Endoscopy 2006 - Update and Live Demonstration

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Abstracts
Poster Abstracts
Falk Symposium 152

INTESTINAL DISEASE MEETING (Part I)

ENDOSCOPY 2006 - UPDATE AND LIVE DEMONSTRATION

Berlin (Germany)
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Scientific Organization:
P. Fockens, Amsterdam (The Netherlands)
T. Rösch, Berlin (Germany)
H.-J. Schulz, Berlin (Germany)
J. Špičák, Prague (Czech Republic)
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Session I

The most relevant new technologies
Capsule endoscopy

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Since it has been proposed in 2000, wireless capsule endoscopy has gained a broad interest and become a standard investigation to explore endoscopically the whole small intestine, fulfilling a gap between examinations of the upper and lower gastrointestinal tract. The technique consists of a miniaturized endoscope, embedded in a swallowable capsule that is propelled by peristalsis and achieves the journey to the right colon in 5 to 8 hours. Images captured by the capsule are recorded on a hard drive worn in a belt by the patient.

The main indication for capsule examination is the examination of the small bowel to find a bleeding lesion in patients with obscure bleeding. Several studies have shown that the diagnostic yield of capsule endoscopy is superior to that of push enteroscopy in this indication. More recent publications have demonstrated that the results of capsule endoscopy significantly improves the outcome of these patients. On the other hand, the very recent development of the push and pull enteroscopy technique provides a useful complement to the investigation of the small bowel, allowing biopsies and therapeutic interventions.

Other indications are patients with suspected intestinal location of Crohn’s disease, familial adenomatous polyposis, complicated coeliac disease and lesions due NSAIDs. Results of preliminary studies in these indications show that wireless capsule endoscopy may modify the management of these patients by detecting lesions not investigated previously and also may improve the surveillance of some premalignant conditions linked to these diseases.

Capsule endoscopy is now developed outside of the small bowel. The most significant results have so far been obtained for the screening of oesophageal diseases. However, the true indications of these new applications have not yet been defined in large studies. Capsule for screening of the colon is also expected in the near future.
Therapeutic GI endoscopy

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Today, therapeutic gastrointestinal endoscopy includes around thirty different procedures which are being practiced routinely. The most relevant newer technologies are endoscopic mucosa resection (EMR), endoscopic submucosal dissection (ESD), treatment of pancreatic abscess and clipping.

EMR and ESD
In the treatment of early esophageal and gastric cancers, EMR has become an alternative to surgery. Complete removal of circumscribed malignant mucosal changes results in comparable long-term survival. Compared to surgery, EMR is associated with distinctly lower morbidity and guarantees a much better quality of life. Based on recent histological studies of resected specimens and regional lymph node involvement, the indication of EMR for gastric cancer has been broadened with regards to the infiltration depth and the size of the tumor. Gastric cancers infiltrating the first submucosal layer (T1sm1) or larger than 30 mm in diameter have been successfully removed by “en bloc” EMR which is now called ESD. Experiences in EMR for early esophageal SCC and gastric cancers in the Western countries are much fewer as compared to those reported from Japan. Apart from colorectal lesions, EMR is more frequently used in the treatment of early malignant changes of Barrett’s esophagus (BE). EMR performed in BE, however, have been mostly localized resections restricted to the mucosa bearing malignant changes. However, multifocal early malignant changes are known to exist especially in long-segment BE, and endoscopic recognition of these lesions even four quadrant random biopsies are not sufficient enough in detecting all the early malignant changes. The “suck and cut” techniques using a cap and ESD are quite cumbersome in removing long-segment BE. A modified multiband variceal ligator (Duette, Wilson-Cook) has been recently introduced to facilitate multiple, extensive mucosal resections. This device allows for the insertion of a 7 French catheter through the threading channel of the cranking device of the multiband ligator into the 3.7 mm working channel of the endoscope. Band ligation can be performed with the polypectomy snare still within the working channel without any increased friction during winding of the thread. This enables sequential banding and snare resection of esophageal mucosa without the need to withdraw the endoscope. With this device, extensive EMR can be accomplished using only a single endoscope within a relatively short time. Other 7 French accessories, such as argon plasma coagulation (APC) probe, clipping device or hot biopsy forceps can also be introduced if required without the need to retrieve the endoscope and the MBL device.

Treatment of pancreatic abscess
In the management of pancreatic abscess or necrosis following acute necrotizing pancreatitis, endoscopic treatment has increasingly become an alternative to the more aggressive surgical approach. Endoscopic treatment includes EUS-guided placement of a 10 French double pigtail-stent and a 7 French naso-abscess catheter allowing for continuous irrigation, and endoscopic necrosectomy after creating a cystogastrostomy or cystoduodenostomy. In addition, transpapillary cannulation of
the main pancreatic duct can be performed to directly seal a fistula using cyanoacrylate glue.

The aim of endoscopic therapy is to avoid surgery for high risk critically ill patients or to improve patient's condition enabling definitive surgery to be carried out electively.

**Clipping**

The clipping device has been recently improved. The loading of clip has become easier facilitating multiple clip application e.g. during active bleeding. The rotatability has also been improved with immediate response. Moreover, the EZClip (Olympus) can also be applied in the duodenum through the duodenoscope without any difficulties. Bleeding from the duodenal diverticulum or after papillectomy can now be controlled more easily by using the new clip device. Apart from controlling spurting ulcer bleeding, clipping is being increasingly used to close perforations.
Pancreato-biliary endoscopy (new technologies)

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Endoscopic Retrograde Cholangio-Pancreatography has evolved during the last two decades from being a diagnostic procedure to a therapeutic one. Bilio-pancreatic endoscopy is today the first choice for the treatment and palliation of many benign and malignant diseases.

Pancreatic
Pancreatic endoscopy especially with the aid of EUS, permitted to obtain drainage of difficult pancreatic pseudocyst or disrupted pancreatic duct by pancreatico-gastrostomy. Endoscopic drainage of pancreatic necrosis is technically possible in experienced and “aggressive” centers, but indications and outcome are not yet fully established.
External pancreatic fistulas (EPF) respond to standard endotherapy with pancreatic stents or drainage. In some selected cases, when conventional endotherapy fails, direct injection of N-butyl-2-cyanoacrylate was demonstrated to be effective.
Multiple pancreatic stenting was recently proposed as a new method to obtain persistent dilation of dominant pancreatic strictures in chronic pancreatitis on medium term follow-up.

Biliary
Development of new materials and endoscopist experience mainly in the field of self-expandable metal stents (SEMS) lead to the possibility to treat difficult cases (e.g. simultaneous bilio-duodenal stenting). Furthermore during the last two years the possibility to remove biliary metal stents lead to “the end of a dogma”: malfunctioning SEMS can be removed or resected by trimming with Argon Plasma Coagulation.
Regarding palliative and hopefully curative treatment of malignancy, the advanced experience of endoscopists give the possibility to obtain a direct access to the bile ducts and apply photodynamic therapy (PDT) or high dose rate (HDR) brachytherapy directly to the tumor mass (e. g. hilar cholangiocarcinoma).
The most relevant new technologies in ultrasonography

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Among the many improvements of ultrasound devices over the last 5 years three developments have had a clinical or educational impact in a truly revolutionary way:

1. Contrast enhanced ultrasonography,
2. Elastography,
3. Life like simulation by means of 3D-Ultrasoundography.

Contrast agents for ultrasonography are completely different from any other contrast agent. Echo contrast agents consist of microbubbles with a soft or rigid shell resonating in the ultrasound beam. Most recent technical solutions detect the non-linear (harmonic) behaviour of these bubbles (typical size of 2-3 Microns) with very low ultrasound intensity (Low-MI-Imaging). A single bubble can be detected by these techniques allowing microvascular imaging (i.e. capillaries, sinusoids). The current clinical applications of contrast enhanced ultrasonography comprise the characterisation of liver tumors and the detection of liver metastasis. With a sensitivity of 80-90% and specificity of 95-100% Hemangioma, Focal Nodular Hyperplasia (FNH), Adenoma and metastasis can be correctly classified. In the detection of metastasis the results are comparable with the Multi-Detector-CT. Other applications include monitoring of locoregional treatment of HCC, characterisation of pancreatic tumors and infarction or ischemia of the spleen, bowel and other organs.

Elastography detects the different compressibility of tissue by direct mechanical compression or by generation of shear waves (transient dynamic elastography). Whereas the former can be induced by conventional ultrasound probes or EUS probes using special software to detect different elastic properties in tissue with homogeneous echo pattern (i.e. isoechoic tumors) the latter needs a special probe, ultrasound device and recording system to detect the grade of liver fibrosis. Transient elastography seems to replace liver biopsy for monitoring the course of chronic hepatitis C because of the excellent correlation with histopathologic fibrosis scores.

Whereas 3D-Ultrasoundography has so far a very limited value for diagnostic abdominal ultrasound, 3D-recording of abdominal anatomy and pathology and its projection into a mannequin allows a life like simulation by means of 3D-Ultrasoundography for basic education, continuous medical education and quality control.
Session II

Role of endoscopy
Role of endoscopy in gastrooesophageal reflux disease

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Diagnosis
Reflex symptoms are dependent on time of acid exposure, resistance and sensitivity of the oesophageal mucosa. Thus, there is still no gold standard in diagnosis. Endoscopy plays certainly a central role. However, only 50% of all patients with GERD have visible lesions of the oesophagus. An early index endoscopy is recommended to know the stage of the disease and to exclude Barrett’s oesophagus. Urgent endoscopy is mandatory in patients with alarm symptoms such as dysphagia, weight loss or bleeding or in cases of unsatisfactory response to therapy with proton pump inhibitors.
The importance of new diagnostic tools such as magnifying endoscopy, confocal laser endoscopy, chromoendoscopy is not absolutely clear yet. These new tools have to demonstrate that they facilitate early diagnosis of cancer especially detection of neoplasia in intestinal metaplasia and control of completeness of tumour removal after endoscopic mucosectomy.

Therapy
The majority of patients with GERD are sufficiently treated by PPIs. Trials comparing long term therapy with PPIs vs. fundoplicatio vs. endoscopic therapy are still lacking. In a retrospective study comparing EndoCinch™ with laparoscopic fundoplicatio more patients were satisfied, free of symptoms and showing lower PPI use after surgery.
At present three principal different endoscopic procedures compete with each other, i.e. radiofrequency coagulation, endoscopic injection or implantation of biocompatible materials and endoscopic suturing techniques. All techniques have in common that after initial improvement of symptoms many patients suffer from relapses of their symptoms. Relapse after EndoCinch™ or ESD™ is caused by loss of sutures or the injected polymers. After Enterix™ severe side effects have been observed due to falsely injection into large vessels. Thus, the manufacturer has withdrawn the procedure from the market. Due to the easiness of the procedures one is faced by the threat of uncritical implementation. There are only few data how these procedures really work. One discusses a reduction of the frequency of lower oesophageal sphincter relaxations and a slight elevation of sphincter pressure. Some placebo effect cannot be neglected according to sham-controlled studies.
Despite encouraging results regarding symptom relief and reduction of PPI use, a reduction of acid exposure of the oesophagus could not be clearly demonstrated. Objective statements regarding long-term results, safety, complication rates are still mandatory. Rather high costs are further causes that the procedures are still not widely used. A new generation of these procedures such as the Plicator™ promise to be more efficient with better long-term results. One has to await the results of ongoing controlled trials including trials with a sham-operated group.

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Role of endoscopy: In pediatrics

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Pediatric endoscopy is in the domain of the pediatric subspecialist, but adult endoscopists are often called upon to provide advanced endoscopic services. Therefore a team approach between pediatrics, gastroenterologists and endoscopists is necessary.

With a few exceptions the indication for gastrointestinal endoscopy in pediatrics is similar to those for adults. Upper endoscopy is done more often because of foreign body ingestion or ingestion of caustic substances. The indication for lower endoscopy includes surveillance in hereditary polyposis syndromes. The indications for advanced procedures as endoscopic retrograde cholangiopancreatography (ERCP) or endoscopic ultrasound (EUS) have still to be defined, but from a technical point of view the performance even in small children is possible. Preparation for endoscopy in pediatrics requires special attention to emotional and psychosocial issues in both the patient and the parent. Parents should remain with the child for as long as possible during administration of sedation until the procedure is ready to begin.

Presedation dietary restriction is necessary to minimize the potential for pulmonary aspiration, conventional preoperative fasts of 8 or more hours without food or liquids routinely recommended for adults may be inappropriate for young children. Children may be offered clear liquids – this includes breast milk – up to 2 to 3 hours prior sedation.

Performance in conscious sedation is possible but general anesthesia remains indicated for many procedures.

Reduced caliber instruments are available for procedures in younger children. Standard adult gastroscopes (> 9.7 mm diameter) are generally safe in children over 25 kg. More slender 5-8 mm instruments should be used for gastroscopy in smaller children and infants. Smaller more flexible colonoscopes (< 11.7 mm) are suitable for preschool children. Small or standard upper scopes can be used for colonoscopy in infants.

Special duodenoscops are available for infants (diameter: 7.5 mm).

Specific interventional techniques are largely the same in pediatric patients as in adult patients. Volumes for injectable agents and cautery setting should consider potentially increased local or systemic effects on the basis of smaller body size. No data are available regarding such effects.

In the future endoscopic interventional procedures should be regarded to be appropriate for a lot of more indications even in small children.

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Session III

Bile & pancreas
Chronic pancreatitis – Conservative treatment, endoscopy or surgery?

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Patients with chronic pancreatitis often suffer from severe pain, which is the leading symptom in most cases. To find the adequate therapy for the individual patient is a challenging task for each physician confronted with this entity. There is a wide variety of therapeutic options including conservative treatment or endoscopic and surgical interventions to choose from.

Conservative treatment with analgetics is mostly the first choice. However, long-time analgetic therapy bears drawbacks and risks in itself, e. g. wearing off, addiction etc. Therefore, a wide spectrum of endoscopic methods was developed during the last decade, in order to improve the various complications generated by CP. Sphincterotomy of the pancreatic sphincter (pEST) is one of them. It is performed to treat obstructions and stenoses of the pancreatic duct and to facilitate the application of instruments inside the duct. Insertion of plastic stents into the duct helps to bridge a stenosis. Various methods for destruction of intraductal stones are applied to reopen the passage. Those are often used in combination with extracorporeal shock-wave lithotripsy (ESWL). Several clinical studies could show rather good long-time results for the combined endoscopical methods of treatment for intraductal stones. In case of stenoses of the bile duct with biliary obstruction, the insertion of plastic stents may also improve the situation, especially with the so called “Multistenting” where as many stents as possible are put into the bile duct. Another problem which can be solved by endoscopic methods are pancreatic pseudocysts. Drainage may be performed endoscopically through stomach or duodenum if the anatomy of the cysts allows this approach. In difficult settings, guidance of the punction needle by endoscopic ultrasound is possible. The number of possible endoscopic interventions in chronic pancreatitis has widely increased and the results are so far encouraging. Major benefits for the majority of patients are freedom of or at least reduction of pain, weight gain and in some cases the absence of jaundice. However, there will always remain some patients who do not profit from conservative or endoscopic treatment, e. g. those with obstructive duodenal stenosis, multiple ductal stenoses and stones or massive calcifications, or those with a carcinoma. These patients are eligible for surgery and should be discussed in a team setting between gastroenterologists and surgeons in order to find the optimal treatment strategy for each individual patient.
Obscure gastrointestinal bleeding – How to do it right?

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Obscure gastrointestinal bleeding is defined as chronic or recurrent blood loss from an unknown source when conventional endoscopic and radiologic tests have been performed with negative result. Occult manifestation of obscure bleeding is represented by positive fecal occult blood test (FOBT) or iron deficiency anemia in absence of visible blood loss. The term “obscure-overt” bleeding describes a clinical condition with visible peranal blood loss and negative results of conventional diagnostic tests.

The introduction of video capsule endoscopy (VCE) and double balloon endoscopy (DBE) of the small bowel has improved the clinical management of obscure gastrointestinal bleeding markedly.

