective biliary access in 8 pts (due to juxtapapillary diverticulum, impacted distal CBD stone or severe peripapillary edema); and poor as well as instantaneously uncorrectable blood coagulation status (due to Warfarin therapy or concomitant liver disease) in 7 pts. The mean age, the symptom to ERCP time, the Ranson scores, and also the amylase and CRP levels at initial presentation were not significantly different in the PD stent versus EST groups. More importantly, the complication rate (13% vs. 18%) and mortality (0 vs 1.8%) were comparable, reasonably low and demonstrated no statistically significant differences. Removal of PD stents, biliary EST and bile duct clearance were successfully done after the resolution of ABP (on average 5.3 days later) in all pts. It can be concluded that temporary PD stenting with small calibre stents may offer sufficient drainage to reverse the process of obstructive, biliary pancreatitis in pts with failed or contraindicated biliary sphincterotomy, and may improve the overall outcome of emergency ERCP and EST in ABP. Nevertheless it remains debatable what could be the contribution if this new technical adjunct in clinical practice.

10

Efficacy of therapeutic ERCP

Monday, October 20, 2008

A PROSPECTIVE RANDOMIZED STUDY ON THE SAFETY OF PRECUT PAPILOTOMY WITH ANALYSIS OF THE FACTORS ASSOCIATED TO THE DEVELOPMENT OF COMPLICATIONS DURING ERCP

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This is a prospective randomized study aiming at evaluating the safety of precut papillotomy and the factors associated to the development of complications. Patients undergoing ERCP, in which after 10 minutes the cannulation in the conventional methods failed, were prospectively randomized in 2 groups: Group A (n=27) that immediately underwent precut and group B (n=26) in which cannulation was attempted for at least 10 further minutes before the endoscopist was free to decide to perform precut or to continue in the conventional method. Precut was performed in all patients of group A and in 17/26 (65%) of B. Incidence of pancreatitis was 0/27 in group A and 4/26 (15%) in B (p<0.05). Number of attempts to cannulate the papilla and of pancreatic duct injections were significantly higher in group B. The authors concluded that precut papillotomy is a safe procedure which does not bring an adjunctive risk of developing pancreatitis and other complications. Pancreatitis is likely to develop as a consequence of the many attempts to cannulate the papilla and of pancreatic duct injection. Also the reporter is convinced that precut is relatively safe, but in experienced hands only.

New technologies

9. New instruments and technologies

Reporter: S. Bouskova, Dpt. of Hepatogastroenterology, IKEM, Prague, Czech Republic

1

Monday, October 20, 2008

ENDOSCOPY WITH FICE IS USEFUL IN EARLY DIAGNOSIS OF RECURRENT ESOPHAGEAL VARICES

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FICE (Flexible imaging color enhancement) is a novel endoscopic diagnosis technique that can spectrally separate any wavelength of light and process and reconstruct an obtained image. Authors investigated whether endoscopy with an FICE system before and after treatment is useful in evaluating the therapeutic effects of treatment for esophageal varices. The study subjects included 30 patients who underwent endoscopy with FICE before and after sclerosing therapy for esophageal varices. The visibility was clearer in all types of images with concomitant use of FICE, especially the vividness of the microvessels around the treated area and recurrent varices. The authors concluded, that performing endoscopy with FICE before and after sclerosing therapy for esophageal varices enabled us to observe the recurrent varices after treatment and microvessels around the scar more clearly.

2

Endoscopy and imaging: Endoscopy (Upper GI, Colon, ERCP)

Monday, October 20, 2008

ENDOSCOPIC DIAGNOSIS OF SUPERFICIAL ORO-PHARYNGEAL CARCINOMA FOR PATIENTS OF ESOPHAGEAL CANCER BY FUJI INTELLIGENT COLOR ENHANCEMENT (FICE)

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The purposes of this study were to verify the effectiveness of the FICE system in conducting endoscopic screening at the oropharynx and the hypopharynx. 287 consecutive patients with esophageal cancer (pretreated case: 237, primary case: 50) underwent endoscopic screening of the oropharynx and the hypopharynx with the FICE. All lesions exhibited a microvascular proliferation pattern on magnified FICE. Among 287 patients, 9 superficial lesions (3.1%), at the oropharynx (n = 9) and at the hypopharynx (n = 3), were discovered with the FICE system. On conventional electroendoscopic view, two of 9 lesions could be hardly recognized because of its small diameter measuring 5 mm or less. It seems, that FICE is a promising and potentially powerful tool for identifying carcinomas at an earlier stage during routine endoscopic examination.

3

Endoscopy and imaging: Endoscopy (Upper GI, Colon, ERCP)

Monday, October 20, 2008

NEW DIGITAL IMAGING TECHNOLOGY (I-SCAN) FOR UPPER GI ENDOSCOPY: A PILOT STUDY

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CE emphasizes the mucosal micro topography information, which can help to detect pre-cancerous lesions. CE maintains natural colors and image details. SE emphasizes the mucosal surface structures and vessel structures, which can help to detect pre-cancerous lesions. SE maintains natural colors and image details. TE enables detailed observation of fine mucosal structures, vessel structures, and pit pattern. Each algorithm can be combined with other ones. This pilot study enrolled 21 early gastric cancer lesions. Each endoscopy report included 24 images in eight different endoscopic modalities (conventional image, CE image, SE image, TE image, CE+SE image, CE+TE image, SE+TE image, and CE+SE+TE image), and six experienced endoscopists, who had never used the i-scan system before, analyzed the 21 endoscopy reports. CE+SE+TE image was considered the best modality in 50.7% of the reports and the other i-scan modality images were considered superior to the conventional image. The authors concluded, i-scan images were significantly better than conventional images.

