



# V LATVIAN GASTROENTEROLOGY CONGRESS WITH INTERNATIONAL PARTICIPATION

## ABSTRACT BOOK

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## Recurrence of esophageal varices after endoscopic ligation: retrospective study

Masalaite L.<sup>1</sup>, Stanaitis J.<sup>2</sup>, Valantinas J.<sup>3</sup>

<sup>1</sup> Vilnius University, Medical faculty, clinic of gastroenterology, nephrourology and surgery, Lithuania, Vilnius, [laura.masalaite@santa.lt](mailto:laura.masalaite@santa.lt)

<sup>2</sup> Vilnius University, Medical faculty, clinic of gastroenterology, nephrourology and surgery, Lithuania, Vilnius, [juozas.stanaitis@santa.lt](mailto:juozas.stanaitis@santa.lt)

<sup>3</sup> Vilnius University, Medical faculty, clinic of gastroenterology, nephrourology and surgery, Lithuania, Vilnius, [jonas.valantinas@santa.lt](mailto:jonas.valantinas@santa.lt)

### Introduction

Esophageal varices is the most common complication of portal hypertension. Treatment of esophageal varices requires a good outcome with no recurrence and no rebleeding. Endoscopic ligation is the main endoscopic treatment of esophageal varices. However recurrence of varices occurs after endoscopic ligation and it remains unclear why some patients reveal early recurrence and others later or no recurrence.

### Study Aims

Determine esophageal varices recurrence rate and time interval after endoscopic ligation and to investigate factors affecting recurrence.

### Methods

Retrospective analysis of endoscopic ligation procedures in Vilnius University hospital Santariskiu clinics (2006 - 2010). Esophageal varices form (F) was evaluated according to the Japan Society for Portal hypertension. Recurrence of esophageal varices we defined as reappearance of varices in control gastroscopy when F was reduced after ligation and variceal bleeding between ligation sessions. Early recurrence we defined as recurrence within 3 month after last ligation session. A p-value of less than 0,05 was considered to be statistically significant.

### Results

183 endoscopic ligation procedures were performed for 118 patients: 61 males, 57 females; mean age 51±16. To the final analysis we included 133 endoscopic ligations. In most cases (87,3%) etiology of esophageal varices was extrahepatic portal hypertension, other cases (12,7%) intrahepatic portal hypertension. Indications for ligation: secondary prophylaxis (65%, n=119), primary prophylaxis (24%, n=41), control of active variceal bleeding (12,6%, n=23). After ligation esophageal varices recurred in 45% (n=60) cases. Early recurrence of esophageal varices occurred in 46,7% cases (n=28) and late recurrence in 53,3% (n=32). Patients were divided into groups according to pattern of recurrence: recurrence group (n=60) and no-recurrence group (n=73). There were no significant differences among these groups in age, sex, etiology of portal hypertension, Child-Pugh class, F before ligation, indications for endoscopic ligation, injection sclerotherapy before ligation. The extrahepatic portal hypertension and greater form (F3) of varices were significantly different (p=0,013 and p=0,038 respectively) comparing early and late recurrence patients groups.

### Conclusions

1. Recurrence of esophageal varices after endoscopic ligation is considerable and almost half of the cases are early recurrence. 2. Extrahepatic portal hypertension and greater form of varices leads to statistically significant early recurrence of esophageal varices after endoscopic ligation.

## Experience of endoscopic treatment for chronic pancreatitis at Vilnius University Hospital Santariskiu Klinikos

Stanaitis J.<sup>1</sup>, Aleknaite A.<sup>2</sup>

<sup>1</sup> Vilnius University Hospital Santariskiu Klinikos, Centre of Hepatology, Gastroenterology and Dietetics, Lithuania, Vilnius, [juozas.stanaitis@santa.lt](mailto:juozas.stanaitis@santa.lt)

<sup>2</sup> Vilnius University Hospital Santariskiu Klinikos, Centre of Hepatology, Gastroenterology and Dietetics, Lithuania, Vilnius, [ausra.aleknaite@gmail.com](mailto:ausra.aleknaite@gmail.com)

### Introduction

Endoscopic treatment of chronic pancreatitis and its complications includes endoscopic virsungotomy, stricture dilatation and stent placement in biliary or pancreatic ducts, stone extraction with/without extracorporeal shock wave lithotripsy (ESWL), transmural or transpapillary drainage of pancreatic pseudocysts, and endosonography-guided celiac block.

### Study Aims

This study reviews and evaluates the technical success of endoscopic interventions for chronic pancreatitis, performed at tertiary care hospital.

### Methods

Retrospective analysis of all endoscopic procedures due to chronic pancreatitis from 01.2008 to 08.2011 was performed. These interventions included endoscopic virsungotomy, stenting of biliary or pancreatic ducts, lithectomy from pancreatic duct with/without ESWL, and endoscopic drainage of pancreatic pseudocysts.

### Results

58 patients were treated (mean age 47.2 years). 121 endoscopic procedures were performed, on average 2.09 procedures per patient (range 1-8): 30(24.7%) procedures – for treatment of pancreatic pseudocysts, 68(56.2%) – due to main pancreatic duct pathology, 34(28.1%) – due to chronic pancreatitis related common bile duct strictures. In pseudocysts treatment group: intervention was considered impossible in 5(16.7%) cases, procedure succeeded 19(76%) times: transmural approach 60%, transpapillary – 16%; drains were left in 60% of cases; endosonography was used in 19(63.3%) cases; definitive success was reached for 11(52.4%) of 21 patients. Two patients were successfully treated for pancreatic abscess with nasocystic drainage. In pancreatic duct pathology treatment group: procedure succeeded in 49(72%) cases; ERP without further interventions – 5.9%, lithectomy alone – 11.8%, stenting – 54.4%; endoscopic virsungotomy – 52.9%; ESWL preceded 19(27.9%) interventions; definitive treatment success – 22(66.7%) of 33 patients. In biliary strictures treatment group: procedure succeeded in 33(97.1%) cases; stenting was performed in 27(79.4%) cases; single plastic stent – 18(52.9%) cases, multiple plastic stents – 8(23.5%), metal stent – 1(2.9%); definitive success was reached for all 8 patients. Overall, endoscopic treatment course was successful for 65.5% patients.

### Conclusions

Endoscopic treatment of chronic pancreatitis still has its role in practice, despite published evidence of more effective surgical treatment at some points. Our endoscopic treatment success rate was comparable to that declared in literature (~60%). We believe that proper use of ESWL should improve our results of pancreatic duct stones management, as well as use of endosonography-guidance – results of pseudocysts treatment.

## Biliary tract stenting: single center experience

Kildušienė I.<sup>1</sup>, Mereckytė J.<sup>2</sup>, Stanaitis J.<sup>3</sup>

<sup>1</sup> M.D., Lithuania, Vilnius, [inga.kildusiene@santa.lt](mailto:inga.kildusiene@santa.lt)

<sup>2</sup> M.D., Lithuania, Vilnius, [judita.mereckyte@santa.lt](mailto:judita.mereckyte@santa.lt)

<sup>3</sup> Phd, M.D., Lithuania, Vilnius, [juozas.stanaitis@santa.lt](mailto:juozas.stanaitis@santa.lt)

### Introduction

Biliary stricture represents a challenging problem. The literature recommends to change a plastic stent in every 3 months, or to use various modifications of wall stents in treatment of strictures.

### Study Aims

In a retrospective review database-based study we reviewed all performed procedures of biliary tract stenting by plastic stent between January 2002 and December 2010 at our Gastroenterology Endoscopic Unit. All patients were divided in 3 groups: A group: patients with hepatic alveolar echinococcosis (HAE); B group: patients with malignant strictures and C group: patients with benign strictures.

### Methods

In a retrospective study were reviewed 503 patients (247 males and 256 females; mean age 66.4 years) who had undergone diagnostic and therapeutical ERCP with the primary diagnosis of hepatobiliary disorder. It was performed 979 procedures of biliary tract stenting by plastic stent. We compared the patients with HAE (A group) to other patients who were performed plastic stent placement procedure (B and C group). All data were analysed with SPSS 17.0

### Results

13 men and 7 women were followed up in A group, in B group were 94 men and 127 women and 126 men and 136 women in C group. There was no statistical difference between these groups. Mean age was 55.05 (26-77) years in A group, 68.91 (18-92) years in B group and 63.71 (24-95) years in C group (p-value less than 0.000). Endoscopic management was successful in all patients. No serious endoscopy-related complications were recorded. Maximum stent changing rate was in A group 15 (mean 1.25). The biggest difference between all three groups was a time to re-stentation (for any reason: cholangitis, jaundice and etc.): in A group mean of time to re-stentation was 142.50 days, in C group 78.83 days, but in B group mean of time to re-stentation was only 59.61 days. (p-value less than 0.000).

### Conclusions

There is statistically approved difference between times to re-stentation in these three groups. It may depend on younger age in group A patients. Further evaluation of that finding can lead to know technical equipment developments in biliary stenting.