The most frequent findings in patients with obscure gastrointestinal bleeding are angiectasias, ulcers, tumors, and diverticula. In fact, almost every disease leading to morphologic alteration of of the small bowel may cause bleeding.

Several prospective studies have documented the efficacy of VCE in identifying a source of previously unexplained bleeding in the small bowel. These studies found a higher diagnostic yield of VCE compared to push enteroscopy.

In a meta-analysis by Triester et al. (2005) including 375 patients from 14 studies, VCE had a significantly higher diagnostic yield of 66% compared to push enteroscopy (34%). When comparing VCE with radiologic tests in 88 patients, the diagnostic yield of VCE is 68% versus 8% for radiology (p < 0.001).

The identification of the bleeding source succeeds more frequently in patients with obscure-overt bleeding than in occult bleeders. Pennazio et al. (2004) found the source by using VCE in 92% of overt obscure bleeding but in only 44% of occult bleeders. However, when previous overt bleeding has stopped before VCE is performed, the source detection rate drops to 13%. Selby (2004) has confirmed the superior detection rate in overt bleeders compared to occult bleeders. Both author groups plead for an early use of VCE in patients with obscure bleeding after negative esophago-gastro-duodenoscopy and ileo-colonoscopy. On the other hand, the repetition of upper and lower endoscopy prior to VCE is worthwhile to be considered, because several authors (Kitiyakara and Selby 2005) have observed a substantial amount of relevant gastric or colonic lesions which obviously had been overlooked on occasion of the previous endoscopy.

Endoscopic detection of previously obscure bleeding sources by the use of VCE improves the further course of the patients disease (Pennazio et al. 2004, Delvaux et al. 2004, Neu et al. 2005, Carey et al. 2004).

An answer to the question “How to do it right?” is suggested by Delvaux et al. (2004), proposing a sequalae of diagnostic action which is summarized in the following flow sheet and has resulted in a 95% positive predictive value for the detection of small bowel bleeding sources.
44 patients with obscure GI bleeding, 12 months follow-up outcome
Pos. predictive value for diagnosis of small bowel lesion: 95%

EGD & colonoscopy
CT
Video Capsule
- negative
- positive

(Angiography) Small Bowel Lesion Other Finding

Intraop. Enteroscopy Ther. Enteroscopy

Delvaux et al: Endoscopy 2004;36:1067
Session V

Prevention & management of complications
Sedation

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The risks of gastrointestinal endoscopy are very low. Risk factors are the formal status of a patient, medications used for sedation, qualifications of the staff, and the technical equipment of the department and the space available. Of these factors, sedation poses the greatest risk.

In the last few years, benzodiazepines alone or in combinations with opiates, and in particular propofol have been applied in gastrointestinal endoscopy.

Propofol has clear advantages to benzodiazepines, due to its short half-life, the dose dependent sedation or hypnotic properties and the rapid recovery time. On the other hand there are side effects such as circulation and respiratory depression and the lack of an antagonist. The debate over who is entitled or qualified to apply propofol is still ongoing and has not been finally decided. There is an increasing number of reports that specially trained nursing personnel have applied it safely. Current data show that propofol can be administered with great safety by specially trained nursing staff, allowing propofol to be used for endoscopic interventions in general. These positive results would therefore have significant influence on national and international guidelines and recommendations of anaesthesiologists and gastroenterologists.
Endoscopic retrograde cholangiopancreatography

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Endoscopic retrograde cholangiopancreatography (ERCP) has developed as a major modality in the diagnosis and treatment of biliary and pancreatic diseases.

Influenced by the rapid development of imaging procedures the diagnostic role of ERCP is newly to be defined.

ERCP offers the possibility of definitive therapy for many conditions affecting the biliary tree and pancreas at the time of the examination.

ERCP is highly operator dependent, and adequate training of practitioners has seriously lagged behind the therapeutic applications.

Complications and technical failures of ERCP cause significant morbidity and, occasionally, mortality.

ERCP is associated with the risks in general, which are the risks of sedation, cardiopulmonary embarrassment, the potential for aspiration, and the risk of perforation of the proximal esophagus or the jejunum in patients who have had prior surgery (e.g., Billroth II partial gastrectomy). The most frequent and significant complications associated with diagnostic ERCP are pancreatitis and infection.

There is a significant difference in the incidence of major complications between diagnostic and therapeutic ERCP.

The higher incidence of complications associated with therapeutic ERCP is due to the performance of sphincterotomy and the greater degree of manipulation.

The type and frequency of EST complications varied widely according to the clinical context in with the procedure was performed.

On average in 4 to 16% of cases complications can be expected (pancreatitis 1.3-6.1%, bleeding 0.8-2.3%, cholangitis 0.9-2.1%. Perforation 0.2-0.6%) and procedure related mortality is 0.2-0.6%

Retrospective data, compared with prospective investigation, underestimates complications.

Pancreatitis is rightly the most feared complication of ERCP. 10 to 15% of cases of post-ERCP pancreatitis are severe by clinical and radiologic criteria. Such cases carry significant morbidity and mortality and are responsible for the vast majority of ERCP-related deaths.

Prediction and prevention of complications have been of great interest to endoscopists since the introduction of ERCP 30 years ago.

An understanding of patient- and procedure-related risks is important for decision making with regard to whether or how ERCP should be performed.

Avoid ERCP when other less invasive imaging or non-invasive imaging tests can do the job.

Instances in which ERCP is the least clearly indicated are often the most likely to cause complications.
Patient-related risk factors include suspected sphincter of Oddi (SO) dysfunction, female sex, normal serum bilirubin, or previous history of post-ERCP pancreatitis, with multiple risk factors conferring especially high risk. Technique-related risk factors include difficult cannulation, pancreatic contrast injection, balloon sphincter dilation, precut sphincterotomy performed by unexperienced endoscopists, and Pancreatic-EST in absence of chronic pancreatitis.

It is recommended to avoid high-risk procedures and to take steps to reduce the risk when these procedures are unavoidable. Pancreatic stents may reduce the risk of pancreatitis in a number of settings including SO dysfunction. Somatostatin and gabexate mesylate have been found to be able to prevent post-ERCP pancreatitis in non-selected cases. However, a strategy of routine chemoprevention is likely not to be cost-effective.

Hemorrhage and perforation are rare and can be avoided with endoscopic technique and attention to the patient’s coagulation status. Cholangitis is avoidable with adequate biliary drainage. Because success rates are higher and complication rates lower for endoscopists performing large volumes of ERCP, ERCP should be concentrated as much as possible among endoscopists with adequate experience. Patients with a high risk for complications may be best served by referral to an advanced center.

Complications associated with ERCP have been well defined clinically recognized and effectively managed conservatively. Few patients require surgery or prolonged hospitalization.
Dilation

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Dilation is an obvious part of endoscopic treatment of benign and malignant strictures of the bile ducts and esophagus, gastric outlet and gut. With malignant strictures, immediate insertion of stents makes analysis of the efficacy and complications of dilatation impossible. With benign strictures, dilation can be compared to surgery, but randomized well-designed studies are uncommon. The aim of treatment in achalasia is to compensate for functional abnormalities and to restore esophageal emptying. Besides dilation, botulo toxin injection (possibly in combination with dilation) and myotomy are the options. The good/excellent response varies between 46% and 100% in particular studies, in dilation it usually exceeds 70%. Dilation techniques include mercury boogieing, hollow polyvinyl boogieing, metal olive boogieing, and balloon dilators. Dilation without boogies provides only very temporary benefit and only balloon specifically designed to treat achalasia achieve an adequate diameter for a long-lasting effect. The technique of balloon dilation is variable among experts in terms of preparation, parameters of inflation and post procedural monitoring. Dilation can be done under either fluoroscopic or endoscopic control. The main complication is perforation (up to 5%), however, mortality is rare. Perforations are usually evident within several hours after the procedure and, therefore, patients should be observed closely. Routine fluoroscopic examination is preferred by some experts. Conservative management consists of nothing by mouth and antibiotics. If any symptomatic perforation has developed, surgical repair should be pursued without delay. In well-selected patients, perforation can be closed by clips. Besides achalasia, also anastomotic strictures and strictures due to radiation, corrosive injury, reflux, and epidermolysis bullosa can be treated by dilation with similar results and complications.

Benign colorectal anastomosis strictures after low anterior resection can also be balloon-dilated. Duration of effect can exceed 500 days and complications are rare. Another indication for dilation is benign gastric outlet obstruction. Symptoms may resolve in 70% patients, complications are exceptional. Strictures in Crohn’s disease can also be treated by balloon dilatation with similar results.

In choledocholithiasis treatment, endoscopic papillary balloon dilation (EPD) offering an alternative to sphincterotomy (EST) raised high expectations. A meta-analysis of randomized trials was recently published. Overall, the complication rate of both techniques was almost identical. While bleeding was reduced by EPD, the rate of pancreatitis was significantly higher (7.4 vs. 4.3%) and several patients had a severe necrotizing form. Since pancreatitis after EPD is unpredictable and unpreventable even by inserting the stent into the pancreatic duct, EPD has to be reserved for special indications such as coagulopathy only.

It can be summarized that dilation is a well-established part of the endoscopic armament, particularly with the benign strictures of the esophagus and colon. In terms of both efficacy and safety, the technique is well acceptable. Perforation as the most serious complication is rare. Its occurrence can be decreased by proper selection of patients and keeping close observation after the procedure with prompt management.
Endoscopy 2006 – Live demonstration
Virtual endoscopy: Replacement or addition?

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Virtual colonoscopy has not yet gained widespread acceptance among radiologists or gastroenterologists. In addition, the clinical results available to date, although often including a correlation with flexible endoscopy or surgery, have been to the most part conducted with selected patient populations, whereas a true “screening population” has a lower prevalence of colorectal cancer or adenomatous polyps. Despite the possibility to calculate sensitivities and specificities also in small populations, a low specificity for virtual endoscopy in a screening setting would have the consequence that many false positive patients would have to be re-examined with flexible endoscopy. The costs incurred by false positive tests are substantial and must be included when assessing the cost-effectiveness of virtual endoscopy.

Foregoing research and development in the field of virtual colonoscopy has shown that this technique has encaptured the potential to detect polyps with an acceptable precision and certainty, hence has met important prerequisites for a screening technique. The question which remains to be answered is how large must a polyp be in order to be assuredly detected, and the declared, strict opponents of this method argue that seldom also a small polyp can already be malignantly transformed and this cannot be grasped by virtual endoscopy. Multislice CT and new MR imaging techniques will has brought new actuality to this discussion, since the size threshold for a polyp to be detectable has been lowered by the new technique.

Despite recognition of the qualities of fibre-optic endoscopy serving currently as the gold standard, one should not disregard the fact that the flexible endoscopy has failed to reach one very important goal: the acceptance among the general population as a screening method. Even such fine, elaborated diagnostic methods as the chromoscopy or microscopic endoscopy can not significantly improve acceptance. Lastly, this method is invasive with a relative necessity for sedation and therefore embodies the respective inherent risks. A predominant reason for the skeptical and rejecting attitude of the population towards flexible endoscopy is the limited patient comfort, and exactly this point draws the patients towards virtual colonography. The critical point of unsatisfactory sensitivity and specificity should be incentive for all researchers to challenge this problem and strive for an improvement in technological and methodological developments. One difference however remains: a biopsy cannot be taken during virtual endoscopy, and the surrounding tissue remains invisible for the flexible endoscope. This leads to a further indication for virtual endoscopy: the preoperative patient evaluation, be it for the purpose of staging a cancer or for the purpose of evaluating the colon proximal to a stenotic area. In these specific settings, little resistance can be expected from medical professionals as no optimal alternative exists.

In summary, virtual endoscopy represents today the second best choice for evaluating the colon for polyps or cancers. In this light, it should be considered as an addition to the medical armamentarium in patients how cannot or refuse the procedure of optical colonoscopy.
### List of Speakers, Moderators and Scientific Organizers

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Candida esophagitis diagnostics

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The aim of our study to improve the esophagus mycotic lesion diagnostics if changes in esophagus mucous coat are presents.

Introduction: Endoscopic feature of esophagus mucous coat changes at mycosis is rather varied and depends on the expressiveness of the lesions. They may vary from single fine (0.2-0.3 cm in diameter) whitish or yellowish focal nidi raised above the mucous coat in the form of “millet-like grains”, to confluent friable "curdled" incrustations.

Methods: In the Endoscopy Department, Minsk Consultative Diagnostic Center, about 10,000 esophagogastroduodenoscopies are carried out annually. Observations results dated from 1996 to 2005.

Results: The number of pathologically changed esophagus biopsy conducted analyses increases every year. Thus, in 1996 there were carried out 125 esophagitis induced biopsy analyses. Esophagus mycotic lesions were revealed in 25% of the cases. During 2004-2005 esophagus biopsy analyses were carried out for 528 patients. The evidences of the esophagus mycotic lesions presence were revealed in 30.1% of the esophagitis patients, and in 34% of the patients with esophagus erosive ulcerative lesions. If, along with histology analyses, there were carried out cytology analyses, then mycosis was revealed in 42% of the cases. But cytology analyses were made not for every biopsy material sampling. The material cytological analysis of the moderate surface candidosis is of higher sensitivity level than that of the histological analysis, because the microorganisms can be washed out from the tissue surface during the process of the biopsy material processing.

Conclusion: Therefore, to carry out more complete and reliable diagnostics of the esophagus diseases, including mycosis lesions, especially in the presence of visible changes in mycosis, it is necessary in the course of the endoscopy analyses to conduct both, histological and cytological analyses of the obtained materials.
Endoscopical, pathological and immunohistochemical features of esophageal granular cell tumor – Report of 5 patients

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Introduction: Granular cell tumors (first described by Abrikossoff in 1926) are uncommon tumours of the esophagus.

Methods: We report a number of 5 cases (2 females, 3 males, age 34-49 years) discovered incidentally at routine upper digestive endoscopy. Biopsies were analyzed using hematoxilin and eosin stain, PAS stain and immunohistochemistry for S-100 protein.

Results: The symptoms are nonspecific: epigastric pain, abdominal discomfort or bleeding. The lesions appears like small (diameter between 4-7 mm), yellowish, firm lesions in the lower esophagus. The histological sections on biopsy revealed the presence in the submucosa of polygonal cells sheets, without clear cellular limits, with granular eosinophilic cytoplasm and centrally-located small, round, dark nuclei. These lesions are not circumscribed and come into intimate contact with the overlying surface squamous epithelium. The periodic acid-Schiff positive cytoplasm contained abundant eosinophilic granules. Immunohistochemically the tumour cells had diffuse, strong positive cytoplasmic staining with antibodies to S-100 protein. The morphologic findings and immunohistochemical staining pattern supported a diagnosis of granular cell tumour.

Discussion/Conclusion: The granular cell tumors (Abrikossoff tumors) of the esophagus are rare, benign, sessile, firm yellowish tumors discovered incidentally at the upper digestive endoscopy. The polygonal cell tumors have a granular PAS positive cytoplasm and a diffuse immunoreactivity for S-100 protein, a marker, which supports neural origin of these lesions. In all 5 cases, after the biopsy and histological diagnosis, the endoscopical complete resection was performed, with no complications. The follow-up of the patients is between 3 months-4 years, with no local recidives.
Endoscopical, pathological features and differential diagnosis of 20 cases with esophageal papillomas

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Introduction: The first case of a histologically proven esophageal squamous papilloma was reported by Adler et al. in 1959. Esophageal papillomas are very rare benign tumors, often incidentally discovered. They are detected clinically in about 0.05% of all endoscopic examinations. Lesions are small dimensions (under 1.5 cm) and macroscopically have a granular or warty surface, with a firm consistency. Squamous papillomas occur more frequently in men than women.

Methods: We present endoscopical and pathological features of 20 cases with esophageal papillomas: 9 female and 11 male with age ranging between 27-82 years.