4

Technical developments in colonoscopy

Monday, October 20, 2008

IN VIVO MOLECULAR IMAGING OF COLORECTAL CANCER BY CONFOCAL ENDOMICROSCOPY

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The aim of the current study was to evaluate confocal microscopy for in vivo molecular imaging of EGFR in rodent models of human CRC. Tumors from human CRC cell lines with differential EGFR expression were xenografted by subcutaneous injection into the groin of n=62 nu/nu mice. Tumors were visualized in vivo after systemic injection of fluorescently labeled anti-EGFR antibodies with a handheld confocal probe (FIVE1, Optiscan). Acriflavine and fluorescein were used for morphologic imaging. In vivo findings were correlated to ex vivo histopathology, immunohistochemistry, fluorescent microscopy and FACS analysis. In vivo fluorescence (0 to +++) correlated with EGFR expression ($p < 0,05$). In addition, tumor morphology could be readily visualized after acriflavine or fluorescein injection at high resolution. In conclusion, differentiation of tumors by confocal microscopy based on their EGFR expression patterns was possible in mouse models of human CRC. Since endomicroscopy with a similar scanner can be performed in humans, in vivo molecular imaging bears great potential to impact on the future diagnostic workup of CRC and to predict response to targeted therapies. This study demonstrates expanding potential of confocal endomicroscopy.

5

Endoscopy and imaging: Endoscopy (Upper GI, Colon, ERCP)

Monday, October 20, 2008

CONFOCAL LASER ENDOMICROSCOPY AND ULTRASOUND ENDOSCOPY DURING THE SAME ENDOSCOPIC SESSION FOR DIAGNOSIS AND STAGING OF UPPER GI NEOPLASTIC LESIONS

C. Gheorghe, R. Iacob, M. Dumbrava, G. Becheanu

Confocal LASER endomicroscopy (CLE) is a newly developed endoscopic technique which allows subsurface in vivo histological assessment during ongoing endoscopy and targeted biopsies. Ultrasound endoscopy (EUS) is a useful tool in staging upper GI malignant lesions. The authors described for the first time the use of both techniques during the same endoscopic session, in a pilot study, in order to increase the diagnostic yield of histological assessment and provide the staging of the disease thus decreasing the time to therapeutic decision. Eleven patients have been investigated. The indication of CLE/EUS exploration was gastric polypoid lesion in 37% of cases, atypical gastric ulcer in 27% of patients, gastric lymphoma 18%, suspected gastric cancer recurrence after resection 9% and infiltrating type gastric cancer 9%. Histological assessment after targeted biopsy has established the diagnosis of gastric adenocarcinoma in 55% of cases, gastric lymphoma in 18% of cases, gastric adenoma, gastric GIST and gastric foveolar hyperplasia in 9% of cases respectively. CLE and EUS can be successfully associated during the same endoscopic session, for upper GI neoplastic lesions allowing targeted biopsies for histological assessment and disease staging for optimal therapeutic decision.

6

Technical developments in colonoscopy

Monday, October 20, 2008

THE THIRD EYE RETROSCOPE AUXILIARY ENDOSCOPY SYSTEM IMPROVES DETECTION OF POLYPS IN THE COLON - A PROSPECTIVE EFFICACY EVALUATION

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The Third Eye™ Retroscope™ (TER) provides a retrograde view that complements the forward view of a standard colonoscope. The authors present initial results based on the first 214 subjects enrolled in a prospective study to evaluate efficacy of the device for detecting polyps that are missed during colonoscopy. After the caecal intubation, disposable TER is inserted through the biopsy channel creating the retrospective view. The authors concluded, that a retrograde-viewing device revealed areas that are hidden from the forward-viewing colonoscope and allowed detection of 13.3% additional polyps, including 12.4% additional adenomas. The single use device will make the costs hardly acceptable for routine screening even if increasing the polyp detection rate.

7

EMR and ESD - The cutting edge

Wednesday, October 22, 2008

EFFECTIVENESS OF FLUSH KNIFE FOR ESD OF LATERALLY SPREADING TUMORS IN THE COLORECTUM

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Laterally spreading tumors (LSTs) in the colorectum can be removed by endoscopic mucosal resection but larger tumors (20mm) may require piecemeal resection because of limitation of snare size. The development of endoscopic submucosal dissection (ESD) has enabled en-bloc resection of lesions, such as LST non-granular type (LST-NG) or LST granular type (LST-G) regardless of size and shape. This retrospective study aimed to examine the effectiveness of Flush knife for ESD of LSTs. Flush knife is our newly developed short needle knives that can emit a jet of water from the tip of a sheath in order to perform ESD more easily, safely, and efficiently. En-block complete resection rate was 98.9% (LST-NG; 100%, LST-G; 98.3%) with Flex knife and 99.4% (LST-NG; 98.4%, LST-G; 100%) with Flush knife. Median tumor size was LST-NG; 26.0mm (20-55), LST-G; 32.0mm (20-104): $p=0.0041$ with Flex knife, LST-NG; 28.0mm (20-74), LST-G; 40.0mm (20-158): $p<0.00010$ with Flush knife. Time required for resection was LST-NG; 85.0min, LST-G; 56.5min: $p=0.00072$ with Flex knife, LST-NG; 66.0min, LST-G; 61.5min: $p=0.79$ with Flush knife. Although median tumor size of LST-NG was smaller than that of LST-G, LST-NG required longer time for resection than LST-G. The time for resection and rate of combination use were very decreased by the induction of Flush knife. Rate of perforation was LST-NG; 8.3%, LST-G; 0% with Flex knife, but it was LST-NG; 3.2% , LST-G; 0.9% with Flush knife. No recurrence case was observed with both knives. In summary, the newly developed Flush knife enabled more effective and safer ESD of LSTs, especially LST-NG in the colorectum.