## Successful combination therapy in case of secondary superobesity

Margolin M.<sup>1</sup>, Trofimovich G.<sup>2</sup>, Plikss A.<sup>3</sup>, Margolina J.<sup>4</sup>, Kokaine L.<sup>5</sup>

<sup>1</sup> B.A.I.A.C. , Latvia, Riga, [margolin@mits.lv](mailto:margolin@mits.lv)

<sup>2</sup> RSU, Latvia, Riga, [trofimovich@inbox.lv](mailto:trofimovich@inbox.lv)

<sup>3</sup> B.A.I.A.C. , Latvia, Riga, [andis\\_plikss@inbox.lv](mailto:andis_plikss@inbox.lv)

<sup>4</sup> B.A.I.A.C. , Latvia, Riga, [jelenamargolina@inbox.lv](mailto:jelenamargolina@inbox.lv)

<sup>5</sup> RSU, Latvia, Riga, [linda.kokaine@inbox.lv](mailto:linda.kokaine@inbox.lv)

### Introduction

Difficult forms of obesity associated with pituitary tumours still are considered to be a complicated and insufficiently explored field of medicine.

### Study Aims

Case report

### Methods

A 27 year old woman, weight 164 kg, height 167 cm, BMI 59, suffering from obesity since childhood. At the age of 18 was diagnosed with two pituitary adenomas and elevation of LH (8,5 ImU/mL). At the moment of inspection the patient had secondary amenorrhea, anosmia, chronic heart failure (stage 1-2), pituitary microadenomas, retinal angiopathy. The first stage of treatment – implantation of intragastric balloon BIB 500cc. Exposure time – 6 months. The second stage of treatment – laparoscopic gastroplasty Lap Band following a week after removal of intragastric balloon. Postoperative period without complications.

### Results

The weight at the time of intragastric balloon removal was 123 kg, EWL 43,6%, TA 115/75 mm Hg, no medications were applied. Two years after the last operation the weight was 79 kg, EWL 90,4%. At the moment patient has no complaints, does not use any medications. Menstruations have renewed, hormone levels are normal. Control MR of head – small sized pituitary gland (13x4x7mm), no signs of pituitary adenoma or other pathological pituitary masses before and after the use of contrast agent.

### Conclusions

Bariatric surgery is a successful treatment option in complex case of secondary obesity and pituitary adenoma. Bariatric surgeon is an important member of multidisciplinary team approaching such patients.

## Upper gastrointestinal subepithelial lesions: epidemiology and diagnosis

Vaicekauskas R.<sup>1</sup>, Stanislovaitytė D.<sup>2</sup>, Stanaitis J.<sup>3</sup>

<sup>1</sup> Vilnius University hospital „Santariškiu klinikos“, Lithuania, Vilnius, [rolandasvaicekauskas@yahoo.com](mailto:rolandasvaicekauskas@yahoo.com)

<sup>2</sup> Vilnius University hospital „Santariškiu klinikos“, Lithuania, Vilnius, [D.Stanislovaityte@gmail.com](mailto:D.Stanislovaityte@gmail.com)

<sup>3</sup> Vilnius University hospital „Santariškiu klinikos“, Lithuania, Vilnius, [Juozas.Stanaitis@santa.lt](mailto:Juozas.Stanaitis@santa.lt)

### Introduction

The term upper gastrointestinal (UGI) subepithelial lesions (SLs) is applied to a mass or bulge covered by normal-appearing mucosa identified during standard endoscopy. These SLs are usually found incidentally. The incidence for gastric SLs (GSLs) was reported as 0.36%. Differentiation between benign and malignant lesions is of great clinical consequence. The accurate diagnosis can be challenging because of the low diagnostic yield of conventional biopsies during gastroscopy. The management depends on the diagnosis determined using various diagnostic methods.

### Study Aims

To define epidemiological and diagnostic features of UGI SLs: incidence, age and gender distribution, location, diameter, malignant signs, diagnostic yield of conventional and other types of biopsies.

### Methods

We retrospectively reviewed all upper endoscopy results of 141 subepithelial lesions of upper gastrointestinal tract diagnosed between January 2009 and January 2011 in Vilnius University hospital „Santariškiu klinikos“.

### Results

A diagnostic upper endoscopy was done in 10284 patients over a period of two years. We found UGI SLs in 141 (1.37%). Most common were GSLs diagnosed in 107 (75.9%), with the prevalence of 1%. Esophagus SLs were observed in 18 (12.8%), duodenum SLs – in 16 (11.3%). Most of the patients were female - 96 (68.1%) and 45 (31.9%) male. Age range was: 19 – 88 (mean age 59.98 ± 14.87). GSLs were localised mostly in the gastric antrum – 29 (27.1%) and in subcardial region – 20 (18.7%). Most of UGI SLs were small a%œ 10 mm (79 (56%)), 10 - 20 mm (42 (29.8%)) and >20mm (17 (12.1%)). In 126 (89,4%) cases SLs were covered by normal-appearing mucosa without any malignant signs and in only 11 (7.8%) cases SLs were ulcerated. Conventional biopsies were not diagnostic in 90 (83,3%) and diagnostic in 18 (16.7%), yet they were significant in diagnosing mucosa lesions without obtaining substance from deeper layers. Deep subepithelial biopsy after incision with electro-surgical knife was performed in 3 (2 cases - diagnostic) and fine-needle aspiration in 2 (not diagnostic).

### Conclusions

GSLs are the most common SLs in the UGI. Conventional biopsies are not diagnostic. As a result of this, it is essential to do endoscopic ultrasound and core biopsies.

## COGNITIVE HYPNOTHERAPY TREATMENT FOR PATIENTS WITH FUNCTIONAL GASTROINTESTINAL DISORDER

Roja I.<sup>1</sup>

<sup>1</sup> neurologist, hypnotherapist, Latvia, Riga, [inara.roja@gmail.com](mailto:inara.roja@gmail.com)

### Introduction

Irritable bowel syndrome (IBS) is one of the most common disorder of the digestive system, caused by distress and affects 10-15% of the population. Sufferers usually have no physical abnormalities in the bowel, they have collection of symptoms: abdominal distension, spasms, visceral sensitivity, and often such noncolonic symptoms as nausea, depressive mood. Short-term psychodynamic psychotherapy – cognitive hypnotherapy treatment (CHT) nowadays is used for treating patients with IBS by relaxation, cognitive restructuring, which reduces the sensory and motor component of the gastrocolonic response in IBS.

### Study Aims

To evaluate the effectiveness of using CHT for patients with functional IBS.

### Methods

During 2010-2011 years 23 patients (15 females and 8 males, age between 29 and 41, mental workers) with functional IBS, were consulted and underwent four weeks CHT course. Stress level during CHT was monitored by device-sensor “Biofeedback”. Intensity of abdominal distension and depressive mood was measured by patient's own Visual Analogue Scale (VAS). Our own practice standards were verified throughout 3 months by re-reporting life quality from 13 females and 6 males.

### Results

The most commonly reported triggers of IBS in 23 working patients were negative stress and emotional state. Patients complained about spasms, urgent needs to empty the bowels after every meal, depressive mood. Characteristic manifestation during stress monitoring showed such results: at the end of the CHT course in 22 cases (86%) there were decrease of stress level. Stress level monitoring data demonstrated the connection between the increase of the stress level and negative emotional experiences at the start of treatment course and the level decrease at the end of the CHT course ( $p=0,01$ ;  $r=0,94$ ). Intensity of abdominal distension and depressive mood by patient's own Visual Analogue Scale: 11 females (73%) and 6 males (75%) resulted 0-1 points of valuation at conclusion of the CHT course and during follow-up.

### Conclusions

Four weeks cognitive hypnotherapy course for working patients with functional IBS is an effective treatment with improving quality of life in the management of functional gastrointestinal disorders.

## Food Sources of Vitamin D and its Deficiency in Latvian Males

Šitova A.<sup>1</sup>

<sup>1</sup> RSU, Latvija, Riga, [ashitova@inbox.lv](mailto:ashitova@inbox.lv)

### Introduction

Over 50% of population is found to suffer from vitamin D deficiency. Vitamin D deficiency in Europe, Northern Europe, Asia and Africa, especially in elderly people was revealed by many epidemiological researches. Insufficient vitamin D intake was detected in the population of Northern America and Eastern Europe, comprising only 50% of vitamin D daily recommended dose.

### Study Aims

Identify sources of vitamin D, deficiency prevalence in men after 45 years of age Latvian. To evaluate whether there is a correlation between intake of vitamin D and vitamin D serum levels, as well as body mass index (BMI) and age.

### Methods

There were included 134 males aged 45-80. None of the research participants have taken any vitamin D supplements or supplements containing vitamin D. Serum vitamin D level was detected in all the participants ((25 hydroxyl vitamin D: 25(OH)D) and the amount of the consumed vitamin D was determined. The participants' height and weight were measured to calculate BMI. The survey was conducted to acquire information about the amount of vitamin D consumed with food.