Results: Macroscopically the protrusive esophageal lesions are sessile (7/20) or semipediculate (13/20), having a range diameter of 3-7 mm. Most of the lesions (13/20) are localized in the lower third of esophagus and a number of 7/20 in medium third of esophagus. All lesions were unique. Three patients present also associate lesions: chronic Helicobacter negative gastritis - 2 cases and non-erosive duodenitis with gastric metaplasia - 1 case. Histological all lesions had a papillary architecture with acanthosis, parakeratosis, elongated papillary folds and a low chronic inflammation in chorion - characteristic features of squamous cell papilloma. We could not identified koilocytic features on samples. In our cases we didn’t observe dysplastic or malignancy changes.

Discussion/Conclusion: The differential diagnosis must be done with inflammatory polyps related to gastroesophageal reflux. Inflammatory polyps have a relative smooth surface, erosion of the epithelium and usually a marked acute inflammatory cell in the lamina propria.
High-magnification chromoendoscopy improves detection of Barrett’s esophagus (BE) in patients with GERD

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Introduction: The identification of specialized intestinal metaplasia (SIM) and especially dysplasia in columnar lined esophagus (CLE) is of great clinical importance. The value of high-magnification endoscopy (HME) for clinical practice is currently under investigation.

Aims & Methods: The aim of the study was to compare the detection of SIM in patients (pts) with reflux esophagitis (RE) and CLE using HME versus methylene blue (MB) chromoendoscopy and to evaluate the diagnostic accuracy of HME in detection of BE. 55 pts (31 M/24 F, mean age 54) were divided in 2 groups: 39 pts with RE suspected for CLE and 16 pts with CLE without erosions and were examined using MB chromoendoscopy with directed biopsies between Jan 2004-Dec 2005. Then all of them during 6 weeks period undergone HME (Olympus GIFQ160Z) with biopsies. Biopsy specimens were obtained from the MB stained/unstained areas and then were stained with H&E, alcian blue.

Results: 360 biopsy specimens were obtained: 197 from 55 pts (mean 3.58/patient) after MB directed biopsies and 163 from the same 55 pts (mean 2.96/patient) after HME with MB. SIM was diagnosed after MB biopsies in 20 pts - 36.3% (5 LSBE, 15 SSBE) and after HME with MB biopsies in 24 pts - 43.6% (5 LSBE, 19 SSBE). HGD was diagnosed in 3 cases after HME, early adenocarcinoma - in 1 case. After HME 4 different mucosal surface patterns were detected in CLE: 1 - spot or round pits, 2 - reticular, 3 - villous, tubular, 4 - thick villous or disturbed patterns. Histology of specimens taken from magnification viewed areas of these 4 pattern types found the SIM in 0%, 20%, 92% and 100% respectively. In cases of HGD and carcinoma we found thick villous/disturbed pattern.

Conclusion: HME made it possible to distinguish stained areas with SIM from MB stained erosions in patients with RE. HME improved the sensitivity of MB staining in pts with RE and led to increase the detection of SIM compared to MB biopsies. HME of CLE according to the mucosal pattern changes would predict SIM.
Barrett's esophagus diagnostics by chromoscopy at reflux disease patient

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Introduction: Reflux disease and Barrett's esophagus remain the important questions in the field of clinical studies.

Aim: Reveal the frequency of Barrett's esophagus at reflux disease patients.

Methods: The painting was made by 2.5% Lugol’s solution in amount 5-10 ml through spraying catheter, the biopsy was taken from not painted area. Barrett's Esophagus diagnosis was based on revealing cylindrical epithelium in the bottom third esophagus and was confirmed intestinal metaplasia presence in not painted area biopsy.

Results: It was examined 86 gastroesophageal reflux disease (GERD) patients (man – 75.6%, average age 46). At 11 patients (12.8%) the diagnosis Barrett's esophagus was establish. The average extent of a defeat was 10 mm at 8 of them (72.7%) and 1.5 mm at 3 patients (27.3%). Long segment Barrett's esophagus was determine at patient with esophagitis type D (Los Angeles), with presence cicatrix changes only. Diaphragmatic hernia was reveal at 54.5% patient with Barrett's esophagus.

Discussion/Conclusion: The frequency of Barrett's esophagus patients consist 12.8% at the group of high risk (chronic GERD). Extent of the defeat Barrett's esophagus correlate with GERD intensity.
Upper gastrointestinal endoscopy in children with gastroesophageal reflux

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We assessed the indication and results of upper gastrointestinal (GI) endoscopy in children with gastroesophageal reflux (GER).

Introduction: Upper GI endoscopy, which assesses the presence and severity of esophagitis, has become a frequently used method in pediatric practice.

Methods: From a group of 62 children (aged 2 or above), admitted in the Department of Pediatrics, having chronic gastroesophageal reflux disease symptoms, 41 were selected for endoscopy. The symptoms that lead to upper GI endoscopy were analysed, and the results of the procedure were revised. The Savary-Miller grading of esophagitis was used to assess esophageal lesions. NCSS software was used for statistical analysis.

Results: The 41 children selected for endoscopy (mean age: 11.50 years old, limits: 2-17 years old) presented one or more of these signs/symptoms: epigastric pain (51.22%), regurgitation/vomiting (41.46%), anorexia/food refusal (24.39%), heartburn (29.27%), dysphagia (2.44%), hematemesis (2.44%) and anemia (12.19%). We found: normal aspect (8 cases), grade 1 esophagitis (19 cases), grade 2 esophagitis (11 cases) and grade 3 esophagitis (3 cases).

Discussion/Conclusion: Upper GI endoscopy was performed in 66.12% of the children admitted with GER diagnosis. The most encountered presenting symptoms were epigastric pain and vomiting. Esophagitis was detected in 80.48% of the cases. Most of them (57.57%) were mild lesions (grade 1). Furthermore, Helicobacter pylori gastritis was added to the diagnoses of 6 cases.
Endoscopic ultrasound in patients with esophageal achalasia

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Introduction: The major role in the esophageal achalasia diagnosis is played by manometry, which shows as increase of lower esophageal sphincter (LES) pressure and the absence of peristalsis in the middle esophageal region. An assessment of usefulness of endoscopic ultrasonography (EUS) in achalasia diagnosis.

Methods: We examined 10 patients with achalasia and 10 persons without esophageal pathology. We measured the thickness of the muscle layer at the level of LES with the usage of Pentax FG-38UX echoendoscope of 10 MHz frequency connected with Hitachi EUB 6000 ultrasonograph.

Results: In achalasia group the thickness of the muscularis propria amounted 0.482 + 0.160 cm and appeared to be significantly increased (p < 0.05) than the one observed in the control group (0.290 + 0.422 cm).

Muscle thickness measurements at LES in achalasia patients and in control group.

<table>
<thead>
<tr>
<th>ACHALASIA (n = 10)</th>
<th>CONTROL (n = 10)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.482 + 0.160*</td>
<td>0.290 + 0.422</td>
</tr>
</tbody>
</table>

* p < 0.05

LES = lower esophageal sphincter

Discussion/Conclusion: EUS is an accessory method useful in the diagnosis of esophageal achalasia
Endoscopy, morphology of the stomach mucous coat in children ill with yersinioses

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Reasons and aim: There is no doubt that chronic gastrites are caused by H. pylori. But yersinia in yersiniosis infection also penetrate the mucous coat of the stomach and have urease activity. Therefore the necessity of revealing the nature of lesion in the stomach mucous coat in children with yersiniosis has arisen.

Methods: For the first time gastroscopy of 142 children at the age of 7 to 14 ill with yersiniosis infection has been made at the Regional Russian-Japanese endoscopy center. The stomach examination, mucous coat biopsy for histomorphologic and microbiological investigations have been carried out. In accordance with Sidney System 2 biopats from the antral part, 2 from the body and from the angle of the stomach were taken. For evaluation of morphological changes (neutrophil, mononuclear infiltration, atrophy stage and intestinal metaplasia) visual-analogue scale standards of new international classification of gastritis were used.

Results: In the first days of the disease antrum gastritis and spread lesions in the mucous coat (50.0 ± 11.8%) were revealed. In the second week of the disease pathological process was more extensive (pangastritis in 78.3 ± 8.6% of cases). Biopat histology revealed infiltration of proper plate of mucous coat by plasmatic cells, limphocytes, the increase of the total number of mast cell with the predominance of degranulated forms. Atrophic changes of the stomach glands were in 19.5 ± 6.2%, intestinal metaplasia in 4.9 ± 3.4% of cases. Eosinophil infiltration of the stomach mucous coat was revealed rather often (84.8 ± 4.4%). Special investigations of deparaffined sections after Romanovsky-Gimze staining did not reveal H. pylori and yersinia.

Conclusions: The revealed changes of the stomach mucous coat in children with yersiniosis infection increase the spectrum of gastritis development causes.
Role of the endoscopy in the precancerous changes detection and the diagnosis of the early gastric cancer

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Introduction: The aim was to retrospectively comparison of clinical, endoscopical and histological aspects of patients with and without gastric precancerous changes (PC).

Methods: We included in this study 133 patients (45 females and 88 males) with GC. The diagnosis of GC was based on clinical picture and histological confirmation at endoscopy. A comparative study was performed on two groups of patients: A group composed of 77 patients with PC and B group consisting of 56 patients without PC. Endoscopy and multiple biopsies were performed at 6 and 12 months in patients with PC.

Results: The incidences of the PC were: atrophic gastritis (41 cases), gastric ulcer (11 cases), gastrectomy (14 cases), gastric polypus (8 cases) and Menetrier gastritis (3 cases). For A group, clinical data revealed a higher frequency of fever, weight loss, vomiting and abdominal pain. Many B group patients presented: ascites, peripheral adenopathy and abdominal pain. In the A group, endoscopic forms of the early GC were: type I (polypoid) in 16 cases, type II a (slightly elevated) in 5 cases, type II b (absolutely flat) in 3 cases, type II c (slightly depressed) in 6 cases and type III (ulcerated) in 18 cases. The Borrmann forms of the advanced GC were: I (12 cases), II (10 cases), III (5 cases) and IV (2 cases). Group B had advanced GC in Borrmann forms: I (13 cases), II (16 cases), III (10 cases) and IV (8 cases). The early GC we found in only 9 cases (type III). At the time of diagnosis, most B group patients presented metastases: liver 24%, peritoneal 28%, pulmonary 26% and lymph node (7%).

Discussion/Conclusions: The early detection of gastric PC may be helpful in the prevention of GC or in diagnosis of cancer at the curable stages. Greater suspicion and a more rigorous protocol for repeated endoscopy and biopsy must be implemented in order to reduce incidence of GC.
The endoscopic forms of early gastric cancer in Romania

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UMF Craiova, Emergency District Hospital of Craiova, The II Ind Medical Clinic, Romania

Introduction: The early gastric cancer is an endoscopic notion witch to gastric cancer strictly placed to mucosis and submucosis without extensive manifestations. It is the form with favourable prognosis and better survival at 5 and 10 years.

The objectives of the study: Our study tries to systematize the debut forms of early gastric cancer and their association with the lesions with malignisation risk. We also try to evaluate the incidence of endoscopic and histologic forms of gastric cancer (early or advanced) found in an internal medicine division.

Material and methods: Our study included 415 patients with gastric cancer endoscopic and histologic diagnosed. Statistically 69.50% were men and 30.50% were women; the mean age 48 ± 7 years.

Results and discussions: The endoscopic forms of early gastric cancer were type I (protruding) in 63 of cases, type II (superficial) in 32 of cases, type III (ulceration) in 88 of cases. In advanced gastric we found type Borrman I in 84 of cases, Borrman II in 43 of cases, Borrman III in 34 of cases, Borrman IV in 71 of cases.

Conclusions: Early gastric cancer is diagnosed with difficulty, it represent in 44.09% of the gastric cancer, being most frequently asymptomatic. The endoscopic forms frequently found in early gastric cancer in the Romania population were the protrusive and ulcerate forms. The histopathological examination is compulsorily at this form of gastric cancer, while in advanced gastric cancer endoscopy is often sufficient for diagnosis.
Endoscopic ultrasound (EUS) in staging and follow-up of patients with MALT lymphoma treated conservatively

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**Background:** Endoscopic ultrasonography (EUS) is an important tool for diagnosis and pretreatment staging of primary gastric lymphoma. The aim of the study was to evaluate the diagnostic importance of EUS in gastric lymphoma; to assess the depth of tumoral infiltration in MALT and to assess EUS response to medical treatment.

**Methods:** 26 patients with MALT gastric lymphoma were investigated by EUS. Six of them were evaluated after the eradication of Helicobacter pylori (HP) infection and 20 after and during the cyclophosphamide/Mabtera and anti HP treatment. EUS staging was compared with histopathology.

**Results:** Six patients were treated with anti-HP eradication therapy. Full regression of lymphoma was observed in 2 of 6 (33.3%) patients, which was endoscopically and histologically proved. EUS correlated with histology in all (6/6). In 20 patients treated with cyclophosphamide/Mabtera therapy, EUS revealed regression of lymphoma in 14 cases. Positive correlation with histology was found in 11 patients (11/14; 78%). The initial EUS showed an increased wall thickness more than 5 mm in 24 of 26 patients (92%). The thickening was predominantly of mucosa and submucosa and in 11 patients extended the muscularis propria. After the therapy, the gastric wall thickening returned to normal in 14 patients, however, 3 of them still had positive histology findings. In 2 cases, during the follow-up, the EUS showed remained thickening of gastric wall, whereas biopsies were negative.

**Conclusion:** EUS appears to be a sensitive procedure for initial staging and assessment of treatment response and long-term follow up in patients with gastric lymphoma.
Gastrointestinal metastases from malignant melanoma

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Introduction: In May 2003 a 64-year-old man was referred to our hospital for investigation of his unexplained anemia. The patient had no prior history of gastrointestinal disorders. In 2000 he underwent an excision of a malignant melanoma from his back. At the time he denied any gastrointestinal symptoms, however, faecal occult blood tests were positive.

Methods: Gastroduodenoscopy and colonoscopy were performed and revealed smoothly rounded polypoid lesions with purplish-black hue in the stomach, duodenum and ascending colon.

Results: Endoscopic biopsy showed malignant melanoma cells.

Discussion/Conclusion: Malignant melanoma is the most common tumor that metastasizes to the gastrointestinal tract; the most common site for metastases is the small bowel. About 55-60% of patients, dying from melanoma, have metastases to GI tract. But clinical antemortum diagnosis of GI metastases was made in only 2-8% cases. The small bowel (70%), stomach (25%), colon (21%) and esophagus (5%) are involved respectively. Clinical symptoms may include occult blood loss, nausea, vomiting, abdominal pain, diarrhea and weight loss. Diagnosis of melanoma metastases to GI tract is difficult, but should be considered in any patient with a history of melanoma who develops chronic anemia, even if the original primary malignancy was diagnosed years prior to the patient presentation.

References:


Endophotos:

Malignant melanoma metastases in stomach (1), duodenum (2,3), large bowel (4).

1.

2.

3.

4.
A link between the Helicobacter pylori and gastric disorders at elder persons

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¹UMF; ²UPT, Timisoara, Romania

Introduction: The presence of the HP infection represents an important factor of development in gastric disorders in the upper digestive tract. The most severe lesion triggered by HP is considered to be gastric cancer, meanwhile the most common and widely spread disease involving HP is duodenal ulcer.

Methods: In the Department of Internal Medicine Timisoara we investigated 2353 patients sustaining digestive disorders for the period of 12 months. The means by which the patients were investigated consisted of: biopsy, hypopathological exams, serological, ureasis and respiratory tests (needed in order to determine the presence of HP) and gastroscopy using an Olympus gastroscop.

Results: From all the patients (2353) we selected a lot of 745 persons, their ages belonging to the interval 53-84 years, the average being 68.5 years. The gastric lesions detected during endoscopy at the selected lot were:

- erythematous erosive gastritis in 328 patients (44%)
- duodenal ulcer in 289 patients (39%)
- gastric ulcer in 97 patients (13%)
- gastric cancer in 31 patients (4%)

The infection with HP was present at 659 patients (88%), distributed among the disorders as follows:

- erythematous erosive gastritis: 208 patients (89%)
- duodenal ulcer present: 262 patients (91%)
- gastric ulcer occurred in: 70 patients (72%)
- gastric cancer developed: 19 patients (62%)

Discussion/Conclusion: The presence of HP in all the presented disorders indicates the need for proper treatment and early detection. Also, we must note that the precocity and length of HP infections are well correlated with the severity of gastric lesions.
Endoscopic presentation of congenital duodenal diaphragm diagnosed in adolescent

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Introduction: Duodenal diaphragm (DD) is a rare embryologic developmental defect and usually present as gastric outlet obstruction. It is one of the common causes of intestinal obstruction in the newborn. In one third of patients, the diagnosis is delayed until adulthood, especially in asymptomatic or non-specific presentation.