8

Endoscopy and imaging: Endoscopy (Upper GI, Colon, ERCP)

Monday, October 20, 2008

NEW DEVICE FOR PREVENTING OPERATIVE HAEMORRAGE DURING STOMACH ENDOSCOPIC SUBMUCOSAL DISSECTION

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In the bipolar artery forceps, electric current only flows between the apical cuffs. Since there is low risk of blood coagulation due to excessive electric current in other areas, the risks of perforation and peritonitis are reduced. Although the bleeding blood vessel needs to be lifted to prevent bleeding when using the monopolar artery forceps, the bleeding blood vessel does not need to be lifted when using the bipolar artery forceps. Therefore, it is easy to perform ESD using bipolar artery forceps. The authors report our experience in performing ESD with the monopolar or bipolar artery forceps. Twenty-five patients who underwent stomach ESD with monopolar artery forceps and 100 patients who underwent stomach ESD with bipolar artery forceps were compared. The authors concluded, that bipolar artery forceps is a safe device for ESD because it did not cause any damage to deep tissues. ESD using this device can be performed easily with low risk of bleeding.

9

EMR and ESD - The cutting edge

Wednesday, October 22, 2008

THE USE OF CARBON DIOXIDE FOR INSUFFLATION REDUCES

CARDIOVASCULAR LOAD IN THE PROCEDURE OF ENDOSCOPIC SUBMUCOSAL

DISSECTION FOR COLORECTAL TUMORS

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The aim of this study was to evaluate cardiovascular load, the amount of intestinal gas and arterial blood gas between age-matched subjects undergoing ESD from December 2007 to March 2008 under air insufflation (AIR, 6 subjects) or CO₂ insufflation (CD, 6 subjects). Cardiovascular load was assessed by a parameter given by systolic blood pressure × heart rate before and after ESD. The amount of intestinal gas was quantified as the ratio of gas area against the total abdominal area measured with image processing software on abdominal X-ray film taken just after ESD. Arterial blood gas (pH, PaCO₂, PaO₂, and HCO₃⁻) was analyzed before and after ESD. The increment of cardiovascular load before and after ESD was significantly larger in AIR than in CD. The amount of intestinal gas was significantly larger in AIR than in CD. In conclusion, this study demonstrates that the use of CO₂ for insufflation can reduce cardiovascular loads.

10

Upper GI mucosal imaging

Tuesday, October 21, 2008

EVALUATION STUDY ON THE CORRELATION BETWEEN OPTICAL COHERENCE TOMOGRAPHY AND HISTOLOGY IN THE DIAGNOSIS OF CELIAC DISEASE IN PEDIATRIC PATIENTS

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The aim of this study was to assess the correlation of the optical coherence tomography (OCT) with histology in pediatric patients undergoing EGD for performing biopsies for the CD diagnosis. 134 paediatric patients were prospectively and consecutively enrolled: 67 paediatric patients with a serological suspicion of CD (group 1), and 67 paediatric control patients who underwent EGD for dyspepsia or GERD, with negative antibodies and negative histology for CD (group 2). To compare the villi morphology as shown by OCT and histological analysis we considered three kinds of patterns: pattern 1 = no atrophy, (0, 1 or 2 of the Marsh histological classification); pattern 2 = mild atrophy (3a or 3b Marsh); pattern 3 = marked atrophy (type 3c). Of the 11 celiac paediatric patients with histological diagnosis of no villi atrophy (pattern 1) OCT was concordant in the 100% of cases. Of the 32 patients with histological diagnosis of mild villi atrophy (pattern 2) OCT was concordant in the 93.8% of cases (30 patients). Of the 24 patients with histological diagnosis of total villi atrophy (pattern 3) OCT was concordant in 91.6% of cases. In the controls group the concordance between OCT and histology was of 100%. In summary, OCT could be an helpful diagnostic tool to diagnosis CD in children with antibodies positivity, avoiding duodenal biopsies.

New technologies

10. NOTES

Reporter: T. Hucl, Dpt. of Hepatogastroenterology, IKEM, Prague, Czech Republic

1

Endoscopy and imaging: Endoscopy (Upper GI, Colon, ERCP)

Monday, October 20, 2008

MULTIBENDING ENDOSCOPE IS SUPERIOR TO TRADITIONAL ENDOSCOPE FOR NOTES PROCEDURES

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The aim of the study was to compare a novel M-scope (GIF- 2TQ260M, Olympus Optical LTD, Tokyo, Japan) with traditional double channel endoscope (GIF-2T240, Olympus Optical LTD, Tokyo, Japan) for NOTES procedures in a randomized controlled trial in a live animal model. Five miniature pigs were used in this study. A colonic entrance was achieved with a needle knife and dilating balloon. Then an endoscope was advanced into the peritoneal cavity. Under this endoscopic supervision, a gastric entrance was achieved with the same technique. The celiac organs (liver, gallbladder, pancreas, spleen, small bowel, larger bowel, omentum, urinary bladder, peritoneum, uterine tubes and ovaries) were inspected, examination time was also recorded. Multibending endoscope (M-scope) is superior in visualizing abdominal organs to traditional endoscopes irrespectively of the type of transluminal approach used to enter the peritoneal cavity.