### Results

Insufficient Vitamin D intake was detected in 78,4%, vitamin D deficiency with consequent low vitamin D serum level in 94,1 %. Mean data: vitamin D in food – 6,9 µg, 25(OH)D - 16,9 ng/mL, BMI – 28,1 kg/m<sup>2</sup>, age– 59,4 years. The amount of vitamin D in food statistically reliably directly correlate with serum vitamin D level ( $r=0,961$ ;  $p=0,01$ ), and there is an inverse correlation with age ( $r=0,226$ ;  $p=0,009$ ). D vitaminin serum level correlate inversely with age ( $r=0,184$ ;  $p=0,033$ ). No statistical reliable correlation was found between serum 25 (OH) D levels and BMI. Major food sources of Vitamin D are fat-rich sea fish, eggs, dairy product.

### Conclusions

Insufficient intake of vitamin D with food and low serum level is marked in males of advancing age. Vitamin D levels directly correlate with vitamin D intake. Not found statistically significant correlation between vitamin D levels, vitamin D diet and BMI, but indirectly correlates with age.



## Diagnosing of Inherited liver disorders in Latvia in period from 2001 – 2010

Piekuse L.<sup>1</sup>, Kreile M.<sup>2</sup>, Zarina A.<sup>3</sup>, Kempa I.<sup>4</sup>, Keiss J.<sup>5</sup>, Sondore V.<sup>5</sup>, Cernušenko A.<sup>6</sup>, Lace B.<sup>7</sup>, Krumina A.<sup>8</sup>

1 MD, Latvia, Riga, [linda.piekuse@rsu.lv](mailto:linda.piekuse@rsu.lv)

2 MD, Latvia, Riga, [madara.kreile@gmail.com](mailto:madara.kreile@gmail.com)

3 MD, Latvia, Riga, [zarina.agnese@gmail.com](mailto:zarina.agnese@gmail.com)

4 MSc biol, Latvia, Riga, [inga.prane@gmail.com](mailto:inga.prane@gmail.com)

5 dr. med. , Latvia, Riga, [valentina.sondore@lic.gov.lv](mailto:valentina.sondore@lic.gov.lv)

6 MD, Latvia , Riga, [dr.aleksandrs@inbox.lv](mailto:dr.aleksandrs@inbox.lv)

7 MD, Latvia , Riga, [baiba.lace@rsu.lv](mailto:baiba.lace@rsu.lv)

8 MD, Latvia, Riga, [astrida.krumina@biomed.lu.lv](mailto:astrida.krumina@biomed.lu.lv)

### Introduction

The most frequent inherited liver disorders, that have to be excluded in case of unclear hepatitis depending from patient age are Hereditary haemochromatosis (HH), Wilson disease (WD), Alpha – 1 Antitrypsin deficiency (A1AT). One of inherited liver diseases that are associated with increased bilirubin level is Gilbert syndrome (GS). For all above mentioned disorders are known one gene, that is affected and most pathogenic mutation that cause disease in 60 – 80% of patients and from starting from 2001 there is available their molecular confirmation in Riga Stradins University Scientific laboratory of molecular genetics.

### Study Aims

To confirm by DNA analysis inherited liver disorders in patients with specific disease symptoms and also in case of unidentified hepatitis

### Methods

In study were included patients with possible inherited liver disorders from Children's' University Hospital, Latvian Infectology Centre. DNA was extracted from venous blood. Inherited liver disorders were confirmed by standard methods detecting mutations in genes HFE (C282Y, H63D), ATP7B (H1069Q), SERPINA1 (PIZ, PIS), UGT1A1(promoter polymorphism).

### Results

In period from 2001 – 2010 there were confirmed 15 HH patients (analysed 300 patients), 30 WD patients (analysed 300 patients), 10 A1AT patients (analysed 300 patients), 400 GS patients (analysed 800 patients).

### Conclusions

1. For patients with confirmed A1AT and GS patients were typical clinical symptoms for those diseases. 2. For some of patients with confirmed HH and WD diagnose were untypical or more severe symptoms as it is described elsewhere. 3. In Latvia there is available DNA diagnostics in main inherited liver disorders that have to be done in patients, because in WD and HH is available presymptomatic therapy, that could save patient or his family member life.

## **Informativity of routinely applied imaging diagnostic methods used for patient examination before endoscopic retrograde holangiopancreatography**

Ozola-Zalite I.<sup>1</sup>, Pukitis A.<sup>2</sup>

<sup>1</sup> University of Latvia, Pauls Stradins Clinical University Hospital, Latvia, Riga, [ozola.zalite@gmail.com](mailto:ozola.zalite@gmail.com)

<sup>2</sup> University of Latvia, Pauls Stradins Clinical University Hospital, Latvia, Riga, [pukitis@latnet.lv](mailto:pukitis@latnet.lv)

### **Introduction**

The rate of modern pancreatobiliary visual diagnostic modalities (helical CT, MRCP) has increased rapidly. Whereas a role of invasive and high risk procedures for diagnostic purposes are reducing. Different imaging methods (US, EUS, CT) are used for patient selection for endoscopic retrograde holangiopancreatography (ERCP).

### **Study Aims**

From November 2010 till April 2011 a prospective comparative study was carried out in the Gastroenterology Center, Pauls Stradins Clinical University Hospital. The main aim was to analyze diagnostic informativity of the commonly used imaging diagnostic modalities that were used before ERCP procedure.

### **Methods**

A protocol was designed to compare the results of imaging diagnostic data for patients with pancreatobiliary pathologies, who were assigned to have ERCP. Overall the study included 80 patients who coincide with inclusion criteria: 1) the patient underwent ERCP, 2) the patient underwent at least one imaging procedure – US, CT, MRCP or EUS, 3) the patient gave consent to use the data in the study.

### **Results**

Patients before ERCP underwent US (95%), CT (30%), MRCP (25%) and EUS (6%). The most common diagnoses were: mechanical jaundice (74%), choledocholithiasis (46%) and pancreatic head tumour (16%). The correlation between US (the largest group of patients) and ERCP evaluating the diameter of a bile duct was quite close for both; patients after cholecystectomy ( $r=0,36$ ) or without ( $r=0,59$ ). The sensitivity rate of abdominal ultrasonography for patients with choledocholithiasis was 9,6% (PPV 75%, NPV 61,1%).

### **Conclusions**

Correlation between the most commonly used imaging modalities - US and ERCP used for diagnosis of choledocholithiasis was not acceptable. Sensitivity rate 9,6% was too low that does not match with literature (20% -90%). It suggests that additional examinations (CT, MRCP or EUS) should be done before the patients are sent to the ERCP, which will decrease the risk of life-threatening complications and improve the cost/effectiveness of decision-making. Larger studies are necessary to rate the efficacy of combined examination techniques.

## Diagnostic role of HBcorAg detection in the evaluation of occult HBV- infection

Dudanova O.<sup>1</sup>, Pravdolyubova I.<sup>2</sup>

<sup>1</sup> Russia, Petrozavodsk, [odudanova@gmail.com](mailto:odudanova@gmail.com)

<sup>2</sup> Russia, Petrozavodsk, [pravdolyubova@mail.ru](mailto:pravdolyubova@mail.ru)

### Introduction

Mutant forms of hepatitis B virus lead to an occult of HBV-infection without viremia and without HBeAg and HBsAg in the blood, which are considerably spread in Karelia.

### Study Aims

The aim of the study was to detect the presence of HBcorAg in the liver tissue in patients with chronic hepatitis (CH) without viremia, without HBeAg and HBsAg and with the presence of AbHBcorIgG in the blood serum.

### Methods

14 patients CH with probable occult HBV-infection were examined. HBcorAg was detected by immunohistochemical method ("Novocastra" kit, UK), its concentration was estimated by counting the number of protein particles in the hepatocyte (NPPH) and the number of infected hepatocytes (NIG) in 10 fields of view at 600x magnification. The numbers of hepatocytes in the state of macro- and microvesicular fatty degeneration (macro-VFD, micro-VFD), hydropic degeneration (HD), small and large cell dysplasia (SCD, LCD) were determined in 10 fields of view at 150x magnification. Correlation analysis was performed using the Spearman rank.

### Results

HBcorAg was detected in hepatocytes in all 14 patients. The mean NPPH in the study group was  $7.63 \pm 5.17$ , NIG -  $97.97 \pm 88.33$  (the number of hepatocytes in a field of view was  $181.02 \pm 23.41$ ). There was no correlation between HBcorAg level and the level of aminotransferases, bilirubin, alkaline phosphatase, gamma-globulin, erythrocyte sedimentation rate, number of lymphocytes in the peripheral blood, inflammation or fibrosis in the liver tissue. Significant positive correlations were found between NPPH and macro-VFD -  $r = 0.62$

### Conclusions

Patients without serologic markers of hepatitis B virus replication, with isolated presence of AbHBcorIgG, have nuclear protein in the liver, confirming the presence of occult HBV-infection. The level of HBcorAg did not correlate with laboratory parameters of activity and histological inflammation and fibrosis, but it was a crucial determinant of the severity of parenchymal damage and hepatocyte dysplasia.