Methods: Case report. Gastroduodenoscopy was carried out using pediatric Olympus Evis Exera P160 endoscope.

Results:

<table>
<thead>
<tr>
<th></th>
<th>Patient 1</th>
<th>Patient 2</th>
<th>Patient 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex</td>
<td>M</td>
<td>F</td>
<td>F</td>
</tr>
<tr>
<td>Age at diagnosis</td>
<td>14 yrs</td>
<td>13 yrs</td>
<td>12 yrs</td>
</tr>
<tr>
<td>Duration of symptoms</td>
<td>Asymptomatic</td>
<td>13 yrs</td>
<td>2 yrs</td>
</tr>
<tr>
<td>Clinical features</td>
<td>No symptoms</td>
<td>Chronic intermittent vomiting, heartburn, early satiety, weight loss, epigastric distension</td>
<td>Progressive dysphagia, weight loss, aspiration syndrome</td>
</tr>
<tr>
<td>Somatic development</td>
<td>Failure to thrive</td>
<td>Failure to thrive</td>
<td>Failure to thrive</td>
</tr>
<tr>
<td>No. of endoscopy resulting in proper diagnosis</td>
<td>1</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Localization of diaphragm</td>
<td>D2</td>
<td>D1</td>
<td>D2</td>
</tr>
<tr>
<td>Treatment</td>
<td>Duodenoduodenostomy</td>
<td>Duodenotomy and web excision</td>
<td>Duodenotomy and web excision</td>
</tr>
<tr>
<td>Associated anomalies</td>
<td>Down’s syndrome Congenital heart disease</td>
<td>Down’s syndrome Ladd’s band Congenital heart disease</td>
<td>Down’s syndrome</td>
</tr>
<tr>
<td>Other</td>
<td>Retention of undigested food in stomach</td>
<td>Pylorus ulceration</td>
<td>Pylorus ulceration Foreign body retention in D1</td>
</tr>
</tbody>
</table>
Discussion/Conclusion: DD may results in various clinical presentation, as well as endoscopic appearance, with symptoms occurring at different age. The possibility of incomplete DD must be considered in differential diagnosis, when clinical presentation is in keeping with symptoms of gastric outlet obstruction, gastroesophageal reflux, failure to thrive, and recurrent aspiration syndrome. Patients with Down’s syndrome should be thoroughly diagnosed to exclude an upper gastrointestinal anomaly.
Secondary malignant tumours localized in the duodenal mucosa – Endoscopical, pathological and immunohistochemical features in 3 cases

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Introduction: In the small intestine metastases are more commonly than primary malignant tumours. Small bowel metastasis are rare, usually unique or multiple polypoid lesions with primary origin in lung, breast, melanoma, stomach and occasionally colon, kidney, choriocarcinoma and testis.

Methods: We present the endoscopical, pathological and immunohistochemical features in three patients with secondary malignant tumours involving the duodenum. Patient one is 69 years old male, surgically treated 1.5 years ago for a colonic mucinous adenocarcinoma. The second patient - 41 years male - presented at the hospital with an untreated skin lesion on the left arm discovered 1.5 year ago, highly suggestive for a malignant melanoma. The third case is a 63 years female – with a primary pulmonary tumour operated 1 year ago.

Results: Endoscopy exam revealed in all cases small, ulcerated nodular lesions of 3-4 mm diameter in duodenum, with a different pigmented feature in the second case. Microscopy exam showed a diffuse infiltration of duodenal mucosa with tumour cells – diffuse mucinous carcinoma in the first case, malignant melanoma in the second case and poorly differentiated adenocarcinoma in the third case. The immunohistochemistry and special stains (cytokeratins, HMB – 45, S-100, mucicarmine, AB 2.5, PAS) confirm the histological diagnosis.

Discussion/Conclusion: The diagnosis of duodenal metastases is difficult and complex including endoscopy, histology and immunohistochemistry but the anamnesis is essential for identify these rare lesions.
Syndroma Bouveret (case report)

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Introduction: Bouveret's syndrome is an uncommon clinical entity that consists of duodenal obstruction resulting from passage of gallstones from the gallbladder to the duodenal bulb through a cholecystoduodenal fistula. The classical triad of distended stomach, pneumobilia and ectopic radio-opaque gallstone on plain X-ray of the abdomen is diagnostic of Bouveret's syndrome but is seen in only a third of cases. Contrast radiology, CT scanning or upper gastrointestinal endoscopy are required to confirm the diagnosis. Surgical removal of the offending stone is the most accepted treatment.

Methods: A 59-year-old man presented with recurrent vomiting since two days. Examination revealed distended stomach and dehydration. Vital signs were within normal limits. Hematological and biochemical investigations were normal. Plain X-ray of the abdomen did not reveal pneumobilia or any ectopic radio-opaque gallstone. Ultrasound examination of the right upper quadrant first did not established the presence of stones in the gallbladder, but on second examination, the presence of gallstones was confirmed.

Results: The diagnosis of Bouveret's syndrome was considered when a CT scanning was performed, and at contrast radiology examination of upper gastrointestinal tract a barium meal disclosed a cholecystoduodenal fistula and a giant filling defect in the duodenal bulb. The treatment was surgical.

Discussion/Conclusion: The clinical presentation of gallstone disease is diverse, and treatment options are varied. Accepting a risk factors for gallstones, even if initially performed ultrasound examination is negative, in the case of ileus it is necessary to think on gallstone ileus. Gallstone ileus is a difficult clinical and radiologic diagnosis.
Endoscope ultrasound in management of miniinvasive treatment of malignant focal damage of liver

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The problem of a valuation of effectiveness of different kinds of nonsurgical miniinvasive methods of local treatment of malignant focal damage of liver is extremely essential.

**Aim:** Is to offer the optimal place for endoscopic US (ultrasound) in the algorithm of supervising the patients with miniinvasive local treatment of metastatic cancer of liver.

**Materials and methods:** During 2002-2005 in research laboratory “Ultrasonic researches and miniinvasive technology” of Smolensk Medical Academy were made sessions of ECL (from 1 till 5) with 52 patients with single metastases of liver (from 1 till 5) after the integrated treatment of malignant tumors of different localizations. In 44 occurrences ECL was made under US-control. With 8 patients intraoperative treatment was made. We used through-skin introductions of mono and bipolar platinum electrodes (ECU – 300, «Soering», German), diameters of which are 2.0 and 2.5 mm. Endoscopic US-research was made with «Hitachi-525» apparatus with endoscope apparatus «Pentax-34 UX» with electronic convex transducer 5.0/7.5 MGc.

**Results:** At the preoperative stage the central link of valuation of volume of local treatment was the following combination: transabdominal US-researches with biopsy of focal and immunogystochimy + endoscopic US + RKT. During the session of nonsurgical treatment ECL the effectiveness of the influence was diagnosed by method of color Doppler carting + power Doppler + multifocal biopsy in 5, 10, 15 days after the treatment. In the remote period (6 months to 3 years) combination RKT and abdominal US with biopsy of questionable focals formed part of module of observation. On the 1st stage endo US is optimal for determination of question of resectability of focal or miniinvasive treatment volume. In the remote period of observation this method is the most effective in the mark of germination of relapse of tumor in liver vessels and of abdominal cavity and in metastatic whirlwind status. For specification of quantity and focals’ measurement in liver endo US is less effective, than transabdominal policy.

**Summary:** Endo US is effectively in amplifying preoperative diagnostics of metastases in liver and in mark of degree of germination of tumor in vessels at recurrence in remote period of observation.
The role of imagistic investigations in diagnosis of cholangiocarcinoma onset by polymyositis

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The initial symptoms in biliary duct tumors can be atypical and sometimes with paraneoplastic manifestations.

**Aim**: The observation of two cases difficult diagnosed by imagistic method with cholangiocarcinoma in which the onset was by polymyositis.

**Patients and method**: We present two cases of women aged 56 and 62 years who described initially pain and stiffness in pelvic, humeral and proximal muscle masses, functional impairment in walk, climb of hands, without initially dyspepsia or jaundice.

**Results**: The biliary tumor duct was diagnosed by abdominal ultrasound, endoscopic ultrasound, endoscopic retrograde cholangiopancreatography-ERCP and pathology. Initially investigations shown a marked increase of ESR (above 100 mm), muscle enzyme elevation (CK), pathological aspect of muscle biopsy and myopathic EMG. In the onset, the imagistic investigations failed to observe tumoral aspects. The clinical and investigational aspects of polymyositis preceded by one year the appearance of the biliary tumor duct The dyspepsia was late (after 8 months) and was considered initially an effect of corticotherapy (without another etiology initially). In evolution, the appearance at repeated imagistic investigation simultaneously of biliary duct dilatation and a small tumor suggest the diagnosis; pathology after surgical intervention confirms the cholangiocarcinoma. The biliary drainage by endoscopic method was possible in one case.

**Conclusions**:
1. The diagnosis of cholangiocarcinoma was made by imagistic combined methods: abdominal ultrasound, endoscopic ultrasound, ERCP, CT and biopsy.
2. The repeated investigations are necessary when the onset of disease is atypical, with paraneoplastic manifestations like, in these cases, polymyositis for cholangiocarcinoma.
3. The difficulties of imagistic diagnosis in early tumoral stage imply monitoring of polymyositis for an association with a neoplasia.
4. The endoscopic methods made possible the biliary drainage.

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The role of echoendoscopy in the diagnostic of malignant pancreatic tumors

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Introduction: Many diseases of the pancreas are associated with the morphologic lesions to this organ. The diagnostic of these lesions is possible with the use of various imaging methods, with the important role of echoendoscopy (EUS).

Aim: The aim of this study was to evaluate the EUS as a diagnostic tool in the diagnosing and differentiating the malignant tumors of the pancreas.

Material and methods: We analyzed 100 patients (48 females, 52 males) with the single or multiple focal lesions in the pancreas established by the classical ultrasonography. These patients underwent EUS (Pentax FG-38UX connected with ultrasonograph EUB 6000) in order to define the character, number and size of the pancreatic lesions. The diagnosis was also verified by using the fine needle biopsy. Some patients underwent the computed tomography of the abdomen. In 4 patients the surgical treatment was performed.

Results: The single focal lesions of pancreas were found in 40 patients. There were also several pseudocysts in 1 patient and two coexisting lesions: typical pseudocyst in the head of the pancreas and the cyst with feature of organization in the body of the pancreas in the second patient. There were also typical pancreatic pseudocysts (diameter 2-14 mm) in the next three consecutive patients. There were typical ultrasonographic features of the pancreatic pseudocysts (usually with calcifications) in 26 patients. The diameter of these lesions ranged from 2 to 55 mm. In 3 cases, the focal lesions to the pancreas were accompanied by dilation of the main pancreatic duct. The infiltration of the peripancreatic adipose tissue was found in 6 cases. The enlarged lymph nodes in the pancreatic are found in 5 cases. The morphologic lesions to the pancreas were associated with numerous focal lesions in the liver with the characteristics of metastases. The multiple focal lesions to the pancreas were found in 29 patients and their character and the coexistence of other morphologic changes suggested the diagnosis of chronic pancreatitis. The fine needle biopsy of the pancreas was performed in 14 patients. This examination revealed the presence of the cancer cells in 4 cases (including 1 case of adenocarcinoma) and atypical cells in 1 case. The fine needle biopsy did not reveal the presence of atypical cells in 2 cases. In the remaining cases the biopates did not have the sufficient number of pancreatic cells, contained the proteins or morphotic elements of blood and the patients did not agree for the repetition of the procedure.

Conclusion: Echoendoscopy is a very valuable and relatively non-invasive diagnostic tool in the diagnosing of the malignant tumors to the pancreas and plays a very important role in the evaluation of the pancreatic neoplasm progression.
Introduction: Endoscopic retrograde cholangiopancreatography (ERCP) is a method used in biliary and pancreatic disease. ERCP has gained widespread and has become an established therapeutic procedure for various pancreatico-biliary disorders. The number of applications has increased markedly, and is more used in the therapeutic purpose. ERCP is a method with serious complications even in experienced endoscopists.

The abstract is following-up the results of ERCP in 2005, when the method has been introduced in the Tg-Mures Hospital, the difficulties in establishing a new method in a town where nobody was doing it and the complications that appeared.

Methods: ERCP has been performed in 87 patients in 2005. 59 (67.8%) of the patients were males, mean age 52.3 years. Starting alone, ERCP was done at the beginning in diagnostic purpose, for the biliary and pancreatic tract, with the help of sedation. After three months was done the first sphincterotomy.

Results: There have been diagnosed: choledocholithiasis, biliary stenosis, pancreatic lithiasis, chronic pancreatitis. In 21 (24.13%) patients was made endoscopic stone extractions, in 15 (17.24%) patients with mechanical lithotripsy. Complications: there were high level amylases in 24 patients, 1 cases of severe pancreatitis in a young woman that cured in 2 weeks and one patient with Dormia basket impacted in the choledoc with a big stone that needed surgery.

Discussion/Conclusion: ERCP is hard to start alone and the technique is improving slowly. Getting to the therapeutic part of ERCP in time, with small steps (in one year) gives a reduce number of complications: only one pancreatitis (1.14%) and one patient who needed surgery for captured Dormia.
Using ERCP in diagnostics of pancreatic disorders

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Introduction: Aim of the study – to determine the efficiency of using ERCP in diagnostics of pancreatic disorders.

Methods: In 386 patients (with age from 26 to 62 years) with clinical, laboratory and sonographic signs of pancreatic disorders there was performed ERCP.

Results: The pancreatic duct was contrasted in 86.8% patients, in 13.2% of patients was ineffective that was caused by paravaterial diverticuli, previous surgical manipulations. There were revealed the further changes: improvement of pancreatic duct diameter, its deformation, narrowing the proximal part of duct – 31.9%, disorder of emptying main duct – 10.7%, dilatation and kistose dilatation of duct – 8.1%, choledocholithiasis – 9.9%, stenosing papillitis – 2.1%, pancreatic cysts – 0.9%, concrements of pancreas – 0.6%. In 35.8% patients the changes were not revealed. ERCP allowed to ground the necessity of surgical and endoscopic correction of these diseases. The revealing the stenosing papillitis, pancreatolithiasis showed the absence of perspectives of medicamentous therapy and in this case it is necessary to perform the surgical treatment.

In 14.0% patients with choledocholithiasis, stenosing papillitis, concrements of pancreas there were performed the sphincterotomy, which was effective in 61.7% patients. After ERCP the complications were observed in 4.2% patients.

Discussion/Conclusion: In diagnostics of pancreatic diseases ERCP is effective method of examination which leads to study the functional and organic changes of pancreatic disease.
Simple criteria of successful catheterization of bile duct to prevent pancreatic complications because of ERCP

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Introduction: After endoscopic retrograde cholangiography it sometimes begins pancreatitis due to contrasting of pancreatic duct by mistake because wrong catheter position is seen only after contrast injection and X-ray visualization. The most important preventive factor is successful catheterization of bile duct.

Methods: There were noticed that after successful catheterization of papilla duodeni major it was not possible to take bile through the catheter in all patients. Later there was revealed that inability to receive bile is related to incorrect catheter position. During contrast X-ray in almost all cases the pancreatic duct was visualized. Another cause of bile absence in catheter is a little bile in bile duct. In these cases it is necessary to inject 2-3 ml of sterile solution NaCl 0.9% in the catheter and pull the liquid out. If the solution has yellow-green color the catheter is situated in bile duct, if not- in pancreatic duct. Thus analyzing color characteristic of duct liquid after papilla duodeni major catheterization it is possible to verify the catheter position and then make a decision about safe contrast injection.