2

Endoscopy and imaging: Endoscopy (Upper GI, Colon, ERCP)

Monday, October 20, 2008

CLOSURE OF A GASTRIC NOTES-INCISION: COMPARISON OF THE CLOSURE BURSTING PRESSURE USING TAS T-TAG SYSTEM, CLIPS AND OPEN SURGICAL CLOSURE

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The aim of this study was to assess the in vivo strength of TAS T-tag closure, clips closure and open surgical closure of a NOTES gastric incision compared with the pre-perforation gastric yield pressure in a non-survival model. Laparotomy was performed under general anaesthesia in 19 pigs (35-42 kg). A 20F tube for air-inflation and a standard nasal 4-channel gastro-esophageal manometry tube were inserted into the stomach via the pylorus through a duodenotomy. Pylorus was made gas tight with double ligatures and the abdominal wall was sutured. The stomach was inflated with air and the gastrooesophageal yield-pressure was measured twice in all animals. Following these base-line measurements a standard NOTES access was created in the stomach wall a gastroscope was passed into the abdominal cavity. After withdrawal of the endoscope, closure method was randomised to either endoscopic closure using the Tissue Apposition System (TAS T-tag, Ethicon Endosurgery, n = 6), clips closure (Boston Scientific, n = 6) or open surgical closure (n = 7). After closure of the NOTES perforation using TAS, the pig yielded at the cardia (n = 2) or leaked air via the suture line (n = 4) at a mean intra gastric pressure of 62 mm Hg. With clips, two of the

perforations were not sufficiently sealed for testing and the remaining four opened up at a mean pressure of 22.8 mm Hg. After open surgical closure the gastric yield (n = 4) or slight air leakage (n = 3), were recorded at a mean of 68.3 mm Hg. Thus, the T-tag closure of a gastric NOTES access perforation using the TAS system is as robust as open surgical closure and more secure than clip closure in an in vivo porcine model.

3

Endoscopy and imaging: Endoscopy (Upper GI, Colon, ERCP)

Monday, October 20, 2008

TRANSLUMINAL CLOSURE OF THE GASTRIC INCISION WITH MAGNETS FOR NOTES. EX VIVO STUDY

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The authors evaluated a new technique of GI wall closure using magnets. They speculated that by applying a special accessory to the tip of a traditional, flexible endoscope, two small rectangular rare-earth magnets could be protrude, which would hermetically seal the viscerotomy. The sterile inflammation on the serosal surface would lead to closure of the opening until the appearance of necrosis in the bowel wall. At this point, the area adjacent to the small magnets will have formed an adhesion and the two small rectangular magnets would exit the body per vias naturales, along with the necrotized section of enterotomy. They tested this idea on slaughtered porcine's isolated gastro-intestinal tract, using a standardized incision (diameter: 15 mm). Procedures took approximately 5 minutes. Most closures were successful (17/20), once the magnets lost contact, two times the closure was insufficient. The successfully closed gastrotomic holes were leak-proof and resisted to 60 mmHg pressure. The authors emphasized the advantages of their method, rapidity and simplicity.

4

Endoscopy and imaging: Endoscopy (Upper GI, Colon, ERCP)

Monday, October 20, 2008

FEASIBILITY AND SAFETY OF ENDOSCOPIC FULL THICKNESS ESOPHAGEAL WALL RESECTION AND DEFECT CLOSURE IN A PROSPECTIVE LONG TERM SURVIVAL ANIMAL STUDY

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The aim of the study was to explore the feasibility, safety and long term effect of endoscopic fullthickness removal of a 15 mm diameter piece of esophageal wall, and closure of the defect. Long-term survival was allowed to explore possible late complications. 8 pigs were used for 6 weeks survival studies, followed by autopsy/histology. With EUS guidance, a 15 mm diameter piece of esophageal wall was marked and removed with a needle-knife, combined with forceps and snare through a double lumen gastroscope. Esophageal defect-closure was performed with endoscopic anchor/locking devices. Long-term survival demonstrated no stricture formation but a larger resection caused some narrowing of the esophagus.

5

Surgery: Oesophagus/stomach/duodenum

Tuesday, October 21, 2008

POSTOPERATIVE RESPIRATORY FUNCTION AND PAIN AFTER NATURAL ORIFICE TRANSLUMINAL ENDOSCOPIC SURGERY (NOTES) – TRANSGASTRIC AND TRANSCOLONIC VS. TRADITIONAL LAPAROSCOPY

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It is not yet known whether there are any physiological benefits of NOTES vs traditional laparoscopic surgery that may lead to a faster postoperative recovery, fewer complications and, therefore, a shorter hospital stay. The aim of this study was to assess postoperative recovery by comparing pain and respiratory rate following laparoscopy through either NOTES or traditional approach. A total of 26 pigs were used. 8 animals underwent laparoscopy through transgastric NOTES approach, 8 animals through transcolonic NOTES approach and 10 animals with traditional approach through the abdominal wall. All the pigs were kept under general anesthesia during a 30-minute standardized laparoscopy. Postoperative respiratory rates and pain (on the epigastric area of the abdominal wall) were evaluated in the first 48 hours after surgery, using respiratory inductive plethysmography and a 0-20 Kg dolorimeter, respectively. Average respiratory rates were significantly higher in animals undergoing traditional laparoscopy. There was no difference in respect to pain. The authors suggested that postoperative respiratory function is less compromised when laparoscopy is performed with a NOTES approach.