## **Fecal pancreatic elastase-1 dynamics in patients with CP beyond the combined treatment.**

Umnova L.<sup>1</sup>, Orlikovs G.<sup>2</sup>, Voicehovska J.<sup>3</sup>, Voltner V.<sup>4</sup>, Plavina I.<sup>5</sup>, Jaunalksne I.<sup>6</sup>

<sup>1</sup> RSU Department of Internal Diseases, Latvia, Riga, [larium@inbox.lv](mailto:larium@inbox.lv)

<sup>2</sup> RSU Department of Internal Diseases, Latvia, Riga, [propedeitika@inbox.lv](mailto:propedeitika@inbox.lv)

<sup>3</sup> RSU Department of Internal Diseases, Latvia, Riga, [dr.julia@inbox.lv](mailto:dr.julia@inbox.lv)

<sup>4</sup> Pauls Stradins Clinical University Hospital Center of Gastroenterology, Latvia, Riga, [larium@inbox.lv](mailto:larium@inbox.lv)

<sup>5</sup> Pauls Stradins Clinical University Hospital Center of Gastroenterology, Latvia, Riga, [larium@inbox.lv](mailto:larium@inbox.lv)

<sup>6</sup> Pauls Stradins Clinical University Hospital Clinical Immunology Center, Latvia, Riga, [i.jaunalksne@stradini.lv](mailto:i.jaunalksne@stradini.lv)

### **Introduction**

To diminish pancreatic gland's (PG) exocrine secretion in patients with chronic pancreatitis (CP) acute exacerbation the combined therapy of enteric soluble pancreatin mini tablets and proton-pump inhibitors was utilized. Pancreatin was utilized to inhibit PG enzymes secretion according to PG enzymes feedback regulation. Proton-pump inhibitors were utilized because of two objectives: to increase duodenal pH, to cease protease inactivation, to inhibit PG bicarbonates and water secretion. Pancreatic elastase-1 (E1) detection was proposed to study the influence of the combine treatment on PG exocrine secretion in patients with CP acute exacerbation.

### **Study Aims**

To clarify E1 dynamics in patients with CP acute exacerbation beyond the treatment with pancreatin enteric soluble mini tablets and proton-pump inhibitors.

### **Methods**

20 CP exacerbation patients were recruited into the study. E1 level was measured by ELISA polyclonal antibodies method (start-point E1), the E1 measurement was repeated 1 month after (end-point E1) the combined treatment with pancreatin enteric soluble mini tablets and proton-pump inhibitors.

### **Results**

No statistically reliable difference between start-point and end-point E1 measurement was revealed in the whole CP group. E1 diminishing was revealed in CP patients with no pancreatic exocrine dysfunction ( $p=0,029$ ).

### **Conclusions**

E1 level diminished beyond the treatment with pancreatin enteric soluble mini tablets and proton-pump inhibitors in those CP patients whose pancreatic exocrine function was initially safe. This means that pancreatic function decreased. E1 measurement by ELISA using polyclonal antibodies seems to be adequate to evaluate the efficiency of the combined treatment with pancreatin enteric soluble mini tablets and proton-pump inhibitors when either dealing with treatment or research.

## THE PREVALENCE OF CELIAC DISEASE IN PATIENTS WITH FUNCTIONAL GASTROINTESTINAL DISEASES

Kikuste I.<sup>1</sup>, Funka K.<sup>2</sup>, Virse A.<sup>3</sup>, Putniņš V.<sup>4</sup>, Scerbuks M.<sup>5</sup>, Tolmanis I.<sup>6</sup>, Lejnieks A.<sup>7</sup>, Panina L.<sup>8</sup>, Vanags A.<sup>9</sup>, Leja M.<sup>10</sup>

1 1 University of Latvia, Latvia, Riga, [ikikuste@gmail.com](mailto:ikikuste@gmail.com)

2 1 University of Latvia, Latvia, Riga, [ikikuste@gmail.com](mailto:ikikuste@gmail.com)

3 1 University of Latvia, Latvia, Riga, [ikikuste@gmail.com](mailto:ikikuste@gmail.com)

4 Academical Laboratory of Histology, Latvia, Riga, [ikikuste@gmail.com](mailto:ikikuste@gmail.com)

5 Academical Laboratory of Histology, Latvia, Riga, [ikikuste@gmail.com](mailto:ikikuste@gmail.com)

6 3 Digestive Diseases Centre GASTRO, Latvia, Riga, [ikikuste@gmail.com](mailto:ikikuste@gmail.com)

7 2 Riga East University Hospital, Latvia, Riga, [ikikuste@gmail.com](mailto:ikikuste@gmail.com)

8 1 University of Latvia, Latvia, Riga, [ikikuste@gmail.com](mailto:ikikuste@gmail.com)

9 3 Digestive Diseases Centre GASTRO, Latvia, Riga, [ikikuste@gmail.com](mailto:ikikuste@gmail.com)

10 1 University of Latvia, Latvia, Riga, [ikikuste@gmail.com](mailto:ikikuste@gmail.com)

### Introduction

Limited information is available on the prevalence of celiac disease in Latvia associated with functional gastrointestinal diseases (FGID).

### Study Aims

To determine prevalence of celiac disease in patients from Latvia with FGID.

### Methods

Consecutive patients with FGID in a secondary gastroenterology practice unit of Digestive Diseases Centre GASTRO, Latvia between 2004 and April 2010 were analysed. The routine work-up of the patients included serological testing for celiac disease markers: antiendomysial IgA group antibodies (EMA) and/or transglutaminase IgA recombinant (tTgA) antibodies. Total IgA was also measured. Duodenal biopsies were obtained during the upper endoscopy and duodenal mucosa histopathology examination was performed. The diagnosis of FGID was set under clinical conditions by using Rome II criteria. Patients with previously confirmed celiac disease or being referred to our unit for confirmation of the disease were excluded.

### Results

Altogether 1387 patients were analysed (508 (37%) male, mean age 39 years, range 18-82 years). 1205 (87%) patients were tested for tTgA, positive tTgA was found in 25 (2%) of 1205 patients, in patients with dyspepsia positive tTgA was found in 11 (1.57%) of 784 and in dyspepsia negative group 14 (2.77%) of 603. Patients tested for EMA were 148 (11%) and 2 of them were found positive (1.35%). tTgA positive and EMA negative cases were found in 11 of 25 patients (0.9%). Duodenal mucosa histopathology examination was available in 16 patients in whom tTgA or EMA was positive. In these patients 4 cases were found biopsy proved celiac disease (0.29%). Prevalence of positive celiac serology and duodenal biopsies proved diagnosis was higher in the group of patients with mixed bowel habit and cyclic pattern IBS (positive tTgA 4.1% and biopsies proved diagnosis 1.24%) and also in patients with diarrhoea-predominant IBS (positive tTgA 2.5% and biopsies proved diagnosis 0.57%). No biopsy proved celiac disease patients were found in the group of constipation predominant IBS type. Positive tTgA or EMA tests were found in 3 (2.07%) of 167 patients in this group. Total IgA was determined in 924 patients (67%). Three patients (0.32%) were found to be with IgA deficiency.

### Conclusions

The prevalence of celiac disease in patients from Latvia with functional gastrointestinal problems is low. IgA deficit is not common in the group. Therefore IgA deficiency could not be the reason for lower prevalence of celiac disease.

## Usage of biological medicines in the treatment of inflammatory bowel disease in Latvia and other European countries

Silda A.<sup>1</sup>

<sup>1</sup> fellow of P.Stradins Clinical University Hospital, Latvia, Riga, [annasild@yahoo.co.uk](mailto:annasild@yahoo.co.uk)

### Introduction

As many as 2.2 million people in Europe suffer from Crohn's disease and ulcerative colitis. Intensive trials have resulted in new medicine appearing in the clinics, one of which is advanced group of biologics. Two biological drugs are approved for inflammatory bowel disease treatment in Europe: infliximab and adalimumab. There was no data about biologics used in gastroenterology in Latvia till now.

### Study Aims

To clarify on the biologics usage in treatment of Crohn's disease and ulcerative colitis in Latvia, and compare consumption of the above mentioned pharmaceuticals across other European countries.

### Methods

Drug consumption is presented according to the Anatomical Therapeutic Chemical and Defined Daily Dose (ATC/DDD) Classification System. Consumption data of infliximab and adalimumab in European countries for the time period 2006 – 2009 was collected from European medicines agencies and expressed in DDD per 1000 inhabitants per day. Information about biologics used for patients with inflammatory disease in Baltic States was requested from drugs manufacturers.

### Results

The data from 16 countries on infliximab and adalimumab consumption was obtained. There is an upward trend in biologics utilization from 2006 until 2009 in all European countries. Adalimumab is the least used drug in Latvia compared to other European countries. It was mostly used in Netherlands, Norway, and Denmark. Consumption of infliximab in Latvia is low. It is widely used in Iceland, Norway, Denmark, and Sweden. Among Baltic States studied agents in the treatment of inflammatory bowel disease were used most in Lithuania – for 64 patients, then Estonia – 21 and Latvia – 3 patients.