Results: This method was used in 83 patients without complete block of bile ducts to verify the catheter position during ERCP. In all cases when bile was received there was successful bile duct catheterization. In other cases the catheter position was corrected. X-ray was performed after evidence of right catheterization. There were no complications and cases of unnecessary pancreatic duct contrasting.

Discussion/Conclusion: This simple criteria is useful to avoid vain contrasting of pancreatic duct and prevent related complications.
Complications of ERCP – A retrospective study

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Introduction: The aim of the study was to investigate the diagnosis and treatment results of complications after the ERCP procedure.

Methods: 619 patients underwent 690 ERCP procedures from January 1999 to January 2004. Retrospective analysis of case histories was performed.

Results: 55 patients (8.9%) developed complications after ERCP procedure. 11 cases of gastrointestinal perforations, 17 cases of pancreatitis, 8 cases of bleeding, 8 cases of cholecystitis, 3 cases of cholangitis occurred. 4 patients developed cardiovascular complications, one patient had two complications – bleeding later complicated by pancreatitis, one patient had infected echinococcal cyst, one had infected pancreatic pseudocyst and one developed right liver lobe hematoma. 13 (23.6%) of the patients, who developed complications, were operated on. Overall mortality in all patients was 3.9%, mortality in patients, who developed complications was 9.1%.

Discussion/Conclusion: The number of complications after ERCP is around 9%, and they significantly increase morbidity and mortality of the patients. Careful patient selection, early recognition and management of complications is important.
Recurrent symptomatic common bile duct stones after endoscopic stone extraction in elderly patients

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Introduction: Endoscopic sphincterotomy (EST) and stone extraction are established therapeutic procedures for common bile duct (CBD) stones. Little is known about the outcomes of EST for CBD stones among elderly.

Objectives: To examine the rate and risk factors (CBD dilation and/or angulation, periampullary diverticulum, and past open cholecystectomy) for recurrent symptomatic CBD stones after EST in the elderly.

Methods: Altogether 228 consecutive patients who underwent EST for CBD stones between 1997-2004 were included. Follow-up data were obtained from medical records and by questioning of all patients. The correlation between age and stone recurrence, as well as between age and the prevalence of risk factors for stone recurrence was calculated. In addition, a subgroup of 45 elderly patients aged ≥ 80 was compared to a control subgroup of 51 young patients aged ≤ 50 in terms of stone recurrence and associated risk factors.

Results: In the group of all patients, a correlation was found between age and stone recurrence, as well as between age and the known risk factors for stone recurrence. In analyzing the two subgroups, CBD stones recurred in 20% of elderly compared to 4% of young patients. Risk factors for recurrent CBD stones were more common in the elderly, and so was the presence of multiple risk factors in the same patient.

Discussion/Conclusion: Recurrence of symptomatic CBD stones after endoscopic therapy is more frequent in the elderly due to an increased frequency of risk factors.
An angulated common bile duct predisposes to recurrent symptomatic bile duct stones after endoscopic stone extraction

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Background: Endoscopic sphincterotomy (EST) and stone extraction are standard procedures for removal of bile duct stones. Stone recurrence can, however, occur in up to 25%. Risk factors have been poorly defined, but are believed to be related to bile stasis.

Aim: To study whether an angulated common bile duct (CBD), that may predispose to bile stasis, influences symptomatic stone recurrence after successful endoscopic therapy.

Patients and methods: Two hundred and thirty two consecutive patients (mean age 64.1 years, 86 men) who underwent therapeutic ERCP for bile duct stones were included in the study. Follow-up data (36 ± 17 months; mean ± SD) were obtained from medical records and by patient questioning. CBD angulation and diameter were measured from the cholangiogram after stone removal.

Results: Symptomatic bile duct stones recurred in 16% (36/232) of patients. Three independent risk factors were identified by multivariate analysis: An angulated CBD (angle ≤ 145 degrees) (RR 5.2, 95% CI 2.2-12.5, p = 0.0002), a dilated CBD (diameter ≥ 13 mm) (RR 2.6, 95% CI 1.2-5.7, p = 0.017), and past open cholecystectomy (RR 2.7, 95% CI 1.3-5.9, p = 0.0117). Gender, age, urgency of procedure, or a periampullary diverticulum did not influence recurrence rate.

Conclusions: Angulation of the CBD (≤ 145 degrees) on endoscopic cholangiography, a dilated CBD and a past open cholecystectomy are independent risk factors for symptomatic recurrence of bile duct stones. These findings can provide a means of identifying patients with a high risk for stone recurrence. The data also support the role of bile stasis in stone recurrence.

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Endoscopic palliative treatment of malignant biliary strictures – Own experience

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Introduction: Our aim was to evaluate the success rate and factors affecting efficacy of endoscopic procedures attempted to release jaundice due to malignant strictures of biliary tract.

Methods: The records of 1306 ERCPs performed in 2003-2005 in our center were reviewed to identify and analyze cases of interest.

Results: 196 patients (90 male and 106 female; 31-92 years old) were referred to our center for malignant biliary stricture. The strictures in 89 patients were located distally (papilla of Vater and distal 1/3 common bile duct – CBD) and in 107 patients proximally. In 163 patients biliary drainage was attempted with success. In 17 patients guide wire couldn’t negotiate stricture in distal CBD (8 cases), common hepatic duct (4 cases) or bifurcation region (5 cases), and in 16 patients even the cholangiogram was not obtained due to infiltration of distal CBD. In 27 of those patients second attempt was undertaken (17 with distal and 10 with proximal stricture). The success was achieved in 15 and 3 patients, respectively. The third attempt was undertaken in 3 cases without success. The fact of importance is that in patients with distal CBD obstruction and major papilla infiltration we usually perform the needle-knife pre-cut papillotomy if other methods used to cannulate biliary tree fail.

Discussion/Conclusion: The overall success rate was 92.34% (181 of 196 cases), when initially only 83.16%. Second attempt we recommend especially in patients with distal location of the stricture. Cannulation may be facilitated by needle-knife pre-cut papillotomy performed during first session after unsuccessful initial attempts.
Chronic pancreatitis and oxidative stress

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Introduction: Pancreatitis is an inflammation of the pancreas often associated with long-term alcohol consumption. Oxidative stress has been implicated as a possible mechanism of pancreatitis. Metabolism of alcohol leads to the generation of free radicals. The cell is protected from the effects of free radicals by antioxidant systems (reduced glutathione – GSH, superoxide dismutase).

Aim: the study of blood GSH and biological parameters in chronic pancreatitis (CP) patients, correlated with alcohol consumption.

Methods: The diagnosis of pancreatitis was confirmed using imaging techniques: X-ray of the pancreas (which was revealed calcification), ultrasound examination. Blood GSH was determined by dithiobis-nitrobenzoic acid method in CP patients, and in control group.

Results: From 947 patients with hepatic steatosis and alcohol consumption, diffuse CP was present in 637 patients. CP was correlated with alcohol addiction: 100-150 ml/day (25.59% patients), and over 250 ml/day (74.41% patients). The risk of pancreatitis rises with increasing alcohol consumption. In CP patients serum amylase, gamma glutamyl transpeptidase (110 ± 22.21 UI/L), alpha2-globulins (12.92 ± 1.25%), and gamma globulins (22.85 ± 2.23%) were increased. Blood level of GSH was decreased in CP patients (210.21 ± 18.18 μmol/L), than in control (345.2 ± 22.54 μmol/L).

Discussion/Conclusion: The treatment of chronic alcoholic pancreatitis is difficult. Abstinence from alcohol reduced the frequency of acute attacks and decreased pain. Antioxidant therapy can be useful.
Endoscopic treatment of chronic pancreatitis and pancreatic pseudocyst: Early results of 50 cases

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Methods: Retrospective analysis of patients, who had undergone endoscopic procedures because of chronic pancreatitis and pancreatic pseudocysts in 1992-2003 at the Vilnius University Center hospital was carried out. Endoscopic treatment was undertaken for 50 patients, there were 39 male and 11 female patients, age 23-87 (45.8 ± 1.7) years.

Results: ERCP was performed for 44 patients, 6 patients undergone transparietal pseudocyst drainage without ERCP. 35 patients had pseudocysts, 22 dilated pancreatic duct, 11 stenosis of the pancreatic duct, 11 dilated common bile duct, 8 common bile duct stenosis, and 5 pancreatic stones. Following endoscopic procedures were carried out: pancreatic sphincterotomy 25, biliary sphincterotomy 18, cystoduodenostomy 13, cystogastrostomy 11, pancreatic duct stenting 5, bile duct stenting 5, removal of pancreatic stones 3. Complications of endoscopic treatment developed in (8) 16% of cases, in 4 cases they were managed conservatively, and in 4 cases surgery was required. Additional 10 surgical procedures were performed in cases, when after endoscopic procedure complaints did not improve. Good result of endoscopic treatment was achieved in 36 out of 50 patients (72%). There was no lethality in this series.

Discussion/Conclusion: Endoscopic treatment of chronic pancreatitis and pancreatic pseudocysts was effective in 72% of cases, complications developed in 16%. Endoscopic treatment of chronic pancreatitis and pancreatic pseudocysts – an alternative to traditional surgery.
Endoscopic cleaning of pancreatic cysts after inner drainage operations

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Introduction: Pancreatic pseudocysts occur usually as a complication of pancreatitis or after trauma. Sometimes patients need operation before pseudocysts become matured. Internal drainage is the most frequently used operation for pseudocysts. But even after it in cases when it is impossible to perform quite radical necrectomy, inflammation can continue. Post-operation endoscopy can help to treat pseudocysts successfully.

Methods: There were observed 42 patients with internal drainage of pancreatic non-matured pseudocysts (30 after cystogastrostomy and 12 after cystoduodenostomy) due to acute pancreatitis (34) and trauma (8). Endoscopy examinations of pseudocyst cavity through anastomosis were carried out from 3-4 days after operation. In cases with severe inflammatory and sequesters additionally to usual treatment there were performed repeated endoscopic clearances through gastroscop by solution of NaCl 0.9% and watery chlorhexidine bigluconate 0.02% to evacuate contents of pseudocyst and improve its drainage.

Results: Endoscopic examination revealed severe continuing inflammation and necrotic contents in pseudocyst cavity in 26 of 42 patients. All of them underwent endoscopic pseudocysts cleansings (from 2 to 5 procedures each). There were noticed decrease in cavity volume and marked inflammatory reduction in pseudocysts. Due to additional endoscopic interventions there were not differences in duration of pseudocyst cavity existence in patients with and without inflammation and sequesters revealed endoscopically after internal pseudocysts drainage. No recurrent cysts were observed.

Discussion/Conclusion: Endoscopic examinations of pancreatic cysts after internal drainage are useful to estimate inflammation and drainage function in cavity. Endoscopy permits to individualise treatment strategy and perform special cleanings for successful healing of pancreatic pseudocysts.
Wireless capsule endoscopy in children, first experiences. Enthusiasm with complications

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Introduction: Wireless capsule endoscopy (CE) is a new diagnostic method useful for small bowel examination. The aim of the study was to summarize previously done examinations with CE and initial estimation of usefulness of the method for pediatric patients.

Methods: CE was done in 3 children (2 boys, 1 girl ages: 13 to 17 years old). The children qualifying for CE had previously done gastroduodenoscopy, colonoscopy and radiological diagnostic (enteroclysis, passage) and no abnormalities were revealed.
CE was done with the use of M2A (Phillicam SB) capsule (Given Imaging Ltd.). Records from the CE examination were analyzed by Rapid 2 software (Given).

Results: Patient 1 (male, 17 y.o.): chronic anaemia, occult blood in the stool. CE revealed erosions in small bowel, no complications.
Patient 3 (male, 15 y.o.): periodic bleeding from gastro intestinal tract, the result of examination: no abnormalities, no complication.

Discussion/Conclusion: CE is an established technique and could be helpful in children.
In our study CE show small bowel pathology in two third of examined patients. Safety and tolerance of CE in children has not been fully evaluated yet.
Radiation injury of the digestive tract or Crohn’s disease? Diagnostic problems

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Introduction: Radiation injury of the small and large bowel is a result of the therapy of many pelvic malignancies. Severity of the radiation injuries depends on the total dose, fractionation, volume of radiated organ and coexisting diseases. Late radiation injuries are characterized by presence of serious complications (obstruction, malabsorption, bleeding, fistulization, infection). Endoscopic examination may reveal: paleness, folds atrophy, ulceration, stricture, fistula, rigidity. Differential diagnosis includes Crohn’s disease (CD).

Case report: 59-year-old woman received radiation for the uterine cervical cancer. Nineteen months later diarrhea, abdominal pain, vomiting, fever and progressing cachexia occurred. Endoscopic examination and barium enema showed irregular colonic stricture and patient was operated. Inflammatory tumor of the ileocecal region was removed. Than patient was admitted to the Department of Gastroenterology and Hepatology of Wroclaw Medical University with the initial diagnosis of radiation injury. Laboratory tests detected anemia, electrolyte depletion, hypoalbuminemia, an accelerated erythrocyte sedimentation rate. Endoscopic examination of the upper gastrointestinal tract revealed duodenal ulcer and colonoscopy found stricture of the sigmoid colon with map-like erythema of mucosa; histology - colitis chronica levis. There were no abnormalities of the small bowel in radiologic investigation. After total assessment of the clinical presentation and endoscopic findings the suspicion of CD was made. Patient received typical treatment for CD. Follow-up endoscopic examinations showed duodenal ulcer healing and persisting stricture of sigmoid colon.

Conclusions: This case report demonstrates difficulties in the differential diagnosis between the radiation injury of the digestive tract and CD. History of pelvic irradiation and previous endoscopic/radiologic/surgical findings (colonic stricture; inflammatory tumor) suggested that patient suffered from radiation injuries. Localization of the tumor in the ileocecal region and macroscopic features of the duodenal and rectal ulcerations argued for inflammatory bowel disease (IBD). Presented case proves that in patients after radiation the diagnosis of IBD as a cause of ulcers, strictures and inflammatory tumors should be always considered. Early diagnosis of CD and appropriate pharmacological treatment can reduce the need of surgical intervention.

Key words: radiation therapy, radiation injury of the digestive tract, Crohn’s disease.
The complex treatment of Crohn’s disease fistulas

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Introduction: The incidence of the chronic inflammatory bowel diseases - ulcerative colitis and Crohn's disease, are increasing in Western Europe and the USA. There is still urgent need for provision of adequate therapy since these illnesses are not only a burden to the individual suffer but also put him under considerable psychological strain.

Aims & Methods: Among 1996-2005 we treated 90 patients with Crohn's disease fistulas with both - Budenofalk® – 9 mg and Tissucol. The technic of the seal closing of the fistulas is as follows: the internal fistula orifice is found by endoscope and than a thin catheter. After that fibrin glue is slowly injected until a typical milky white clearly visible tissel cloth is formed on the internal orifice. Than a slow leaving of the catheter follows and the fistula channel is filled with the rest of the fibrin glue. We treated our patients with Tissucol - two component fibrin sealant. The Duploject system has been specially adapted to allow simultaneous Tisseel application via single handed operation. Fibrinotherm a heating and stirring device facilitates the reconstruction of lyophilized Tisseel. We use catheter Duplicate 35 MIS with MIS adapter.

Results: All our patients were men. In 15% of patients treated with Tissucol-Kit were found clearly Tisseel clot, after first application, but in 25% the same effects were found after the second application, and in 60% were found closing fibrin fistulas. We found improvement in all patients treated with Budenofalk® after first week. 75% of the fistulae were successfully closed using fibrin sealing. Patients with successful sealing could generally be discharged after approximately one week of observation and clinical follow-up, examinations, with endoscope and X-ray test. There were no any side effects after treatment.

Conclusion:
1. Budenofalk® and application with Tissucol-Kit is very fast for fistulas closing and on the same times safe and effective for treatment and we found improvement only week after treatment.
2. 75% of the fistulae were successfully closed using fibrin sealing.
3. There were no necessary for surgical treatment.

