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Abstracts from VI Latvian Gastroenterology Congress with International participation

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THE USE OF COMPUTED TOMOGRAPHY IN THE DIAGNOSIS OF DISEASES OF THE COLON IN CHILDREN

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Introduction

Large intestine defect is the most common disease found among paediatric gastroenterological pathologies often clinically presented by chronic constipation.

Study Aims

To study the significance of multi-slice computed tomography (MSCT) in the diagnostics of large intestine pathologies in children.

Methods

75 children with various large intestine pathologies suffering from chronic constipation were treated in the department of children emergency surgery at the Republican Research Centre of Emergency Medicine (RRCEM) from 2006 until 2013. A total of 45 (60%) male and 30 (40%) female paediatric patients examined. Scanning carried out from the back position with preliminary introduction of enema (1.5 litres water), adding 76%-20 ml of trazograph contrast medium. All scans performed on Phillips Brilliance 64 slice Multidetector CT [40-slices] with the following parameters: 50-140, 80, slice thickness at 1.5 mm.

Results

The following pathologies detected using MSCT: dolichocolon or dolichomegacolon in 7 (23.3%), cecoileal reflux in 4 (13.4%) cases, malrotation syndrome in 3 (10%) children, dolichosigmoid in 13 (43.3%), Girshprung's disease in 3 (10%) patients. 3D cast of large intestine lumen allowed detecting cecoileal reflux and developmental anomalies (dolichosigmoid, dolichocolon, megacolon, Girshprung's disease). Measuring and bowel wall thickness estimation performed on axial slices and multi-junction reformations. Dolichomegacolon diagnosed by lengthening and dilatation of large intestine over its length. Cecoileal reflux diagnosed on the basis of large intestine filling with contrast medium as the result of its reflux from large intestine. Dolichosigmoid diagnosed based on MSCT data where sigmoid lengthening was detected forming two or more loops, location of lengthened loops of sigmoid in the right part of abdominal cavity.

Conclusions

MSCT of large intestine is and alternative method in difficultly diagnosed large intestine pathologies. With help of 3D reconstruction visualising of the large intestine in various planes becomes possible for determining tactics of surgical treatment and resection level.

MODERN APPROACH TO SCREENING AND TREATMENT OF CHRONIC COLOSTASIS IN CHILDREN WITH DOLICHOSIGMOID

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Introduction

Chronic colostasis one of the most pressing problems of pediatric gastroenterology. Despite the large number of scientific publications is not defined clear indications for surgical treatment, the volume of surgical interventions for children Dolichosigmoid.

Study Aims

Improving examination and surgical treatment results in children with dolichosigmoid suffering from chronic constipation.

Methods

76 children aged from 3 months to 14 years suffering from chronic constipation due to various pathologies of the colon were examined in the emergency department of paediatric surgery in the Republican Research Centre of Emergency Medicine (RRCEM) during 2006 to 2013. In 36 (47.4%) cases dolichosigmoid has been revealed. Diagnosis was based on anamnesis data, general and proctologic exams, laboratory, ultrasound, intestinal flora analysis, contractile function of anal muscles, endoscopic and X-ray investigations of gastrointestinal tract (colonofibroscopy, irrigography, barium passage, MSCT). All patients with dolichosigmoid diagnosis were divided into three groups: compensated stage with 24 (66.7%) patients; sub-compensated stage with 7 (19.4%) patients and de-compensated stage with 5 (13.9%) patients.

Results

From 36 patients with dolichosigmoid 8 (22.2%) received surgical treatment with 5 (13.9%) of them in de-compensated stage and 3 (8.3%) in sub-compensated stage. The following indications applied for surgical intervention: ineffective conservative therapy, de-compensated forms of chronic colostasis. Resection of the part of sigmoid due to dolichosigmoid was not regarded as radical operation as there is a part of intestine with inadequate innervation which can lead to delayed passage. That is why in 5 cases patients with de-compensated forms have been performed left hemicolectomy and in 3 cases with sub-compensated form - sigmoid resection. Long-term follow up performed for all surgical patients with uneventful recovery period and independent daily defecation.

Conclusions

Successful treatment of chronic constipation in children is possible only by joint approach of paediatricians and surgeons.

INTESTINAL MICROFLORA IN CHILDREN WITH EROSIVE AND ULCERATIVE CHANGES OF DUODENAL MUCOSA

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Introduction

Pathologic changes of normal microflora are found in various parts of intestine during most of gastro-intestinal diseases. The state of the digestive tract microflora is often not taken into account during treatment of patients with chronic gastroduodenal pathology (CGDP) associated with H. pylori (HP). This can be one of the reasons for poor effect of HP eradication therapy.