### Conclusions

Despite high prices on infliximab and adalimumab, study showed a growth in their popularity. These medicines are less frequently used in Latvia than in other European countries.

## Survey on colorectal cancer screening attitudes and practices of general practitioners in Latvia

Dompalma E.<sup>1</sup>, Bebriša I.<sup>2</sup>, Šantare D.<sup>3</sup>, Leja M.<sup>4</sup>, Baranovska T.<sup>5</sup>

<sup>1</sup> University of Latvia, Faculty of Medicine, Latvia, Riga, [evija\\_dompalma@yahoo.com](mailto:evija_dompalma@yahoo.com)

<sup>2</sup> University of Latvia, Faculty of Medicine, Latvia, Riga, [iveta.bebriša@gmail.com](mailto:iveta.bebriša@gmail.com)

<sup>3</sup> University of Latvia, Faculty of Medicine, Latvia, Riga, [daiga.santare@inbox.lv](mailto:daiga.santare@inbox.lv)

<sup>4</sup> University of Latvia, Faculty of Medicine, Latvia, Riga, [cei@latnet.lv](mailto:cei@latnet.lv)

<sup>5</sup> University of Latvia, Faculty of Medicine, Latvia, Riga, [tatjana.baranovska@gmail.com](mailto:tatjana.baranovska@gmail.com)

### Introduction

In Latvia, an opportunistic faecal occult blood test (FOBT) screening has been introduced at the general practice level. Although number of screened persons increase year by year, the coverage of colorectal cancer screening program remains very low – 7.6% of target population has been screened in 2010.

### Study Aims

This study aims to understand the knowledge and practices regarding colorectal cancer screening of general practitioners in Latvia, and it is a part of the study on early cancer detection supported by the European Social Fund (2009/0220/1DP/1.1.1.2.0./09/APIA/VIAA/016).

### Methods

A self-administered questionnaire was disseminated to participants of the congress of Latvian Family Doctor Association in December 2010.

### Results

162 general practitioners filled-in questionnaire. 98% respondents agree that colorectal cancer screening is necessary, and 72% consider colorectal cancer a serious health problem. The majority (85%) of general practitioners have ever given to a patient a faecal occult blood test, 77% have given this test to a patient during the last year. The number of given tests differs significantly: 40% GPs have given to patients less than 15 tests in 2010, whereas 19% GPs have given more than 110 tests in 2010. Those GPs that have not given any test to patients during the last year as the main reasons mentions: patient refusal to undertake testing, lack of tests and lack of time for explaining the testing procedure.

### Conclusions

The majority of general practitioners are satisfied with current colorectal cancer screening program, but only few of them actively participate in it. There is a large number of GPs who do not recommend colorectal cancer screening to patients at all. A need exist for continued efforts to educate general practitioners and general public about colorectal cancer screening and the important role of screening in preventing this disease.

## **Endoscopic findings of the upper gastrointestinal tract in patients with stage 3 chronic kidney disease**

Skosireva O.V.<sup>1</sup>Rakhimbaeva N.M.B.<sup>1</sup>

<sup>1</sup> Tashkent Medical Academy, Uzbekistan, Tashkent, [qwerty\\_u@list.ru](mailto:qwerty_u@list.ru)

### **Introduction**

Chronic kidney disease - is steadily progressing disease, leading to the gradual extinction of their functions. At the same time as the disease progresses, many organs and systems, including the gastrointestinal tract involves into the pathological process. The aim of this study is to examine the state of the stomach and duodenum on patients in stage 3 chronic kidney disease (CKD).

### **Study Aims**

The aim of this study is to examine the state of the stomach and duodenum on patients in stage 3 chronic kidney disease (CKD).

### **Methods**

From 2010 to 2011 43 patients with stage 3 CKD were examined at the Republic Centre of Nephrology in 3 clinic of Tashkent Medical Academy. The study included patients with clinically diagnosed chronic glomerulonephritis, chronic pyelonephritis with stage 3 CKD. The average age of patients was  $40 \pm 6.2$  years. Female to male ratio was 1:2.5. Patients' complaints were expressed by abdominal pain, decreased appetite, nausea, vomiting, and heartburn. All patients were conducted esophagogastroduodenofibrosopy (EGDFS) and ELISA blood test for determination of antibodies to *Helicobacter pylori*.

### **Results**

In conducting EGDFS the following upper gastrointestinal lesions are found: 67.8% of patients had reflux esophagitis, 28.5% of patients had chronic simple gastritis and 28.5% - gastric erosions, 60.7% of patients had chronic gastroduodenitis, at 32.1% - 12 duodenal erosion, duodenal ulcer was diagnosed in 39.2% of patients, 78.5% of patients had duodenogastric bile reflux. At the same time 4/5 had been identified in various combinations EGDFS changes. In the ELISA a raised titer of antibodies to the *Helicobacter pylori* is determined in 32.3% of patients

### **Conclusions**

1. At the esophagogastroduodenofibrosopy in all patients have changes in the esophagus, stomach, duodenum and often dominated by reflux esophagitis, duodenogastric bile reflux, chronic gastroduodenitis are revealed in all patients. 2. In 4/5 of patients with stage 3 CKD had been identified in various combinations EGDFS changes. 3. In patients with stage 3 CKD was 32.3% higher titre of antibodies to *Helicobacter pylori*. 4. The results suggest the need for timely diagnosis of gastrointestinal tract disorders in patients with CKD and optimize treatment of them.



## **Epidemiology of gastroesophageal reflux disease in patients referred for upper endoscopy**

Moisejevs G.<sup>1</sup>, Sudraba A.<sup>2</sup>, Vanags A.<sup>3</sup>, Tolmanis I.<sup>4</sup>, Lejnieks A.<sup>5</sup>, Leja M.<sup>6</sup>

<sup>1</sup> University of Latvia, Latvia, Riga, [georgijs.moisejevs@gmail.com](mailto:georgijs.moisejevs@gmail.com)

<sup>2</sup> University of Latvia, Latvia, Riga, [dr.sudraba@latnet.lv](mailto:dr.sudraba@latnet.lv)

<sup>3</sup> Digestive Diseases Centre GASTRO, Latvia, Riga, [mako@inbox.lv](mailto:mako@inbox.lv)

<sup>4</sup> Digestive Diseases Centre GASTRO, Latvia, Riga, [itg@ml.lv](mailto:itg@ml.lv)

<sup>5</sup> Riga Stradiņš University, Latvia, Riga, [lejnieks@latnet.lv](mailto:lejnieks@latnet.lv)

<sup>6</sup> University of Latvia, Latvia, Riga, [cei@latnet.lv](mailto:cei@latnet.lv)

### **Introduction**

Gastroesophageal reflux disease (GERD) becoming the most common acid hypersecretion related disease worldwide (Bardan et al.). Different studies indicate, that GERD prevalence in Western countries is 10-20 % and is associated with obesity and smoking.

### **Study Aims**

To describe GERD structure in Latvia and identify appearance of some factors, that may predispose to GERD such as smoking and overweight.

### **Methods**

From 2005 till 2011 year 822 patients with different complaints from gastrointestinal system (GIS) has answered special questionnaires and underwent upper endoscopy. From 822 patients GERD was identified in 272 patients. 50 patients were excluded from the analysis due to different reasons. 222 were divided into two groups: 70 patients with erosive reflux disease (ERD) and 152 patients with non-erosive reflux disease (NERD). ERD patients have visible mucosal breaks in the esophagus during endoscopy. NERD patients have heartburn and/or acid regurgitation symptoms appearing for at least twice a week and do not have erosive or ulcerative lesions during endoscopy. Descriptive statistical methods were used.

### **Results**

There was 29 men and 41 women with ERD, and 42 and 110, respectively, with NERD. Average age of patients with ERD was  $44.73 \pm 16.18$  years (22-78) and  $47.03 \pm 14.87$  years (18-78) in NERD patients. Average body mass index (BMI) in ERD patients was  $27.93 \pm 6.38$  and  $26.46 \pm 5.43$  in NERD patients. Positive smoking history had 39 (55.71 %) ERD patients and 52 (33.99 %) NERD patients.

### **Conclusions**

Prevalence of ERD was 8.52 % and 18.49 % of NERD in the group of patients referred for upper endoscopy. ERD and NERD affecting middle age persons, usually women. Both ERD and NERD patients had increased BMI. Frequency of smoking was higher in ERD group.

## Characteristics of lymphoid follicles in gastric antral mucosa

Jekabsone A.<sup>1</sup>, Kalere I.<sup>2</sup>, Kleina R.<sup>3</sup>

<sup>1</sup> Riga Stradins University, Department of Pathology, Latvia, Riga, [anna.jekabsone@gmail.com](mailto:anna.jekabsone@gmail.com)

<sup>2</sup> Riga Stradins University, Department of Pathology, Latvia, Riga, [ieva.kalere@gmail.com](mailto:ieva.kalere@gmail.com)

<sup>3</sup> Riga Stradins University, Department of Pathology, Latvia, Riga, [rkleina@inbox.lv](mailto:rkleina@inbox.lv)

### Introduction

Chronic gastritis is a commonly found histopathological entity, characterized by chronic inflammation in stomach mucosa. Although intramucosal lymphoid follicles (LF) do not occur in normal gastric mucosa, this morphological phenomenon is often noticed in gastric biopsies; therefore their presence and aetiology have to be studied. Pathologist should always distinguish LF from MALT lymphoma by shape irregularity and atypical lymphocytic infiltration.