References:
The optical coherence tomography (OCT) in the evaluation of ulcerative colitis: A comparison with histology


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Introduction: The optical coherence tomography (OCT) is an imaging modality based on differences in optical (infrared light) backscattering properties of tissue. OCT resolution is around 20 μm. Studies of OCT on GI tract described mucosa, submucosa and microscopic structures, while studies on ulcerative colitis (UC) showed the disappearance of crypts and alteration in the backscattering of light. This study aimed to assess the feasibility and performance of OCT system in UC, in comparison with the histology.

Methods: 25 patients (20-76 yrs) with UC underwent OCT imaging during a total colonoscopy. The OCT images were collected both from affected and normal sites in active UC or disease in remission. Two biopsies of the same sites were acquired. The OCT images were separately scored. Two pathologists blinded to the endoscopic and OCT patterns read the samples.

Results: Three OCT patterns were identified: the Mucosal Backscattering Alteration (MBA), the Delimited Dark Areas (DDA) and the Layered Colonic Wall (LCW). In colon affected segments of active and quiescent UC, these patterns showed a good correspondence with the histology. Moreover, in 10/25 (40%) normal sites above the affected segment, the histology documented pathological features which the OCT recognised. Thus, the assessed sensitivity and specificity of OCT in normal segments of UC patients have been 100% and 69% respectively.

Discussion/Conclusion: The in vivo-OCT correctly detected the disease both in endoscopically affected and apparently colon segments in UC patients. This opens new perspectives in the management of UC and the issues related to its endoscopic surveillance.
Diverticular colitis - Endoscopic findings

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Aim of the study: The aim of the study was to describe the features and frequency of diverticular colitis in 435 cases of colonic diverticulosis.

Material and methods: Endoscopic examination was performed in 435 consecutive patients (281 women, 154 men; mean age 65.1) with diagnosis of colonic diverticulosis. The indication for endoscopy was exacerbation of symptoms, control endoscopy or complications of colonic diverticulosis (follow-up endoscopy).

Results: The picture typical for diverticular colitis was found in 8 (1.8%) patients (all women). The erythemas, loss of vascular pattern, granularity, tenderness, erosions were found in the regions were the colonic diverticulosis was most pronounced. The patients with diverticular colitis presented with bloody diarrhea, they were misdiagnosed and treated for ulcerative colitis.

Conclusions: Patients with colonic diverticulosis may develop symptoms similar to those seen in ulcerative colitis, therefore they are often treated with steroids. Precise endoscopic examination reveals mucosa injuries in neighborhood of diverticulosis. Careful differential diagnosis and consideration of diverticular colitis allow avoiding IBD diagnosis in patients with diverticular disease.
Colonic proliferative process in aged patients

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Introduction: The age related decline in immune response can increase the risk of neoplastic proliferation.

Aim: endoscopic investigation of the colon proliferation in aged patients.

Methods: We investigated 156 patients aged between 65-87 years old, admitted in the 4th Department of Internal Medicine Timisoara, for a period of one year. After physical examination was performed endoscopy of the terminal colon, in order to diagnose proliferative process.

Results: The colonic diverticulosis was found in 85 patients (54.49%) and rectosigmoidian neoplasm in 13 patients. In patients with rectosigmoidian neoplasm the diagnosis was obtained through colonoscopy and histopathologic examinations. Hematological manifestations in rectosigmoidian neoplasm revealed: hypo-chromic anemia in 72% of cases (hemoglobin: 9.5-12.3 g%, hematocrit: 28-35%), increased erythrocyte sedimentation rate, in all patients, the increase of GOT. Low leukocytes count in 10% of patients showed the age related immunodepression.

Discussion/Conclusion: In 30% of patients can be mentioned the association of sigmoidian proliferative process with a chronic dyskinetic cholecystitis. This can alter the balance of normal colonic flora and the immune defence properties of the intestinal bacteria, because the intestinal flora is a part of our body’s immune system. Immune failure in older people is associated with neoplastic proliferation and therefore new strategies for prevention of immune decline must be applied.
The analysis of histological diagnosis of 840 colorectal biopsies

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Objectives: Histological examination is crucial in establishing the diagnosis in many cases of inflammatory neoplastic and pseudoneoplastic lesions of the large bowel.

The aim of this study was to estimate the diagnostic value of histological specimens obtained during large bowel endoscopy. The obtained samples of large bowel’s mucosa were fixed with formalin, embedded in paraffin and stained with hematoxylin and eosin.

Materials and methods: The biopsies were taken from 840 patients (390 females and 450 males) aged from 5 to 86 years throughout the years 2001-2005. The clinical diagnosis was: 379 cases - chronic colitis, 195 - ulcerative colitis, 41 - Crohn’s disease, 165 - epithelial polyp, and 60 - carcinoma of large bowel.

Results: The histological diagnosis was made in 799 examined cases. In the rest 41 cases (5%) the samples obtained during endoscopy were not big enough and it was impossible to make the microscopic diagnosis. The inflammatory lesions were diagnosed in 532 cases: 308 patients were diagnosed with unclassified chronic colitis, 124 with ulcerative colitis, 17 with Crohn’s disease, 61 with indeterminate chronic colitis, 3 with collagenous colitis, 8 with lymphocytic colitis and 2 with ischemic colitis. In the next 58 specimens of large bowel mucosa no lesions were observed during histological examination. In other 182 cases neoplastic lesions were diagnosed (including 3 cases of serrated adenoma, 105 cases of tubular adenoma, 30 cases of tubulo-villous, 3 cases of submucosal lipoma and 41 cases of adenocarcinoma). In the rest of 36 patients the determinate diagnosis was hyperplastic polyp (22 cases) and inflammatory polyp (14 cases). In 159 cases out of 799 (5%) the histological diagnosis was different from clinical diagnosis. The clinical diagnosis of Crohn’s disease and ulcerative colitis was confirmed by histological examination in 41% and 64%, respectively. The histological examination confirmed clinical diagnosis of neoplastic lesions (adenocarcinoma) of large bowel in 68%. The histological diagnosis confirmed clinical diagnosis of adenoma and chronic inflammatory bowel disease in 84% and 88%, respectively.

Conclusion: Histological examination of colonorectal biopsies is crucial in making the right clinical diagnosis and choosing the optimal treatment.
How important is occurrence of metachronous colonic cancer after curative colectomy?

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Introduction: The aim of this retrospective study performed between 1999-2005 consisted in evaluation of the incidence of metachronous colonic cancer in 895 patients with colonic cancer in which curative colectomy was performed. The average follow-up was 52.05 ± 8.12 months.

Methods: The average time elapsed after colectomy was 4.41 ± 2.17 years. Diagnostic criteria for metachronous cancer were: occurrence more than 12 months after curative surgery, with pre-operative complete colonoscopy or one negative post-operative colonoscopic follow-up to rule out synchronous tumor; absence of restant unresected synchronous polyps after initial colectomy; tumor arising from mucosa at a different site than anastomosis. Colonoscopy was performed annually in the first three years, then every 2 years. Hereditary colonic cancers (FAP and HNPCC) were excluded.

Results: Anastomotic recurrence of index cancer was observed in 142 cases (15.86 ± 4.34%), adenomatous metachronous polyps in 163 (18.21 ± 5.01%) while metachronous cancer only in 14 cases (1.56 ± 0.64%), corresponding to an average annual incidence of 0.26 ± 0.01%. The greatest part (57.14%) of those cancers was discovered in average after 38.43 ± 9.04 months after initial colectomy. The highest risk for metachronous cancer was identified in patients in whom the index tumor resided on the right colon (6.7 ± 3.32%). Metachronous cancers after resections of the left colon were observed with the lowest frequency (3.35 ± 1.07%), while those appearing after segmentary transverse resections were discovered with intermediate frequency (5.58 ± 2.87%).

Discussion/Conclusion: Metachronous colonic cancer is a relatively rare eventuality after curative colectomy as compared with anastomotic recurrence and metachronous adenomatous polyps. The highest risk is in proximal resections vs. the distal ones.
Polyps of upper gastrointestinal tract in patients with polyposis syndrome after total colectomy

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Introduction: Juvenile polyposis syndrome (JPS) and familial adenomatous polyposis (FAP) are hereditary cancer syndromes that have a high probability of upper gastrointestinal tract involvement. There are few data describing gastro-duodenal lesions in children and adolescents.

Methods: We studied 11 patients with juvenile JPS and 4 patients with FAP who underwent total colectomy. Their age ranged from 9 to 25 years, with a mean of 18.6 years. The male to female ratio was 2:3. The mean follow up was 87.5 months (range 25 months to fifteen years). In all patients, careful upper gastrointestinal endoscopy with multiple biopsies from the stomach and duodenum was performed.

Results: On follow up, five of the eleven patients with JPS (45.5%) had polyps in the stomach. These were sessile polyps, and their size varied from 3 mm to 20 mm. On histological examination all polyps were juvenile. One patient (9%) had juvenile polyps in the cardia and duodenum with focal and low grade adenomatous change. All patients with FAP had polyps: two fundic gland polyps, one adenoma in antrum and one adenomatosis in duodenum.

Discussion/Conclusion: Follow up studies of patients with JPS and FAP after total colectomy shows persistence or occurrence of polyps of variable nature in the stomach and duodenum. Histology shows that these polyps in JPS have a low malignant potential. In FAP patients, fundic gland polyps have a low neoplastic potential but adenomatous changes in the stomach and/or duodenum are an indication for regular surveillance.
Colon polyps in children

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Introduction: Colorectal polyps in children can present with diagnostic difficulties and problems for follow-up. We studied the clinical, colonoscopic and pathological features of colorectal polyps in a large cohort of Russian children.

Methods: Two hundred forty children with colonic polyps were studied during fifteen years from January 1990 to December 2004. They were evaluated clinically and colonoscopically. All polyps were had the careful pathology examination.

Results: The mean age of these children was 3.9 ± 1.6 yr, with a male preponderance (1.4:1). Rectal bleeding of a mean duration of 12 ± 4 months was the presenting symptom in 98.7%. Solitary polyps were seen in 83.3% (n = 200), polyposis syndromes in 16.7% (n = 40) of the children. A majority (67%) of the solitary polyps were juvenile (JP) and 89.6% were rectosigmoid in location. 3.7% solitary JP and 34% polyps in patients with juvenile polyposis have adenomatous changes with TP53 expression. Inflammatory polyps were seen in 23% (n = 46), lymphoid polyps in 8% (n = 16), adenomatous polyps in 2% (n = 4) of the solitary polyps. Polyposis syndromes were observed in 40 cases: 22 cases of juvenile polyposis, 11 cases of familial adenomatous polyposis and 7 cases of Peutz-Jeghers.

Discussion/Conclusion: Juvenile polyps are the most common colonic polyps in children. All polyps should be removed and have done pathology examination. Colonoscopic polypectomy is effective mode of treatment in all cases of solitary polyps. Surveillance colonoscopy is required for juvenile polyps with TP53 expression, for solitary adenomatous polyps and for polyposis syndromes.
Endoscopic polypectomy - Complications and approaches

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Introduction: The purpose of the study is following the results of endoscopic polypectomy during two years.

Methods: In 1021 patients who underwent colonoscopies were found 58 colonic polyps (at 49 patients) in two years. Patients were 31 (63, 26%) males, with the mean age of 53.6 years. Endoscopic polypectomy was made, with the retrieving of the polyps. Initially we used a surgical cuter at which we adapted the polypectomy device. Later on it was used the electrocute ERBE ICC 200 with coagulation and self adjustable cutting. Initially the endoscopy was made with the fibroscope, afterwards with the videocolonoscop Olympus Evis Exera, increasing very much the image quality.

Results: There were not any major complications. At two big pediculated polyps, extracted with the old cuter, it appeared lower gastro-intestinal bleeding stopped with Adrenalin 1/10,000 injection. One of the patients had abdominal pains and fever during one day. For the sessile polyps it was injected 2-3 ml diluted Adrenalin before the polypectomy. At the villous adenoma, it was injected blue methylen, for the limits. The polypectomy was made in fractions, and in three giant polyps was made at one month interval, in several sessions. In two patients the polyps revealed to be neoplastic lesions and were sent to the surgery: one tubulo adenoma and one villous adenoma.

Discussion/Conclusion: Endoscopic polypectomy is a safe diagnostic, therapeutic and prophylactic method, without any major complications. The recover of the polyps and histopathology exam is obvious necessary at all the polyps. Villous adenoma is a challenging polypectomy. A good endoscopic equipment and a new cuter increases the safety of the method.
Characteristics of laterally spreading tumours (LSTs) among a Hispano-American population

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Introduction: Colorectal cancer is a rising pathology worldwide. It is the third leading cause of death from gastrointestinal cancer in our country. Optimal preventive management requires surveillance of precursor lesions or early-stage tumors. Laterally spreading tumors (LSTs) are categorized into nonpolypoid colorectal neoplasms. Since there are no published reports of these lesions in Hispano-American population, the aim of our study was to assess the characteristics of LSTs based on a Chilean population.

Methods: We reviewed the database of colonoscopies performed at our department from 1996 to 2005 analyzing clinical and endoscopic characteristics and histology. We excluded patients with a history of familial polyposis.

Results: Of 3245 colonoscopies performed, 344 (11%) cases of adenoma were detected, 31 (1%) of them were catalogued as LSTs. 21 patients with LSTs had complete data and were included in the study. The gender proportion was similar between males and females. Ages ranged from 35 and 92 years (mean ± SD, 70.8 ± 14.3); the tumor size ranged from 10 to 120 mm (mean ± SD, 32.1 ± 32.07). According to distribution inside the large bowel, 13 (62%) LSTs were located distal and 21 (38%) were located proximal to the splenic flexure. Histology demonstrated 14 adenomas (9 of them with moderate to severe dysplasia), 5 adenocarcinomas and 2 hyperplastic lesions.

Conclusion: LSTs characteristics are similar to polypoid colorectal neoplasms. Factors such as age > 60 years, tumor size > 20 mm and distal location were associated with presence of adenocarcinoma in LSTs, although the relationship was not statistically significant.
Affecting forces on the suspension of the colon during conventional colonoscopy - An experimental study

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**Introduction:** During colonoscopy pain and discomfort for the patient arise with different origin. Insufflation, mechanical irritation on the bowel wall by the endoscope and the traction and shear forces on the suspension of the bowel are assumed to be responsible for discomfort and pain. We analysed the arising forces on the suspension of the colon in the recto-sigmoidal region during conventional colonoscopy using a phantom model.

**Methods:** We developed a model with porcine colon measuring forces on 5 different positions on the mesenterial suspension of the colon. Sensor 1: recto-sigmoid junction; Sensor 2: promotorium; Sensors 3 and 4: Sigma; Sensor 5: Transition zone to colon descendens. The porcine bowel is positioned in an artificial model of the abdomen.

**Results:** The mean examination time was 222 sec. The highest peak of force as well as the largest Area under the curve was measured at Sensor 1 (122.67 Ns), followed by Sensor 2 (54.84 Ns) and Sensor 5 (51.76 Ns). In comparison the measured forces on Sensor 3 (20.15 Ns) and Sensor 4 (22.54 Ns) were very small.

**Discussion/Conclusion:** The main force effect on the mesenterium of the distal bowel during colonoscopy and the increased risk of perforation was found to be at the transition from rectum to sigma and from sigma to colon descendens, respectively. We attribute this to the changing peritoneal relations from intra- to retroperitoneal conditions.
Upper gastrointestinal hemorrhage - Etiology and evaluation of the precipitating factors

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Introduction: The aim of this study is to evaluate the causes and the precipitating factors of the upper gastrointestinal bleedings in patients who was admitted to our department in a period of one year.

Methods: We studied retrospectively a group of 118 patients admitted in our hospital between 01 January 2005 and 31 December 2005 with upper gastrointestinal bleeding. All the patients underwent gastroscopy for diagnosis and treatment, if necessary. By an historical inquiry, we found the possible factors that caused haemorrhage precipitation.