6

Surgery: Oesophagus/stomach/duodenum

Tuesday, October 21, 2008

TRANSCOLONIC PERITONEOSCOPY FOR THE DETECTION OF PERITONEAL METASTASES

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The aim of this study was to improve visualisation of the liver by approaching through the colon and to compare the transcolonic peritoneoscopy (TCP) with the previously set LAP (laparoscopic peritoneoscopy) standard. 2.5 mm colored beads were laced via LAP in the peritoneum to simulate metastases. Three to 7 beads were placed in each of 6 animals. TCP was then performed with a 2 channel therapeutic endoscope using either standard accessories (forceps, cap) (TCP-s) or with a specially designed toolkit (bendable overtube, articulating retractors and graspers) (TCP-t) in randomized order by one of 2 endoscopists, blinded to bead placement. A total of 31 beads were placed into 6 pigs. TCP-s found 23 beads (yield 74%, 90% CI: 67- 88%, non-inferior to LAP minus the margin of equivalence). TCP-t found 17 beads (yield 55%; 90% CI: 39-70%, inferior to LAP minus the margin). TCP-s was

superior for detecting beads in comparison with TCP-t ($p = 0.034$). TCP-s was, using a transparent cap, superior in detecting beads on the inferior liver surface; Exclusion of these liver beads resulted in non significant difference between TCP-s and TCP-t ($p = 0.317$). In conclusion, the authors state that TCP was non inferior in comparison with the predetermined standard. The use of a transparent cap improved visualization of the inferior liver surface and could be integrated in the bendable overtube for optimal results.

7

Endoscopy and imaging: Endoscopy (Upper GI, Colon, ERCP)

Monday, October 20, 2008

TESTING OF A NOTES TOOLBOX FOR TRANSGASTRIC CHOLECYSTECTOMY IN A PORCINE MODEL

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A range of new tools were developed and tested for NOTES cholecystectomy in combination with a conventional double channel gastroscope. The new endoscopic access needle with integrated balloon enabled rapid, safe, transgastric passage of the Steerable Flex Trocar and 2T gastroscope with minimal force required. The trocar was retroflexed and stabilized in an optimal position for gallbladder manipulation, providing direct visualisation of the area for dissection. It was possible to repeatedly withdraw the scope from the trocar and then push it back, always arriving at the same operating position. A single 2 mm transabdominal grasper enabled gall-bladder retraction. The articulating devices enabled exposure and controlled dissection of the cystic bundle. An articulating hook knife allowed creation of a window below the cystic duct and artery, which was extended with the Maryland blunt dissectors until the bundle was fully isolated. The cystic artery and duct were then sealed with bipolar forceps at two points and transected using flexible scissors. The gallbladder was dissected from the liver bed using the articulating hook knife and flexible forceps, and removed through the mouth. In a total of 3 gall bladders, the force required to open the bipolar seal on the cystic duct ranged from 285-320 mm Hg (total of 5 seals). Thus, it appears that the combination of rapid peritoneal access, platform stability in retroflexion close to the gallbladder, articulating instruments, scissors, and a novel, effective, hemostatic sealing device made NOTES cholecystectomy easier vs. previous attempts.

8

Surgery: Oesophagus/stomach/duodenum

Tuesday, October 21, 2008

TRANSGASTRIC ACCESS TO HYBRID CHOLECYSTECTOMY. SAFETY PROFILE

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The aim of the study was to evaluate the feasibility and safety of a human transgastric access for NOTES procedures. 10 candidates for a Lap Chole with chronic cholecystitis were

prospective selected to be submitted to a laparoendoscopic cholecystectomy. Patients over general anesthesia submitted to oral and abdominal antisepsis with chlorhexidine topic solution; sterile overtube passed until reaches stomach that will be washed with chlorhexidine solution; Verres needle pneumoperitoneum with 4 abdominal trocars (3 of 2 mm and 1 of 5 mm) placed; transgastric approach obtained with video endoscope (Olympus® M160) by perforating the anterior gastric wall with needle-knife, followed by a guide-wire and 15 mm TTS dilation balloon; once in the abdomen the endoscope is positioned on the way that aloud a direct vision of the operation field; by that time, the surgeon will operate with its lap instruments guided by endoscope; after cholecystectomy, gallbladder is pulled in to the stomach attached to a polypectomy snare and then withdraw by the patients mouth; gastrotomy is closed by the surgeon with Ethibond® 2-0 stitches and a leak test is performed. The procedures ran uneventfully with no complications like infection or bleeding, with the patients leaving the hospital in a 6h period. Operative time ranged from 25 to 80 min. The authors concluded that their laparoendoscopic Cholecystectomy as a Human N.O.T.E.S. transitional procedure was feasible and safe and may represent a step towards a fully endoscopic transgastric cholecystectomy.