### Study Aims

The aim of this study was to characterize LF in cases of chronic antral gastritis, to evaluate biopsies morphologically according to Sydney System, and find possible coexisting factors.

### Methods

Hematoxylin – eosin and Giemsa stained sections of 164 patients were examined for type of gastritis, amount, size and location of LF. Immunohistochemistry was done with CD20 and CD3. We have analysed 79 medical histories and compared presence of LF with clinical data. The data analysis was performed with SPSS 19.0.

### Results

In our study LF were present in 44,5% (n=73) of chronic antral gastritis cases. The average size of mature LF (27,1%) was larger than that of immature LF (72,9%) – 0,388mm vs. 0,200mm, respectively. The location of most LF (64,81%) was adjacent to lamina muscularis mucosae. *Helicobacter pylori* were detected in 54,3% of Giemsa stained specimens, urea test showed positivity in 25,8% of the studied cases. Lymphocyte concentration in blood was similar in patients with or without LF in antral mucosa-  $1,95 \cdot 10^3 / l$  vs.  $2,30 \cdot 10^3 / l$ , respectively. Lesions of lamina propria were more severe according to all graded variables when it contained LF in comparison with mucosa without LF: marked inflammation (56,2% vs. 4,4%), marked activity of gastritis (8,2% vs. 0%), marked atrophy (12,3% vs. 3,3%) and marked intestinal metaplasia (6,8% vs. 2,2%). CD3 and CD20 + lymphocytes were present in LF in variable proportions. Most common concomitant pathologies of patients with chronic gastritis were gallstones, acute pancreatitis, essential hypertension, oesophageal lesions.

### Conclusions

1. LF are mainly present in cases of marked gastric lesions. 2. Immature LF are generally smaller than mature LF, which could change the relief of gastric mucosa. 3. Presence of LF does not correlate with lymphocyte concentration in blood, but maybe is one of the indicators of local immune reactions.

## **Diagnostic informativity of endoscopic ultrasonography in the management of high risk pancreatic cystic lesions**

Pukitis A.<sup>1</sup>, Pokrotnieks J.<sup>2</sup>

<sup>1</sup> Latvian University, Latvia, Riga, [pukitis@latnet.lv](mailto:pukitis@latnet.lv)

<sup>2</sup> Riga Stradiņš university, Latvia, Riga, [pokrot@latnet.lv](mailto:pokrot@latnet.lv)

### **Introduction**

Assessment of cystic lesions of the pancreas remains difficult despite improvement in imaging modalities. Endoscopic ultrasonography (EUS) guided fine needle aspiration (EUS-FNA) informativity in the management of high risk pancreatic cystic lesions using cystic aspirate analysis (cytology, amylase content, CEA) can accurately distinguish premalignant and malignant cysts from benign ones.

### **Study Aims**

EUS-FNA for pancreatic cystic lesions differentiation from cystic neoplasms.

### **Methods**

EUS for pancreatic diseases was performed in 390 patients treated in Gastroenterology Centre Pauls Stradins Clinical University Hospital. Patients who were considered for EUS-FNA examination had one or more pancreatic cystic lesions detected by US, EUS, MRI, or CT. In total 182 patients in an age from 26 - 81 (mean age 53.5 years) were involved. All pancreatic cystic lesions were considered for at least one single time EUS-FNA.

### **Results**

EUS structure changes (n=133, 73%), of pancreas parenchyma (lobulation, calcifications), pancreatic duct changes (n=91, 50%), cystic lesions with septae, calcifications, solid structures (n=78; 43%). Lesions less than 20mm (n=78), lesions bigger than 20mm (n=104). EUS-FNA study of the cyst content; malignant cells (n=31, 17%), adenocarcinoma (n=24), carcinoid (n=2), neuroendocrine tumour (n=4), atypical cells (n=15) Non-Hodgkin lymphoma (n=1), inflammatory content (n=85), non-inflammatory content (n=40). CEA level more than 500 ng/mL was used as significant.

### **Conclusions**

EUS-FNA helps in decision making for medical or surgical approach. EUS guided puncture of pancreatic cystic lesions is safe procedure (success rate up to 97,5%). Combined CEA and cytology studies enhanced diagnostic sensitivity up to 100%.

## THE ROLE OF INVASIVE RADIOLOGY IN THERAPY OF PTOGENIC LIVER ABSCESS

Stepanovs K.<sup>1</sup>, Vilkoite I.<sup>2</sup>

<sup>1</sup> P.Stradins KUS, Latvia, Riga, [kasparstepanovs@inbox.lv](mailto:kasparstepanovs@inbox.lv)

<sup>2</sup> Riga Stradins University, Latvia, Riga, [ilona153@inbox.lv](mailto:ilona153@inbox.lv)

### Introduction

Liver abscess is a puss- filled mass inside the liver, which develop because of necrosis of the liver parenchime. Liver abscess is pathology, which can endargen life.

### Study Aims

To define effectiveness of treating liver abscesses percutaneously, taking into account number of successful procedures.

### Methods

During period from 2009 until April 2011 thirty seven ultrasound and computed tomography controlled transcutaneous punctures of liver abscesses were carried out in Pauls Stradins Clinical University hospital. Depending on the course of the disease, patients received aspiration punctures, drainages and combination of those two methods. Isolated aspiration puncture without drainage of collection was performed in three (8,11%) from 37 abscess cavities, the diameter of these cavities were 2,5-5 cm. In three cases (8,11%) aspiration was performed initially, but in the process of therapy decision

was made to perform a drainage of collection, in one of those cases after drainage followed surgical drainage of abscess. Drainage as initial pecutaneous choice therapy method was chosen for 31 abscess cavity. From 34 drained abscesses 32 (94%) were drained controlled by ultrasonography, 2 (6%)-controlled by computed tomography. Modality was chosen depending of localization of abscess, air content in the abscess cavity.

### Results

Using isolate percutaneous liver abscess aspiration, its combination with drainage and systemic antibiotic therapy, initially successfully were treated 75% of patients, but after recurrent minimally invasive procedures- 87,5% patients. Managing liver abscesses percutaneously during this period, complication rate was not high, and it reached 9.3% of cases. None of cases resulted with patient's death or hemorrhagic complications.

### Conclusions

Assessing the aggregate results it is concluded that ultrasound and computed tomography controlled transcutaneous treatment of liver abscesses is carried out successfully in Pauls Stradins Clinical University hospital, it is safe and effective method in treating liver abscesses, the results of aspiration and drainage of abscesses correspond to data in world literature. There are great development opportunities for ultrasound and, especially, computed tomography use for both diagnostic and therapeutic manipulations in Radiology department of Pauls Stradins Clinical University hospital.

## Complete pathological response of colorectal liver metastasis after neoadjuvant chemotherapy – a case report

Skuja E.<sup>1</sup>, Aboliņš A.<sup>2</sup>, Priedite I.<sup>3</sup>, Purkalne G.<sup>4</sup>, Štrumfa I.<sup>5</sup>, Vilmanis J.<sup>6</sup>, Kalniete D.<sup>7</sup>, Gardovskis J.<sup>8</sup>, Miklaševics E.<sup>9</sup>

<sup>1</sup> Pauls Stradins Clinical University Hospital, Latvia, Riga, [elina.skuja@stradini.lv](mailto:elina.skuja@stradini.lv)

<sup>2</sup> Pauls Stradins Clinical University Hospital; Hereditary Cancer Institute, Latvia, Riga, [arnis.abolins@rsu.lv](mailto:arnis.abolins@rsu.lv)

<sup>3</sup> Pauls Stradins Clinical University Hospital, Latvia, Riga, [ilzepriedite25@inbox.lv](mailto:ilzepriedite25@inbox.lv)

<sup>4</sup> Pauls Stradins Clinical University Hospital, Latvia, Riga, [gunta.purkalne@stradini.lv](mailto:gunta.purkalne@stradini.lv)

<sup>5</sup> Hereditary Cancer Institute, Latvia, Riga, [ilze.strumfa@rsu.lv](mailto:ilze.strumfa@rsu.lv)

<sup>6</sup> Pauls Stradins Clinical University Hospital, Latvia, Riga, [jvilmanis@inbox.lv](mailto:jvilmanis@inbox.lv)

<sup>7</sup> Pauls Stradins Clinical University Hospital; Hereditary Cancer Institute, Latvia, Riga, [dagnija.kalnieta@rsu.lv](mailto:dagnija.kalnieta@rsu.lv)

<sup>8</sup> Pauls Stradins Clinical University Hospital; Hereditary Cancer Institute, Latvia, Riga, [janis.gardovskis@rsu.lv](mailto:janis.gardovskis@rsu.lv)

<sup>9</sup> Pauls Stradins Clinical University Hospital; Hereditary Cancer Institute, Latvia, Riga, [edvins.miklasevics@rsu.lv](mailto:edvins.miklasevics@rsu.lv)

### Introduction

Metastatic colorectal cancer (mCRC) is an incurable disease with 5-year survival of 6% in Latvia. 10% to 25% of patients with colorectal liver metastases are eligible for resection. The pathological complete response (pCR) is a rare – 4% of all resected patients and is associated with 5-year survival of 76%.