Results: From a total of 4792 patients admitted in our department on 2005, 118 patients (2.46%) were diagnosed with upper gastrointestinal bleeding. The male/female ratio was 1.74 (75 M/43 F) with a mean age 57.3 ± 13.4 yrs. At 116 patients (98.4%) the bleeding site could be localized: 30 cases by oesophageal and/or gastric varices (25.4%) and 88 cases by other esogastroduodenal lesions (74.6%), as: gastric ulcer (24.6%), duodenal ulcer (20.3%), erosive gastritis (17.8%), oesophagitis (4.2%), gastric cancer (4.2%), angiodysplasia (2.5%), Mallory Weiss syndrome (0.8%). Precipitating factors for variceal hemorrhage was: alcohol drinking (46.7%), smoking (13.3%) and non-steroid anti-inflammatory drugs (3.3%). Precipitating factors for non-variceal hemorrhage was: alcohol drinking (35.2%), smoking (27.2%) and non-steroid anti-inflammatory drugs (40.9%), Helicobacter pylori infection (21.5%), anticoagulants drugs (7.9%).

Discussion/Conclusion: In our study group the non-variceal bleeding were more frequent (74.6%). For variceal hemorrhage, the most frequent precipitating factors are alcohol consumption and smoking, and for the non-variceal ones, the anti-inflammatory drugs and Helicobacter pylori infection.
Role of the endoscopy in the diagnosis of non-variceal upper gastrointestinal bleeding

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Introduction: The aim of our study was to evaluate the causes of non-variceal upper gastrointestinal bleeding.

Methods: A retrospective analysis of 117 patients from Emergency Clinical Hospital Craiova with upper gastrointestinal bleeding was conducted between January 2004 and June 2005. We excluded 40 patients with variceal bleeding. The examination was performed using a fiberoptic gastroduodenoscope. Multiple biopsy specimens should be obtained from any visually suspicious areas.

Results: We studied 77 patients (49 males and 28 females) with non-variceal upper gastrointestinal bleeding. The mean age was 44.8 ± 2.1 years. The patients presented with: haematemesis (45 cases, 58.4%) and melena (32 cases, 41.6%). Most of the cases (81.8%) underwent endoscopy in the first 24 hours from the start of the bleeding. The causes of bleeding were: erosive gastritis (16 patients, 20.8%), gastric ulcer (22 patients, 28.6%), duodenal ulcer (17 patients, 22.0%), gastric cancer (8 patients, 10.4%), oesophagitis (4 patients, 5.2%), Mallory-Weiss (3 patients, 3.9%) and angiodysplasia (1 patients, 1.3%). The cause of bleeding was not identified in 6 patients. The precipitating factors for non-variceal hemorrhages were: alcohol drinking in 22 cases, nonsteroidal anti inflammatory drugs in 15 cases, corticotherapy in 7 cases. Helicobacter pylori-infection was present at 36 patients (46.75%).

Discussion/Conclusion: Endoscopy is the most accurate method for determining the cause of bleeding. Urgent endoscopy is indicated when patients present with hematemesis, melena or postural changes in blood pressure.
Endoscopic diagnosis and etiological spectrum about the superior digestive hemorrhage in liver cirrhosis in Romania

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Introduction: The superior digestive hemorrhage represent a major complication in the hepatic cirrhosis which influences significantly the evolution and the prognosis of the disease. The etiological spectrum of the hemorrhage is varied which leads to important therapeutical implications.

The objectives of the study: Our study aims at establishing the main causes of bleeding in the patient suffering from cirrhosis and the correlations with various statistic aspects.

Methods: A study has been performed on 287 patients suffering from hepatic cirrhosis, which have been monitored actively for 4 years. A number of 60 patients showed at least one a superior digestive hemorrhage (20.9% of all the patients under study) during the 4 years period.

The statistic analysis over this group of patients has shown hemorrhage episodes prevailing in men over women (68.3% versus 31.7%) and an age average of 56.62 ± 6.79 years. As paraclinical probing, beside the usual protocol of exploring the patient suffering from cirrhosis (clinical examination, complete biochemical exploration, the exploration of the ascites liquid and imagistic exploration of the liver) an endoscopic monitoring of the patients was done every year and an endoscopic exploration and eventually therapeutic if a hemorrhage appeared.

Results and discussions: The most frequent causes of bleeding observed in the group of the hospitalized patients suffering from cirrhosis, were those determined by the gullet varix broken in 20 patients (33.33%), bleedings because of gastric or duodenal ulcer associated with hepatic affection in 19 cases (31.66%), bleedings because of severe erosive gastritis post-medication in 8 patients (13.33%) and bleedings because of hypertensive gastropathy 9 cases (15%). Rare causes of bleeding observed in the patients suffering from cirrhosis were the bleeding by the Mallory-Weiss syndrome in 2 cases (3.33%). There was observed a high incidence of the hemorrhage episodes in patients with high oesophagus varix and suffering from severe hypertensive portal gastropathy.

The consumption of non-steroid anti-inflammatories was also a favouring factor for the accurence hemorrhage episodes. Even more etiologically speaking, the alcohol consumption was present in 53.45% of the cases where hemorrhages were present, but the association of alcohol consumption with the high risk of bleeding is still to be studied.
Conclusions: The appearance of the superior digestive hemorrhage is a frequent complication in the evolution of the hepatic cirrhosis (20.9% of the cases). The most frequent causes of bleeding in the patient suffering from cirrhosis are determined by the breaking of the esophagus or gastric varix, the gastric or duodenal ulcer associated with cirrhosis the bleeding by the hypertensive portal gastropathy or by acute erosive gastritis post-medication. The Mallory-Weiss syndrome and the idiopathic forms are rare causes of bleeding.
Importance of using a scoring system in upper GI bleeding: Comparison between three scores

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Introduction: To lay down the routine use of a score in assessing the severity of upper GI bleeding (UGIB), to reduce the expenses and length of hospitalization, maintaining/improving the quality of medical act.

Methods: This retrospective study included patients diagnosed with UGIB for an 18 month period in the Department of Gastroenterology Timisoara-Romania. We studied 250 patients (161-64.4% men; 89-35.6% women, mean age 56.3 years). UGIB severity was assessed using three scoring systems: Rockall score (RS), Cedars Sinai Medical Center Predictive Index (CSS) and Baylor Score (BS). RS and CSS were applied to all patients included; only 170 patients fulfilled BS criteria (those with “severe hemorrhage criteria”).

Results: Mean RS for the batch we studied was $4.68 \pm 2$ (patients with low risk $4.3 \pm 1.8$, patients with high risk $8.25 \pm 0.5$). Mean CSS was $4.05 \pm 2.4$ (low risk group $1.2 \pm 0.7$, medium risk group $3.5 \pm 0.5$ and the high risk group $6.3 \pm 1.4$). Mean BS was $9.5 \pm 4.5$ (low risk group $6.2 \pm 2.6$, high risk $13.7 \pm 2.5$). The most frequent cause of UGIB was peptic ulcer (82%), followed by erosive gastritis. Stigmats of recent hemorrhage were found in 60% ($n = 150$) (severe active bleeding 27.2%, visible blood vessel 18%, adhesive blood clot 14.8%). According to evolution 28 (11.2%) patients re-bleed and 7.2% were transferred to the surgical department. Endoscopic treatment was mandatory in 7.6% cases ($n = 119$). Majority of patients had severe comorbidities (59.9%). Anemia (mean Hb = $10.3 \text{ g\%} \pm 3$) and altered haemodynamic state 40.4% correlated significantly with the risk classes.

Discussion/Conclusion: Routine use of risk scoring system in UGIB is extremely useful, allowing selection of cases with high risk. RS and CSS proved to be useful in predicting re-bleeding rate and the need for surgery vs. BS ($p < 0.001$).
**Non-variceal gastrointestinal hemorrhage - Evolution and assessment of the severity**

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**Introduction:** The aim of this study is to asses the severity, to evaluate the time of hospitalisation, the in patients who was admitted to our department in a period of one year.

**Methods:** We studied retrospectively a group of 88 patients admitted in our hospital between 01 January 2005 and 31 December 2005 with non-variceal bleeding. All the patients underwent gastroscopy for diagnosis and treatment, if necessary. We used the clinical and endoscopical data for calculating the severity scores (Forrest, Rockall, Blatchford).

**Results:** From a total 118 patients with upper gastrointestinal bleeding admitted in our department on 2005, 88 (74.6%) were diagnosed with non-variceal hemorrhage. The male/female ratio was 1.75 (56 M/32 F) with a mean age 57.8 ± 14 yrs. Endoscopy was performed in the data of hospitalisation for 90% of cases and most of them (59%) were in the first 48 hours from the start of the bleeding. Regarding the Forrest classification we had: class I 15.3%, class II 47.4%, class III 37.1%. 25% of patients needed endoscopic treatment with adrenalin. Majority of the cases (73.8%) were included in a low risk group. Only 5 patients (5.6%) presented re-bleeding being in a high risk group. Mortality ensued in 3 cases, having severe comorbidities (cardiac failure, hepatic failure) and an alterate hemodynamic state.

**Discussion/Conclusion:** Routine use of a risk scoring system in non-variceal hemorrhage is useful, allowing selection of cases with high risk, having a predictability for re-bleeding.
Risk factors for mortality in peptic ulcer bleeding patients

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Introduction: Endoscopic diagnosis and treatment of upper gastrointestinal bleeding is one of the most difficult tasks for gastroenterologist's. The most common bleeding sources are benign peptic gastric and duodenal ulcer.

Methods: The aim of this retrospective study was to define risk factors of mortality in patients referred for emergency endoscopy for upper gastrointestinal bleeding.

Results: 292 patients were examined in our endoscopical department because of hematemesis and/or melena during 2005. Emergency endoscopy detected gastric or duodenal ulcer as a bleeding source in 134 patients (45.9%). The mean age was 67.1 ± 12.6 year, the female/male ratio was 53/81. High proportion of the patients (63.4%) belonged to the high risk groups (Forrest I-II/a). Helicobacter pylori was present in 40.4% of tested cases. Endoscopic treatment was performed in 72.4% of patients. Re-bleeding rate was 12.3%, overall mortality rate was 10.4%.

Higher mean age (75.1 vs. 66.1 year), lower mean hemoglobin level (8.2 vs. 9.2 g/dl) and hematocrit (0.25 vs. 0.28) was found in non-survivors than in survivors. Ulcerogen drug consumption (92.8% vs. 64.1%) and severe co-morbidity (100% vs. 60%) occurred more frequently in patients dying in hospital. Initial hemodynamical instability (64.2 vs. 42.5%) and higher re-bleeding rate (28.5 vs. 5.0%) were significant risk factors for hospital mortality.

Discussion/Conclusion: Our results demonstrated that elderly peptic ulcer bleeding patients with significant co-morbidity and ulcerogen drug consumption are at risk of lethal outcome.
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Introduction: Gastroduodenal peptic ulcer (PU) hemorrhage is the most common complication of ulcer disease. The aim of this investigation was to evaluate risk factors for peptic ulcer hemorrhage.

Methods: The investigation was performed in the period 2000-2003. The examination group (n = 300) included patients with clinically and endoscopically established gastroduodenal peptic ulcer hemorrhage, whereas the control group (n = 100) included patients with endoscopically verified ulcer without previous hemorrhages. At endoscopy, standard gastric mucosal biopsy specimens were taken for histopathological analysis regarding type of gastritis and intensity of Helicobacter pylori infection. Patients were asked to fill out a standard questionnaire and underwent a psychological evaluation. Risk assessment was performed using Odds ratio with a 95% confidence interval.

Results: Significant risk factors for ulcer hemorrhage include: male gender: OR = 2.73 (1.72-4.34), p < 0.0001; age over 60 years: OR = 2.81 (1.71-4.62), p < 0.0001; use of aspirin and NSAID: OR = 2.76 (1.65-4.59), p < 0.0001; use of these drugs and Helicobacter pylori infection: OR = 3.63 (1.59-8.35), p < 0.01; alcohol consumption: OR = 3.25 (2.02-5.22), p < 0.0001; chronic stress: OR = 1.78 (1.04-3.05), p < 0.05.

Discussion/Conclusion: Knowledge of above mentioned issues provides current approach to ulcer patients and prevention of ulcer hemorrhage.
Prospective multicenter study regarding the mortality by upper GI bleeding in Romania

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Introduction: The aim of this prospective study coordinated by the Romanian Society of Digestive Endoscopy was to investigate the mortality by upper GI bleeding in our country.

Methods: 10 universitary clinics were involved during the 1 April-30 July 2004 period. Patients were questioned for personal data, risk factors (smoking, alcohol, NSAIDS, H. pylori status). We also included: endoscopic lesions, endoscopic treatment, evolution, Rockall score, re-bleeding.

Results: A total of 783 patients (286 F, 497 M) with the mean age of 56.7 years were included. Among those, 198 (25.3%) were variceal and 585 (74.7%) non-variceal bleedings. The mortality rate was of 2.6% in non-variceal bleeding, 15.5% in variceal bleeding and 5.7% globally. The most frequent causes of non-variceal bleeding were: duodenal ulcer (35%), gastric ulcer (28%), gastritis (23%), duodenitis (10%) and Mallory-Weiss syndrome (5.4%). The Rockall score in patients with non-variceal bleeding that did not died was 3.43 and in those who died 5.28 (p < 0.0001 – ES). Other risk factors significant for mortality were: smoking, units of blood transfused and hemoglobin level. In variceal bleeding, patients treated with rubber band ligation had a significant decrease of mortality versus sclerotherapy (p = 0.0001 ES).

Discussion/Conclusion: Our study revealed a reduced mortality rate (2.6%) in non-variceal bleeding and a relatively high one in variceal bleeding (15.5%). The use of Rockall score had a good predictability in non-variceal mortality and rubber band ligation reduced mortality in variceal bleeding.
Prophylactic endoscopic variceal band ligation: Long-term evaluation

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The fatality from the first bleeding episode of esophageal varices is high reaching about 50%. The aim of this study was to evaluate the primary prophylaxis of variceal bleeding by endoscopic variceal band ligation.

Material: The study included two groups of patients. Group (1) included 66 patients with liver cirrhosis and esophageal varices; they were subjected to variceal band ligation. Group (2) included 53 patients with liver cirrhosis and esophageal varices; they were followed up for 2 years without receiving medical nor endoscopic treatment for portal hypertension. Patients were further classified according to Child Pugh class into 3 subgroups.

Results: There was significant reduction in the incidence of bleeding from esophageal varices in group (1) than in group (2) (4.55% vs. 24.5%, p = 0.0015). However, the fatality due to bleeding was not significantly different between both groups.

Conclusion: Primary prophylactic endoscopic variceal band ligation is a safe procedure and is recommended for patients with esophageal varices especially Child class B and C.
Band ligation vs. miniloops in the endoscopic treatment of esophageal varices – Comparative pilot study

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Variceal hemorrhage is one of the most frequent causes of UGI bleeding.

**Aim:** This study evaluates rubber band ligation (RBL) vs. ligation with endo-miniloops (LEM) for the endoscopic treatment of: 1. Variceal bleeding; 2. Prophylactic treatment of esophageal varices (EV).

**Material and methods:** 20 pts (12 M, 8 F) with Child B and C cirrhosis presenting EV stages 3 & 4 were randomized in two groups of 10 pts each. Both groups were subdivided in 2 subgroups (A/bleeding EV – 6 pts, B/prophylactic – 4 pts). Equipment: Olympus GIF-130, Olympus loop application device HX-20U-1, miniloops type MAJ-339, Wilson Cook Saed six shooter device. A total of 26 LEM and 18 RBL were placed starting from the GE junction. Mean follow-up: 8 months (3-12).

**Results:** Hemostasis was achieved in all pts of both groups, RBL & LEM, respectively. During follow-up 2 pts of group IA rebled due to early miniloop dislodgement, but they were successfully treated with endoloops and the bleeding stopped; 4 pts of group II presented esophageal ulcer, treated with PPI. In both groups there was a significant reduction of variceal size.