9

Endoscopy and imaging: Endosonography

Tuesday, October 21, 2008

A NEW ALTERNATIVE FOR TIPSS: EUS-GUIDED CREATION OF INTRAHEPATIC PORTO-SYSTEMIC SHUNT

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The aim of the present study was to assess the feasibility of EUS-guided creation of the intrahepatic portosystemic shunt (IPSS) in a live porcine model. Under linear array EUS-guidance, the hepatic vein (HV) and then the portal vein (PV) were punctured with 19-gauge FNA needle. A 0.035-inch guide-wire was advanced through the needle into the PV. The needle was exchanged over the wire, and a metal stent was deployed under EUS and fluoroscopic guidance positioning the distal end of the stent inside the PV and the proximal end within the HV. Eight animals were sacrificed after the procedure and 2 animals were survived for 2 weeks. Porto-systemic shunt placement was successful in all animals. The puncture of both HV and PV, and the deployment of the stent were technically easy. Porto-systemic flow through the shunt was documented by portal venogram and EUS Doppler. Two animals who were survived for 2 weeks have not demonstrated any complications during the entire follow-up period. Thus, it appears that EUS-guided creation of IPSS is technically feasible and may become a valuable alternative to conventional TIPSS.

10

NOTES - Ready for clinical testing?

Wednesday, October 22, 2008

TRANSGASTRIC VENTRAL HERNIA REPAIR: A RANDOMIZED CONTROLLED STUDY IN A LIVE PORCINE MODEL

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The aim of the present study was to develop alternative ventral hernia repair technique. The authors performed 12 acute and survival experiments on 50-kg pigs. Utilizing previously described transgastric access technique, endoscope was introduced into the peritoneal cavity. Abdominal wall hernia was created through 5mm skin incision followed by 5cm long incision of the abdominal wall muscles and aponeurosis. The animals were randomly assigned into 2 groups. In the study group (5 animals) Gore-Tex® mesh was delivered into the peritoneal cavity and attached to the abdominal wall repairing previously created abdominal wall hernia. In the control group (4 animals), the hernia was not repaired. In the control group, ventral hernia was present on necropsy in all animals. In the study group, ventral hernia was easily repaired via transgastric approach and the necropsy demonstrated no evidence of hernia with good adherence of the mesh to the abdominal wall. The authors concluded that transgastric ventral hernia repair is feasible, technically easy and effective. It can become a less invasive alternative to the currently used laparoscopic and surgical ventral hernia repair.

Management

11. Standardization, Desinfection, Quality control, Cost effectiveness, Training

Reporter: A. Zelova, Dpt. of Hepatogastroenterology, IKEM, Prague, Czech Republic

1

Technical developments in colonoscopy

Monday October 20th, 2008

EFFICACY, SAFETY AND ACCEPTABILITY OF A LOW VOLUME (2L) POLYETHYLENE GLYCOL WITH ELECTROLYTES AND ASCORBATE COMPONENTS VERSUS 4L POLYETHYLENE GLYCOL AND ELECTROLYTES FOR BOWEL CLEANSING PRIOR TO COLONOSCOPY

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A randomised, multi-centre study compared 2L polyethylene glycol with electrolytes and ascorbate components (MOVIPREP®) versus 4L polyethylene glycol with electrolytes (Colopeg®) for bowel preparation. Successful colon cleansing allowing complete mucosal visualisation was achieved in 94.1% of MOVIPREP® subjects and 90.9% of Colopeg® subjects (NS). This was confirmed by the Aronchick scale where 94.6% in the MOVIPREP® group and 90% in the Colopeg® group had excellent to fair cleansing. Significantly more subjects were willing to take MOVIPREP® again (87% vs 51%, $p < 0.001$). 80% of subjects found MOVIPREP® easy to drink and 85% drank all of the 2L solution. There was a significant difference ($p = 0.01$) in taste between the preparations, favouring MOVIPREP®. Patient VAS scores for judgement of the whole colonoscopy preparation procedure and the

investigation product was significantly better for MOVIPREP® ($p < 0.05$). There were no significant differences between the preparations for polyp detection rate; number of colonoscopies stopped due to bad preparation and colonoscopy or other procedures to be repeated earlier than recommended. There were significantly less AEs and less product related AEs in the MOVIPREP® group. In conclusion, 2L MOVIPREP® provided 100% mucosal visualisation in 94% of subjects and was at least as good as 4L Colopeg®. High patient acceptability and compliance, together with a good safety profile make the low volume MOVIPREP® solution an ideal preparation in routine practice.

2

Endoscopy and imaging: Endoscopy (Upper GI, Colon, ERCP)

Monday, October 20, 2008

IS OUTPATIENT THERAPEUTIC ERCP WITH A SHORT OBSERVATION PERIOD A SAFE AND COST-EFFECTIVE WAY OF MANAGEMENT?. A PROSPECTIVE STUDY IN A COMMUNITY SPANISH HOSPITAL

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The authors evaluated the efficacy and safety of an outpatient ERCP management in a community Spanish hospital through a prospective study of all outpatient ERCP procedures performed during the years 2003-2007. They performed 223 ERCP out of a total of 828 (27%) on an outpatient basis with a failure rate of 7.7% (17 pts). 70.2% of pts were discharged from hospital, and 15.1% were admitted without waiting to complete the observation's period in relation with the unexpected ERCP findings, and 12.5% of patients were admitted due to complications during the scheduled observation period or because it was considered appropriate to extend the observation period. Just 2 pts previously discharged developed delayed complications (which represents 1% of the total of ERCP and 7.7% of the total of complications arised "1 cholangitis and 1 pancreatitis"). Two further patients (0.9%) developed late cholecystitis (3 and 6 week post procedure). There were 26 ERCP's complications (13.6%) : acute pancreatitis 8.9% (17 patients) , 1.1% of cholangitis (2 pts), 2.1% of perforation (4 pts) and 1.6% of papilar bleeding (3pts). 92.3% of ERCP's complications occurred mainly during the first six hours post- procedure, making this short period of follow up enough for an early and safe discharge. In summary, the results suggest that the strategy of outpatient ERCP is safe and may reduce expanses.