### Study Aims

To show the benefit of neoadjuvant chemotherapy/anti-VEGF antibody in patient with unresectable liver metastasis.

### Methods

35-year-old man urgently undergone Hartmann's type resection of sigma due to clinically diagnosed bowel obstruction. Poorly differentiated adenocarcinoma pT3N2bG3R0 were found in operation material. Immunohistochemical staining was positive for CK20 and CDX2 and negative for TP53 and MSH6 staining. Proliferation fraction by Ki-67 protein expression was 73%. MSH6 gene was sequenced but no significant germline mutation was found. Tumour tissue was tested for KRAS, BRAF, TP53, PIK3CA and PTEN and no clinically significant mutations was found. Control CT-scan showed an unresectable solitary liver metastasis in right lobe with 8 cm as the largest diameter. The patient received 8 courses of neoadjuvant chemotherapy with FOLFOX-4 and 4 courses of anti-VEGF antibody bevacizumab.

### Results

Control CT scan showed tumor shrinkage by 50% with 4 cm in greatest dimension and patient became eligible for surgery. The patient underwent a partial hepatectomy. The size of solitary lesion was 3.4x2.3 cm. Microscopically, shadows of CK20+ and CDX2+ cells were found in the necrosis. Since no viable tumor cells were observed in resected specimen, the effect of FOLFOX-4/bevacizumab treatment was interpreted as the pCR.

### Conclusions

After multidrug neoadjuvant chemotherapy and radical surgery the patient reached the pCR with potentially long term survival. Probability of pCR is described based on four predictive factors – age <60 years, size <3 cm, preoperative CEA <30 ng/ml, radiological response. According to these data the patient had 10% probability of pCR of liver metastasis. The prediction of a pCR of liver metastases after multidrug chemotherapy is important, but it is quite difficult, since there is no strong correlation between a pathological and a clinical response.

## **Mortality and Morbidity with gastric and duodenal ulcers in Pauls Stradins clinical university hospital**

Krustins E.<sup>1</sup>, Pokrotnieks J.<sup>2</sup>

<sup>1</sup> Fellow in Internal medicine, P. Stradins Clinical University Hospital, Latvia, Riga, [eduards.krustins@gmail.com](mailto:eduards.krustins@gmail.com)

<sup>2</sup> asist. professor, Riga Stradins university, P. Stradins Clinical University Hospital, Latvia, Riga, [pokrot@latnet.lv](mailto:pokrot@latnet.lv)

### **Introduction**

Although commonly known for already long time, gastric and duodenal ulcers remain an important issue influencing the quality of life and morbidity of patients. It is known that with the advance of the H2 receptor antagonists, proton pump inhibitors and H. pylori eradication the incidence and prevalence of gastric and duodenal ulcers has decreased, but the frequency of their complications - namely bleeding and perforation hasn't. And the mortality even seem to increase in the older populations.

### **Study Aims**

The aim of the study was to check, if the frequency of complications do increase with age among patients taken into hospital due to gastric or duodenal ulcer. Second objective of the study was to examine if there were any differences in the haemoglobine level at the time of admission between the different age groups later having a fatal outcome.

### **Methods**

Patient admission and discharge data from P. Stradins clinical university hospital for the years 2001 - 2009 was used, as well as patient records for cases with fatal outcome within this timeframe.

### **Results**

The number of hospital episodes per year varied between 324 and 787 (419 on average). The men were admitted 1.3 to 1.5 times more ( $p < 0.0001$ ) than women, but between the deceased patients this proportion decreased, albeit insignificantly ( $p = 0.38$ ). The number of deaths varied from 7 to 19 per year or between 1.5% and 5.5% of admitted patients respectively. But it's also worth looking to the number of deaths per age group where a more distinctive sight emerges. With the increase in age the number of deaths increases. At P. Stradins clinical university hospital there is a border at 65 years of age where the mortality starts to increase exponentially. No connection between the haemoglobin level at the time of admission and the age of the deceased patients was noted.

### **Conclusions**

These results confirm the trends seen in literature from Western Europe that the older population is particularly at risk when admitted to hospital with gastric or duodenal ulcer. Up to 65 years of age, these diseases do not cause significant mortality without additional accompanying diseases.

## Cereal fiber intake in aged men and women

Meija L.<sup>1</sup>, Ignace G.<sup>2</sup>, Siksna I.<sup>3</sup>, Joffe R.<sup>4</sup>, Lietuvietis V.<sup>5</sup>, Lejnieks A.<sup>6</sup>

<sup>1</sup> Riga Stradins University, Pauls Stradins Clinical University Hospital, Latvia, Riga, [laila@meija.lv](mailto:laila@meija.lv)

<sup>2</sup> Riga Stradins University, Latvia, Riga, [gita.ignace@gmail.com](mailto:gita.ignace@gmail.com)

<sup>3</sup> Institute of Food Safety, Animal Health and Environment „BIOR”, Latvia, Riga, [inese.siksna@gmail.com](mailto:inese.siksna@gmail.com)

<sup>4</sup> Institute of Food Safety, Animal Health and Environment „BIOR”, Latvia, Riga, [rafaels.joffe@bior.gov.lv](mailto:rafaels.joffe@bior.gov.lv)

<sup>5</sup> Riga Eastern Clinical University Hospital, Latvia, Riga, [vilnis.lietuvietis@ml.lv](mailto:vilnis.lietuvietis@ml.lv)

<sup>6</sup> Riga Eastern Clinical University Hospital, Latvia, Riga, [lejnieks@latnet.lv](mailto:lejnieks@latnet.lv)

### Introduction

Epidemiological studies show that fiber rich diet decreases the risk of colorectal and prostate cancer, but the findings are inconsistent. Cereal fiber is supposed to be the most important source of dietary fiber in Latvia.

### Study Aims

To assess total fiber and separately cereal fiber intake and to determine cereal fiber sources in aged men and women in Latvia.

### Methods

Setting: Latvia. Subjects: 156 men, 99 women; age 40 till 80 (mean age 56.6), living at home, eating habitual food, no data about oncological disease. Usual dietary fiber, other nutrients and total calorie intake was assessed using 164-item country-specific food frequency questionnaire (FFQ). The subjects were interviewed using picture folder for the assessment of portion size. Nutritional data were processed on the originally developed software, using data base of German Nutrient Data Base (BLS) from Max Rubner – Institute (MRI).

### Results

The mean data: BMI (body mass index) 27.7 kg/m<sup>2</sup> (28.1 kg/m<sup>2</sup> in men and 27.2 kg/m<sup>2</sup> in women) energy intake 2978 kcal (3467 kcal in men, 2207 kcal in women); total dietary fiber intake 33.7g/d or 11.3g/1000kcal (36.8g/d or 10.6g/1000kcal in men and 28.7g/d or 13.0g/1000kcal in women); insoluble fiber 21.9g/d (23.7g/d in men, 19.1g/d in women); soluble fiber 12.1g/d (13.4 g/d in men, 10.1g/d in women). Cereal fiber intake was 13.9g/d or 4.7 g/1000kcal (16,6g or 4.79g/1000kcal in men and 9.6g/d or 4.3g/1000kcal in women); 8.2g/d from rye bread (10.2g/d in men and 5.4g/d in women).

### Conclusions

The main food source of dietary fiber was cereals (41%), especially rye bread accounting 59% (61% in men, 56% in women) of cereal fiber and 24% (28% in men, 19% in women) of total fiber intake. The results show that rye bread might be the most important source of dietary fiber in aged men and women in Latvia.

## Fibrosis risk assessment in patients with nonalcoholic fatty liver disease

Birka I.<sup>1</sup>, Pukitis A.<sup>2</sup>

<sup>1</sup> Paul Stradins Clinical University hospital, Latvia, Riga, [ilzebirka@hotmail.com](mailto:ilzebirka@hotmail.com)

<sup>2</sup> Paul Stradins Clinical University hospital, Latvia, Riga, [pukitis@latnet.lv](mailto:pukitis@latnet.lv)

### Introduction

New noninvasive markers are necessary to specify the stage and prognosis of nonalcoholic steatohepatitis to allow skipping liver biopsy. Calculation of BARD score has been introduced as the simplest method to identify patients without severe fibrosis (Harrison et al., 2008)

### Study Aims

Evaluation of BARD score in patients with NAFLD and possible correlation of BARD score with leptin, adiponectin and resistin.