**Conclusions:**
1. Both LEM & RBL are effective and safe methods to control variceal bleeding.
2. RBL is better, faster and easier to use than LEM, the latter taking more time for reloading.
3. Regarding the endoscopic view, LEM has a better one compared to RBL.
4. Looking at the cost benefit ratio, both have about the same price, but in our opinion RBL is overall more successful and efficient.
Endoscopic clipping in the treatment of bleeding peptic ulcer

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Introduction: Endoclips were first introduced in therapeutical endoscopy in 1975 by Hayashi and with progressive technical improvement are today one of the main tools in endoscopic hemostasis. The aim of our prospective study was to investigate the usefulness of this endoscopic hemostatic method regardless to the other available methods.

Methods: The inclusion period was of 24 months and only upper active GI bleedings with endoscopical therapy were considered.

Results: During this period we performed 323 endoscopical hemostasis (101 female, 222 male) with the mean age of 49 ± 11.3 years (range 23-96 years). As hemostatic endoscopic methods we used: adrenaline 1/10,000 injection, bipolar coagulation, APC (argon plasma coagulation), rubber band ligation and hemoclips (bi- and triclips), in mono-, bi- and sometimes three-therapy. For safety reasons we mostly preferred to use bi-therapy, usually adrenaline injection followed by another method. Adrenaline injection was used in 234 cases, bipolar coagulation – 73, APC – 9, rubber band ligation – 17 and hemoclips in 35 (10.8%) cases.
Among the 35 cases with hemoclips the cause of bleeding was: duodenal ulcer – 13, gastric ulcer – 9, Dieulafoy lesion – 7, Mallory-Weiss – 4 and postpolypectomy bleeding – 2. Hemostasis was efficient in 33/35 cases (94.2%), the 2 cases with persistent bleeding were solved with rubber band ligation.

Discussion/Conclusion: Endoscopic clipping showed to be one of the most efficient tools for endoscopic hemostasis, especially in visible vessels.
Efficiency of endoscopic hemostasis of bleeding gastro-duodenal ulcers

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Introduction: Acute bleeding of ulcerous lesion of gastroduodenum is a serious life-threatening state with substantial incidence and high mortality. Integrated specialized care for the patients with bleeding of ulcerous lesion required highly qualified staff as well as high level of technical equipment, but it can result in lower number of surgical interventions, morbidity and mortality. The objective of the study was to evaluate the efficiency of primary and secondary endoscopic hemostasis in patients with bleeding of peptic lesion of gastroduodenum under the conditions of the integrated care system.

Methods: In a set of 194 patients accepted in the period 2003-2005 in the University Hospital in Olomouc for acute bleeding of ulcerous lesion of gastroduodenum, we observed the efficiency of primary and secondary endoscopic hemostasis, need of surgical interventions and mortality.

Results: Efficiency of primary hemostasis in the observed set was 81.1%, secondary hemostasis 51.9%, need of surgical intervention 6.3% and mortality 7.9%.

Discussion/Conclusion: Using a set of almost 200 patients we attempt to attract attention to the fact that although the centralized care for patients with serious upper bleeding requires highly qualified staff as well as high level of technical equipment of the health care centre, it results in high successfulness of primary endoscopic hemostasis, lower number of surgical interventions and decreased mortality.
Capsule endoscopy compared with helical CT angiography and mesenteric angiography for the diagnosis of obscure gastrointestinal bleeding (OGIB)

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Introduction: Capsule endoscopy (CE) is superior to push enteroscopy and small bowel barium radiography for the diagnosis of OGIB.

Aim: To compare the yield of CE, helical CT angiography (CTA) and mesenteric angiography (ANGIO) for the diagnosis of OGIB.

Methods: From June 2004 to October 2005, patients with OGIB underwent CE, helical CTA and ANGIO. The diagnostic yield of CE was compared to that of CTA and ANGIO. The accuracy and agreement between CE and the two other procedures [helical CTA + ANGIO] was determined.

Results: 28 patients (57% men; mean age, 74 ± 2 [SEM] years) with OGIB, were prospectively evaluated. CE could be performed in all patients (applicability 100%) whereas the applicability of helical CTA and angiography was 89%. Overall, a definitive diagnosis was achieved in 19 out of 28 (68%) patients whereas all tests were normal in the other 9. CE identified a bleeding source in a greater proportion of patients 68% (19 of 28) than CTA: 21% (6 of 28, p = 0.006 vs. CE), ANGIO: 50% (14 of 28) or CTA+ANGIO: 61% (17 of 28). Likewise, CE was able to diagnose 100% of patients diagnosed by CTA and 86% of patients diagnosed by ANGIO. The agreement between CE and the two other techniques was 52%.

<table>
<thead>
<tr>
<th>Capsule endoscopy</th>
<th>CTA+ANGIO</th>
<th>CTA</th>
<th>ANGIO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sensitivity</td>
<td>88.2% [95%CI: 63.6-98.5]</td>
<td>100%</td>
<td>85.7%</td>
</tr>
<tr>
<td>Specificity</td>
<td>62.5% [95%CI: 24.5-91.5]</td>
<td>36.8%</td>
<td>45.4%</td>
</tr>
<tr>
<td>Cohen’s Kappa</td>
<td>0.52* [95%CI: 0.17-0.89]</td>
<td>0.22</td>
<td>0.32</td>
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*p = 0.007

CE findings changed therapeutic intervention in 9 of 19 (47%) patients with positive results.

Discussion/Conclusion: CE is superior to CTA, increases the yield of ANGIO or CTA+ANGIO by 18% and 6% respectively, and have a positive therapeutic impact in half of patients with OGIB.
Capsule endoscopy characterization of small bowel involvement and disease extension in gastrointestinal angiodysplasia

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Introduction: Recurrent GI bleeding from angiodysplasia after endoscopic therapy or even segmental colectomy is attributed to the presence of additional lesions in the small bowel. However, small bowel involvement remains to be fully characterized. We used CE to quantify and assess the distribution and spectrum of small bowel involvement in patients with bleeding gastric or colonic angiodysplasia.

Methods: From January 2005 to January 2006, 27 consecutive patients with bleeding angiodysplasia were prospectively evaluated. In addition, a group of 6 patients with obscure GI bleeding was similarly studied. CE exams were considered positive if detected vascular lesions > 5 mm diameter or multiple red spots.

Results: CE revealed small bowel angiodysplasia in 18 of 27 (67%) patients (56% men; mean age: 74 ± 3 years) with GI bleeding from angiodysplasia (colonic angiodysplasia in 21, gastric antral vascular ectasias (GAVE) in 5 and both GAVE and cecal angiodysplasia in 1) and only 1 of 6 (17%) patients with obscure GI bleeding (p = 0.01). In patients with angiodysplasia, small bowel involvement was similar among patients diagnosed by endoscopy (11 of 17; 65%) or angiography (7 of 10, 70%) (p: NS), among patients with acute recurrent (70%) or chronic occult (57%), or among patients with GAVE (60%) or colonic angiodysplasia (67%) (p: NS). Lesions were localized in duodenum in 6, jejunum in 4, duodenum and jejunum in 1, duodenum and ileum in 1 and duodenum, jejunum and ileum in 5.

Discussion/Conclusion: GI angiodysplasia is commonly diffuse with associated small bowel lesions in up to 2 thirds of patients. CE evaluation allows accurate knowledge of disease extension and may be essential for planned appropriate therapy.
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Limiting the risk of postpolypectomy bleeding with the application of endoscopic Doppler probe

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Introduction: Numerous endoscopic procedures are associated with a substantial risk of bleeding. Recently, a portable, endoscopic Doppler system has been developed (VTI, Massachusetts, USA). It consists of a disposable 20 MHz Doppler probe of 165 or 210 cm working length which fits a standard 2.8 mm accessory port and plugs into a small transceiver unit. The system provides real-time audio signals of frequencies proportional to the blood velocity within the vessel detected by the probe.

Methods: One of the most common endoscopic procedures associated with a significant risk of bleeding is polypectomy. The probe was tested in 47 patients with colonic polyps of 1 to 4 cm in diameter. When high flow in the vessel supplying the polyp was detected, endoscopic loop was placed at the polyp’s base or stalk prior to polypectomy (19 cases). When the signal was weak, polypectomy was performed immediately without additional maneuvers (28 cases).

Results: Such rules resulted in one massive intra-procedural bleeding when the endo-loop was cut during polypectomy (this patient required immediate endoscopic treatment, blood transfusion and second-look colonoscopy) and 3 minor bleedings episodes in patients without endo-loop, which stopped spontaneously.

Discussion/Conclusion: We conclude that Endoscopic Doppler Probe is a valuable diagnostic tool. Its use lowers the risk of bleeding improving appropriateness of treatment by effective support of therapeutic decision making; often shortens the procedure time and decreases costs. The whole system is simple, small, inexpensive and requires relatively few uses to gain proficiency.
Rectal bleeding - Etiological spectre and clinical manifestations

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Introduction: The aim of this study is to evaluate the causes of lower intestinal bleedings in patients who was admitted to our department in a period of one year.

Methods: We studied retrospectively a group of 121 patients admitted in our hospital between 01 January 2005 and 31 December 2005 with rectal bleeding. All the patients underwent colonoscopy for diagnosis and treatment, if necessary and were evaluated clinical and biological.

Results: From a total of 4792 patients admitted in our department on 2005, 121 patients (2.5%) were diagnosed with rectal bleeding. The male/female ratio was 0.95 (59 M/62 F) with a mean age 53.4 ± 14.7 yrs. At 120 patients (99.2%) the bleeding cause was found as: hemorrhoids 37.2%, inflammatory bowel disease 26.4%, colon tumour 12.4%, diverticular disease 9.1%, irradiation colitis 3.4%, postpolypectomy 3.4%, anal fissures 2.5%, ischemic colitis 1.7%, infectious colitis 1.7%, teleangiectasia 1.7%. Most patients presented intestinal troubles, like diarrhea 39.6% and constipation 23.1%. The anemia was mild in 19 cases, moderate 14 cases and severe 3 cases. The hospitalisation was generally short, 4.9 days and in 50% of cases the median was 2.7 days, according to the mild severity of hemorrhage. Only 4 patients had previously anticoagulant treatment. Endoscopic treatment consists of APC or ligature was done in 6 cases.

Discussion/Conclusion: This study reveals the importance of colonoscopy in the patients suffering from rectal bleeding, one part of patients were diagnosed with malignant and premalignant etiologies.
Gastrointestinal endoscopy in children with chronic abdominal pain

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Introduction: Chronic abdominal pain (CAP) is very a common problem in children and gastrointestinal endoscopy seems to be a very useful diagnostic method, as it is in adult patients. The aim of the study was to summarise previous (2003-2004) examinations and estimate usefulness of the method in paediatric patients with CAP.

Methods: The study included 74 children (44 girls, 30 boys; age 3 to 17 years, mean: 9.7 years) hospitalised with CAP. Among 74 children, 70 had gastroscopy and 22 had colonoscopy. Based on endoscopic findings children were divided in two groups: with no abnormalities (n = 39; 53%) and with endoscopic changes (n = 35; 47%).

Results: In 35 children with abnormal endoscopy pathology was localised in: the oesophagus (9/35), stomach (29/35), duodenum (29/35) and colon (7/35). Only in 2 of 18 children in whom both gastroscopy and colonoscopy was performed, both examinations were positive. The most common diagnosis were: duodenitis (11/35), biliary reflux (10/35) and gastritis (9/35). Only 1 patient was diagnosed with Crohn’s disease, one with gastric ulcer and one with duodenal ulcer. In 37 patients urease test was done, the result was positive in 4 (11%) patients with typical gastric nodularity.

Discussion/Conclusion: Gastrointestinal endoscopy in paediatric patients with CAP is a very useful method allowing to establish a diagnosis in substantial proportion of patients.
Our experience with different kinds of M.I. Tech Self Expanding Nitinol Stents

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Introduction: Self-expanding metal stents (SEMS) are being increasingly used in treating malignant obstruction in gastrointestinal tract as well as biliary tree in our institution. The aim of this study is to review our experience of using these stents for last five years.

Methods: 24 consecutive patients with unresectable gastrointestinal and biliary malignancies were treated with inserting various kinds of SEMS according to primary disease. 14 of them received oesophageal stent (1 antireflux stent due to cardia cancer), 9 received biliary stents (2 placed percutaneously and for 2 we used rendez-vous technique) and 4 of them treated for unresectable colonic cancer with colonic SEMS. Except colorectal SEMS all other was covered ones.

Results: In all cases we successfully introduce the SEMS except only in one case of biliary malignance we were not successful in introducing SEMS. Except in two cases of biliary malignancies when we introduced SEMS percutaneously using only x-ray control in all other cases we used endoscopic and x-ray control. With this double checking method and dilatation before introducing SEMS we found that procedure is less demanding and it is easier to manage and control stent position. The early major complication was pain which was successfully controlled by iv drugs. As late complication one patient with oesophageal stent developed oesophagotracheal fistula which was covered by introducing another longer SEMS.

Discussion/Conclusion: Our experience with SEMS to treat patients with unresectable gastrointestinal and biliary malignancies is satisfactory. We found that introducing SEMS is safe and effective procedure for palliative treatment of these strictures.
The willingness to undergo endoscopic procedures in patients and medical staff

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Introduction: Endoscopic procedures can produce discomfort, anxiety and even pain in patients, which has a direct link to the type of exploration (gastroscopy, colonoscopy, ERCP, EUS), thus sedation and/or analgesia is required. We studied the willingness of patients and medical staff to undergo endoscopy with/without sedation.

Methods: We studied 473 persons (353 patients admitted in our department, 70 nurses and 50 physicians), 217 women (45.9%) and 256 men (54.1%), mean age 55.29 ± 12.89 years (range 17-83). Patient's preparation for gastroscopy was made using local anaesthesia with Lidocain and for colonoscopy, ERCP and EUS „conscious sedation” with Midazolam + Propofol (given by an anaestheologist). In about 4.5% of gastroscopies, Midazolam was given „on demand”, in order to reduce anxiety. For both patients and medical staff we used a questionnaire in order to assess the willingness for endoscopy. We evaluated the discomfort experienced by the patient during endoscopy and during the first two hours using the Visual Analogic Scale (VAS), ranging from 0 to 100.

Results: For gastroscopy mean VAS score was 56.73 ± 20.20: 54 ± 21.37 in males vs. 59.96 ± 18.36 in females (p = 0.0057 ES). Concerning age, we found young males more likely to experience discomfort (p = 0.0427 S). Regarding other endoscopic procedures, mean VAS was 5.2 ± 2.3 (due to sedation). Among medical staff, physicians were least likely to agree to an unsedated procedure (5.2%) and GI nurses were more likely to undergo sedated gastroscopy opposed to non-GI nurses.

Discussion/Conclusion: Most patients as well as medical staff were unwilling to undergo endoscopy without sedation. Gastroscopy caused a medium discomfort which was significantly higher in women than men.
Online software system for content-based visual query of a gastrointestinal endoscopic database

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Introduction: The paper presents an original software system that allows querying and on-line actualization of a gastroenterologic database containing endoscopic images.

Methods: The efficacy of the system was tested from the point of view of retrieval quality and response time on a collection of 3700 endoscopic images (upper digestive endoscopy and colonoscopy) collected during routine procedures. The system allows the insertion of new images in the database and permits two ways of database querying: simple text-based query and content-based visual query. The content-based visual query can be accomplished not only at the level of the entire image (content-based image query), but can also be based on one or more color regions (content-based region query), computed with color set back projection algorithm. In order to obtain better results, in the case of the content-based image query there are displayed three sets of result images which correspond to the calculation mode of the distances between query image and target image, namely: the histograms intersection, the Euclidian distance between histograms and the quadratic distance between histograms.

Results: For each image information such endoscopist’s name, diagnosis, and detailed comments are stored. The teams that included the images in database and those that verified the efficacy of the software were independent. By using multivariate analysis, we found that the software has a mean specificity of 82.01 ± 6.73%, and a mean sensitivity of 91.67 ± 4.33%, in detecting similar images (p < 0.05).

Discussion/Conclusion: The initial testing phase proved that the software is useful both in the diagnosis and in training. Further developments are also in route.
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