3

Oncology: Clinical: epidemiology, screening and prevention

Wednesday, October 22, 2008

COST-EFFECTIVENESS ANALYSIS ON SCREENING FOR COLORECTAL NEOPLASM AND MANAGEMENT OF COLORECTAL CANCER IN ASIA

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The incidences of colorectal cancer (CRC) in Japan, Korea, Singapore and Hong Kong are comparable to that of Western countries. The authors evaluated the cost-effectiveness of FOBT, FS and colonoscopy based on disease prevalence, compliance rate, and cost of screening procedures in Asian countries The incremental cost-effectiveness ratio (ICER) for FOBT (US\$6,222 per life-year saved) is lower than FS (US\$8,044 per life-year saved) and colonoscopy (US\$7,211 per life-year saved). With the compliance rate drops to 50% and

30%, FOBT still has the lowest ICER (US\$7,992 per life-year saved, US\$8,609 per life-year saved) when compared with colonoscopy (US\$8,443 per life-year saved, US\$9,404 per life-year saved) and FS (US\$9,819 per life-year saved, US\$11,080 per life-year saved). In sensitivity analysis, at the range of US\$100 to \$1000 per colonoscopy, ICER of FOBT remains lower than that of colonoscopy. The authors concluded that annual FOBT is more cost-effective than FS every five years or colonoscopy every ten years for CRC screening in average-risk individuals aged from 50 to 80 years.

4

Endoscopy and imaging: Endoscopy (Upper GI, Colon, ERCP)

Monday, October 20, 2008

THE IMPACT OF ANNUAL PROCEDURE VOLUME AND SPECIALTY ON COLONOSCOPY QUALITY

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A National Survey of Colonoscopy Quality and Training in Australia in 2007 was carried out. Questionnaires (anonymous, self-reporting) were mailed out to practising colonoscopists. Of 853 colonoscopists surveyed, 431 (50.5%) replied. High-volume colonoscopists were more likely to have a caecal intubation rate of >95% (93.5% vs 71.7%, $p < 0.001$) and formally audit their caecal intubation rate (67.3% vs 52.9%, $P = 0.002$), polyp detection rate (47.9% vs 34.7%, $P = 0.006$) and withdrawal time (27.7% vs 14.2%, $P = 0.001$). Gastroenterologists (87.5%) and colorectal surgeons (83.6%) were more likely to have a caecal intubation rate >95% compared to general surgeons (72.2%, $OR = 0.37$ (0.21-0.65), $p = 0.001$). As compared to gastroenterologists, nongastroenterologists were more likely to have a post-polypectomy surveillance interval that is shorter than the interval recommended by consensus guidelines ($P = 0.001$). In conclusion, the key quality indicators of colonoscopy appear to correlate with annual procedure volume and specialty.

5

Endoscopy and imaging: Endoscopy (Upper GI, Colon, ERCP)

Monday, October 20, 2008

CAN SHORT TRAINING IMPROVE ACCURACY OF LESION CHARACTERISATION USING NARROW BAND IMAGING (NBI)?

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Narrow Band Imaging (NBI) highlights superficial capillary plexuses that surround each pit, giving information on microvascular density, seen as strong vascular pattern intensity (VPI) or meshed brown capillary vessels, which is predictive of neoplasia. VPI has been reported to be as accurate as or better than chromoendoscopic pit pattern with higher level of interobserver agreement. The aim of the study was to evaluate whether a short training module can improve small polyp characterisation, using VPI as a predictor of the histology. NBI images (in magnification mode) of 66 polyps (37 TA, 29 HP) <6 mm were randomly displayed to 4 endoscopists with no prior knowledge of NBI to comment on VPI and predict histology. On a separate occasion, endoscopists were given a 10 minute teaching session on polyp characterisation using VPI. The same 66 polyp images were shown again in a random order. VPI and predicted polyp histology were recorded. There was a significant improvement in polyp characterisation using NBI VPI in 2 out of 4 endoscopists with no previous NBI experience, when tested after a short training module.

6

Dilatation & stenting in the GI tract

Monday, October 20th, 2008

**EFFICACY OF HANDS-ON SKILLS TRAINING IN THERAPEUTIC ENDOSCOPY:
RESULTS FROM A RANDOMISED BLINDED CONTROLLED STUDY**

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The primary aim of the study was to evaluate the efficacy of the St Mark's Basic Therapeutic Endoscopy Course (BTEC) in delivering training in a range of basic therapeutic endoscopic techniques. Applicants to the course were randomised into subjects and controls. The subjects then received a half-day practical hands-on training, while the controls received no hands-on training. All delegates were then re-tested on their procedural skills. Full data was available for 26 delegates. There was a significant improvement for subjects compared to controls for polypectomy, control of upper GI bleeding and oesophageal dilatation. There were no significant differences for PEG insertion. The authors suggested that these results strongly support the benefit of intensive hands-on courses for endoscopic skills training.