### Methods

47 patients with ultrasound proven fatty liver were included in the study. Patients with excessive alcohol consumption, viral hepatitis, cholestatic or drug-induced liver disease, or taking hepatotoxic medications were not included. BARD score according to Harrison et al. was calculated: BMI  $\geq 28$  kg/m<sup>2</sup> – 1 point, ASAT/ALAT ratio 0,8 – 2 points, type 2 diabetes mellitus – 1 point.

### Results

22 patients from the group were female, 25 male; mean age 52,23 (30-78) years; mean BMI 32,45 (19,72-45,9) kg/m<sup>2</sup>; 22 patients had elevated ALAT ( $>40$ U/l), 8 patients – elevated ASAT ( $>41$ U/l), 13 patients had type 2 diabetes mellitus. 66% of patients had BARD score 0-1 (mild or no fibrosis), 33% had BARD score 2-4 (advanced fibrosis). There was no correlation between BARD score and leptin or adiponectin concentration, but tendency for negative correlation between BARD and resistin ( $r=-0,537$ ). Comparing with other studies number of patients with supposed fibrosis is high (33%), apparently because of high proportion of elevated BMI - 38 patients had BMI  $\geq 28$  kg/m<sup>2</sup>. Mean ALAT and ASAT levels are much lower in this study than others (46,3 and 31,9 U/l respectively) but the BARD score mostly depends on ASAT/ALAT ratio. In our opinion this could possibly raise the number of false negative results, so the BARD score cannot be used to exclude fibrosis.

### Conclusions

Before recommending BARD score use in practice it is necessary to verify its validity for Latvian patients with liver biopsy.



## Basal metabolic rate and total energy expenditure analysis using bioelectrical impedance method.

Bodnieks E.<sup>1</sup>

<sup>1</sup> LATVIA, RIGA, [bodnieks@e-apollo.lv](mailto:bodnieks@e-apollo.lv)

### Introduction

Body mass index (BMI) usually have not correlates with body fat mass (BFM), body total water (BTW) and body lean mass (BLM). Bioelectrical impedance method is more usable for body composition assessment to determine basal metabolic rate (BMR) and total energy expenditure (TEE), thereby we can to plan adequate ensure of nutritional assessment.

### Study Aims

To clarify the BMI, BMR and TEE in different study groups to detect the demand of nutrition requirement.

### Methods

Two pilot study groups and control group of medical personnel (10 females, 4 males), patients with metabolic syndrome (4 males, 4 females), patients with inflammatory bowel disease (IBD) - Crohn's disease (3 females, 1 male) and ulcerative colitis (2 males) total 28 persons were examined was calculated. Mean value of BMI, BMR and TEE calculated using bioelectrical impedance apparatus Genius 220 Plus. Statistical analysis using Microsoft EXCEL 2007 to calculate the average value, standard deviation, 95% CI.

### Results

Average of BMI (kg/m<sup>2</sup>), MBR (kcal), TEE (kcal); St. deviation; 95% CI (Female /Mail) Control group F10/ M4 – BMI average 22,59 /20,72; St. deviation 3,43/ 1,81; 95% CI ±2,46 /±2,89. BMR average 1213,3/1493,5; St. deviation 48,43/187,27; 95% CI ±34,65/±298,0. TEE average 1868,50/2474,75; St. deviation 74,61/522,24; 95% CI ±53,37/±831,01. Crohn disease F3/ M1- BMI average 20,26 /24,3; St. deviation 2,4/NV; 5,96/NV; 95% CI ±5,96/NV. BMR average 1168,33/1660,0; St. deviation 109,51/NV; 95% CI ±272,06/NV. TEE average 1713,66/2556,0; St. deviation 226,80/ NV; 95% CI ±563,42/ NV. Ulcerous colitis F0/ M2 – BMI average 0/24,65; St. deviation 0/3,88; 95% CI 0/ ±34,94. BMR average 0/ 1533,0; St. deviation 0/ 14,14; 95% CI 0/ ±127,06. TEE average 0/ 2360,5; St. deviation 0/21,92; 95% CI 0/ ±196,95. Metabolic disease F4/ M4 – BMI average 32,225/31,025; St deviation 4,61/10,03; 95% CI ±7,34/±15,97; BMR average 1303,0/1725,75; St. deviation 64,06/201,54; 95% CI ±101,95/±320,71. TEE average 1864,0/ 2942,25; St. deviation 196,87/646,59; 95% CI ±313,27/±1028,87.

### Conclusions

The data show that the BMR and TEE is more pronounced in men compared to women. Despite of the high BMI required the TEE had physiological necessary of nutrition energy needs. Patients with hyper catabolic diseases, metabolic syndrome and malnutrition had individual body composition.

## **Helicobacter pylori infection is associated with aphthae and erosions in the small bowel**

Derovs A.<sup>1</sup>, Derova J.<sup>2</sup>, Pokrotnieks J.<sup>3</sup>

<sup>1</sup> Riga Stradins University, Latvia, Riga, [aleksejs.derovs@gastroenterologs.lv](mailto:aleksejs.derovs@gastroenterologs.lv)

<sup>2</sup> Latvian Maritime Medicine centre, Latvia, Riga, [jelena.derova@gastroenterologs.lv](mailto:jelena.derova@gastroenterologs.lv)

<sup>3</sup> Riga Stradins University, Latvia, Riga, [pokrot@latnet.lv](mailto:pokrot@latnet.lv)

### **Introduction**

Video capsule endoscopy (CE) has made it possible to assess the mucosa of the small bowel (SB) by differentiating intestinal villi and by identifying the type of lesions. The basic lesion types are classified as flat, protrusive (elevated) and excavated (aphthae/erosions and ulcers). *Helicobacter pylori* is a frequent cause of ulcers in the stomach and duodenum.

### **Study Aims**

The aim of this study was to assess the possible correlation between the excavated lesions (aphthae/erosions and ulcers) that were diagnosed using CE in the small intestine and *H. pylori* infection.

### **Methods**

This study was originally designed to investigate the correlation between *H. pylori* infection in the stomach and excavated lesions in the small bowel. The inclusion criteria for this study were a successful CE investigation (CE reached caecum) and a diagnostic test for *H. pylori* infection for a maximum of 6 months prior to CE.

### **Results**

We performed 220 CEs in the period from July 2006 until September 2010. From these 220 CEs, 95 CE examinations were enrolled in the study. *H. pylori* infection was positive in 40 cases and was negative in 55 cases. Excavated lesions were found in 35 patients with *H. pylori* infection and in 46 patients without *H. pylori*. Moreover, no lesions were found in 5 patients with *H. pylori* infection and in 9 patients without the infection. Phi correlation coefficient was used for statistical analysis. A positive correlation was found ( $\phi=0.206$ , probability  $p=0.025$ ) between *H. pylori* infection and aphthae/erosions in the SB. No statistically significant correlations between *H. pylori* infection and ulcers in SB were found. We evaluated other possible impact factors on the development of excavated lesions in SB, including the use of NSAID and antibiotics, longitudinal prevalence of excavated lesions, erythematous mucosa, regional transit abnormalities and present abdominal complaints. None of these factors had an impact on the prevalence of excavated lesions. No statistical differences between the patients' age or gender or the CE system that was used were observed.

### **Conclusions**

The finding of aphthae/erosions in the small intestine during capsule endoscopy correlated with *Helicobacter pylori* infection. However, the clinical usefulness of this correlation is not yet clear.

## Patient health status does not influence capsule endoscopy transit time

Derovs A.<sup>1</sup>, Derova J.<sup>2</sup>, Pokrotnieks J.<sup>3</sup>

<sup>1</sup> Riga Stradins University, Latvia, Riga, [aleksejs.derovs@gastroenterologs.lv](mailto:aleksejs.derovs@gastroenterologs.lv)

<sup>2</sup> Latvian Maritime Medicine centre, Latvia, Riga, [jelena.derova@gastroenterologs.lv](mailto:jelena.derova@gastroenterologs.lv)

<sup>3</sup> Riga Stradins University, Latvia, Riga, [pokrot@latnet.lv](mailto:pokrot@latnet.lv)

### Introduction

Although video capsule endoscopy (VCE) was shown as a superior diagnostic method for small bowel diseases, its applicability remains controversial for patients in poorer health.

### Study Aims

This research was made to evaluate the possible correlation between patients' health status (HS) and VCE transit times.

### Methods

The HS consisted of 4 categories of patients: 1) healthy; 2) mild systemic disease; 3) severe systemic disease limiting function but not incapacitating; and 4) severe systemic disease with constant threat to life. HS I and II applied to patients seen on the outpatient basis; HS III and IV to hospitalized patients. For statistical analysis we have grouped HS I and II and HS III and IV.

### Results

136 VCE cases were analysed. 37 (27.2%) patients were categorised as HS I; 41 (30.1%) as HS II; 57 (41.9%) as HS III; and 1 patient (0.7%) as HS IV. No positive correlation was found ( $p=0.256$ ,  $p=0.647$ ) between HS and VCE transit times. The capsule did not reach the colon in total of 24 cases, dividing equally between inpatient and outpatient groups.

### Conclusions

Patients' health status does not influence transit time of capsule endoscope. The risk of capsule retention is independent of patient's health status.