7

Technical developments in colonoscopy

Monday, October 20, 2008

**USE OF A COMPUTER SIMULATOR TO EVALUATE A RESIDENCY PROGRAM OF
HANDS-ON-TRAINING IN COLONOSCOPY**

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The authors aimed 1) to evaluate the possible use of computer simulator (CS) in the assessment of competence of trainees after a residency program in colonoscopy, compared to experts and 2) to select items at CS which correlate with trainees' performance. Eight trainees, already fully trained in upper GI endoscopy, underwent evaluation at CS (GI-Mentor, Symbionix) before and after traditional hands-on-training in colonoscopy. The results showed that among trainees, fully trained in upper GI endoscopy, the difficult simulation was easily performed even before training in colonoscopy, time to caecum being the only item influenced by training. The authors conclude that their experience casts doubts on the ability of CS to evaluate competence in colonoscopy.

8

EUS - A sound approach?

Tuesday, October 21, 2008

**DOES CYTOTECHNICIAN TRAINING IMPACT ON ACCURACY OF EUS-GUIDED
FINE NEEDLE ASPIRATION OF PANCREATIC MASSES?**

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The aim of this prospective study was to evaluate the impact on adequacy of on-site cytotechnician after a long training period with an expert on-site cytopathologist. The authors evaluated EUS-FNA of solid pancreatic masses obtained by a single experienced endosonographer and cytotechnician during two years (pre-training period A) and performed by the cytotechnician after one year of training (post-training period B). A total of 107 patients of the A period were reviewed. Cytotechnician in room-adequacy was 68.2% (73/107) with a sensitivity and specificity of 71.4% and 93.7% respectively. The diagnostic accuracy was 74.8%. The adequacy of blind pathologist reviewer was 93.4% (100/107), significantly higher ($p=0.008$) than the cytotechnicians one. During post-training period a total of 95 specimens were reviewed. Cytotechnician in room-adequacy was significantly higher 87.4% (83/95) ($p=0.001$); sensitivity and specificity were 89.2% and 100% respectively. The diagnostic accuracy was 91.6%, significantly higher than the pre-training period ($p=0.001$). The adequacy of blind pathologist was 95.8% (91/95). Overall, only 8.4% (8/95) of the lesions had onsite cytology interpretation changed in the final analysis. In conclusion, adequate training period with an expert cytopathologist can improve cytotechnician accuracy in 'on site' EUS-FNA procedures. This improvement can impact the diagnostic yield of EUS procedures.

9

Endoscopy and imaging: Endoscopy (Upper GI, Colon, ERCP)

Monday, October 20, 2008

EFFECT OF VIRTUAL ENDOSCOPY SIMULATOR TRAINING ON REAL PATIENT ENDOSCOPY: A RANDOMIZED, CONTROLLED, SINGLE BLINDED TRIAL.

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Residents in Internal Medicine, naïve to endoscopy, were randomized to structured simulator training or no-simulator training before starting real patient upper-GI endoscopy. Comfort and pain during real patient endoscopy was evaluated by patients blinded to the beginners training status. Time, technical accuracy and number of found/missed pathologies were evaluated by experts. 28 residents were included. Comparing the training group with the non-training group in their first ten endoscopies in real patients, investigational time (720s (405-1705s) vs. 740s (240-2400s); $p<0.02$) and technical accuracy ($p<0.02$) were significantly better in the training group. After 60 on patient EGD, investigation time was still shorter for the simulator trainees. Technical accuracy improved in both groups and differences between groups were no longer observable. There were no differences concerning comfort and pain scores between the groups after 10 and 60 endoscopies. Diagnostic accuracy was not different between groups, but improved significantly during on-patient training in both groups. It can be concluded that virtual simulator training significantly effects technical skills and technical accuracy in the early and mid-term stages of endoscopic training.

10

Peptic ulcers and ulcer bleeding/gastric MALT lymphoma

Wednesday, October 22, 2008

HIGH-DOSE INTRAVENOUS ESOMEPRAZOLE IN PEPTIC ULCER BLEEDING: NEW CLINICAL DATA APPLIED TO A EUROPEAN COST-EFFECTIVENESS ANALYSIS

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The aim of the study was to evaluate cost-effectiveness of high-dose intravenous esomeprazole (HIE) in peptic ulcer bleeding using a decision model that included patients with peptic ulcer bleeding following successful endoscopic haemostasis performed within 24 hours of initial presentation, comparing HIE (80mg infusion over 30min, then 8mg/h for 71.5h) versus placebo, with both groups receiving oral esomeprazole 40mg daily from days 4 to 30. The outcome was the rate of averted re-bleeds. Re-bleed rates at 3 and 30 days were 5.9% and 7.7% for HIE, and 10.3% and 13.6% for the placebo group. Average costs for the HIE and placebo strategies at 3 days were SEK 2,630 and 2,500 euros, and at 30 days were 7,340 and 7,330 euros, respectively. Incremental cost-effectiveness ratios at 3 and 30 days using HIE compared to placebo, were 2,960 euros, and 120 euros per averted re-bleed. Results were robust on sensitivity analyses as HIE was always more effective at a modest increase in cost, or became the dominant strategy (both more effective and less costly than placebo) with small variations in assumptions. In conclusion, based on recent high-quality data, administration of HIE improves outcomes at a modest increase in costs using Swedish cost data, and rapidly becomes the dominant strategy with minimal variations in baseline assumptions.