Study Aims

To study the frequency of the intestinal microflora disorders and the nature of its abnormalities in children with erosive and ulcerative changes in the duodenal mucosa.

Methods

The study of paediatric patients involved 120 children with erosive bulbitis (EB) and 60 children with duodenal ulcer disease (DUD). HP infection detected in all patients using two methods: rapid urease test with biopsy material and urea breath test. Diagnosis of the small intestine bacterial overgrowth syndrome (SIBOS) was based on indirect diagnosis method – hydrogen breath test with lactulose load. Assessment of colon microflora performed by microbiological examination of faeces.

Results

SIBOS detected in 57 (95.0±2.8%) children with DUD and 103 (85.8±3.2%) children with EB. In children with CGDP associated with HP an abnormal ratio of intestinal microflora was discovered. Normal colon microflora found only in 2 (3.3±2.3%) children with DUD and 10 (8.3±2.5%) children with EB. Low number of Lactobacilli found in 52 (86.7±4.4%) children with DUD and in 96 (80.0±3.7%) children with EB. Reduction of the obligate microflora in the presence of opportunistic bacteria growth (Klebsiella, Proteus, Enterobacter, etc.) found in 35 (58.3±6.4%) cases with DUD and in 66 (55.0±4.5%) cases with EB.

Conclusions

Erosive and ulcerative changes in duodenal mucosa associated with HP in children occur in the presence of marked changes of the intestinal microflora of both small and large intestine. This can lead to lower quality of HP eradication therapy and increase the frequency of side effects of this therapy.

MICRONUCLEI IN MUCOCYTES AND HELICOBACTER PYLORI INFECTION IN COVER-PATCHING EPITHELIUM OF THE STOMACH

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Introduction

Malignisation always begins with genome instability following the impact of mutagenicity (carcinogenicity) factors on somatic cells. Helicobacter pylori (HP) infection can increase cancerous effect of many factors leading to upper GIT tumours. We believe that HP increases mutagenic effect of radiation in populations residing in radiation-contaminated areas. Micronuclei test, including on human somatic cells, was used for detection of mutagenicity (carcinogenicity) factors in the outside environment.

Study Aims

Investigation of micronuclei incidence in mucous cells of gastric superficial-foveolar epithelium in the population residing in radiation contaminated areas and in population with no radiation factors in anamnesis.

Methods

Archives of paraffin blocks obtained from fibrogastroduodenoscopy of 2682 patients examined and treated in the period between 1988-1993 and residing in Gomel District of Belorussia (the most exposed to Chernobyl's atomic power station accident in 1986) were examined. Retrospective micronuclei test performed on histological sections obtained from antral gastric biopsy specimen. Additionally, immunohistochemical investigation of HP with micronuclei assay performed on gastric biopsy specimen of examined patients. Micronuclei test is the only adequate measure of mutagenic radiation effect in the saved archive of paraffin blocks, obtained just after Chernobyl accident.

Results

The differences were found between radiation contaminated areas habitants (n=50) and population with no previous exposure to radiation (n=68) with index of frequency of mucous cells containing micronuclei. Maximum frequency of mucous cells with micronuclei was observed in patients with HP infection and previous exposure to radiation. The incidence of mucous cells with micronuclei in population from radiation contaminated area was five-fold higher in patients with HP infection, in comparison to population with non-infected mucous ($p<0.01$).

Conclusions

In persons residing in radiation contaminated areas HP infection potentiates mutagenic effects of radiation on upper gastro-intestinal tract.

AN AEROIONS BREATH TEST FOR DETERMINATION OF ACID-FORMING FUNCTION OF THE STOMACH IN PRACTICAL GASTROENTEROLOGY

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Introduction

Diagnostic breath tests are new promising and highly informative methods of non-invasive diagnosis of different diseases of the digestive system.

Study Aims

To evaluate the effect of the new non-invasive aeroions breath test for determining of acid-forming function of the stomach in patients with chronic gastroduodenal pathology (CGDP). This method was developed by the Department of Gastroenterology and Therapy of Zaporozhye Medical Academy of Postgraduate Education.

Methods

The study involved 30 people with the CGDP. All patients were examined at the Donetsk medical centre Gastro-line. Endoscopy with intra-gastric pH-metry for diagnosis of CGDP was performed in all patients. In addition, all patients underwent the aeroions breath test for determination of acid-forming function of the stomach. The study was conducted on an empty stomach; patients using proton pump inhibitors for 24 hours or more were excluded. The method is based on taking a solution of sodium bicarbonate by a patient. The hydrochloric acid of the stomach neutralises sodium bicarbonate to form carbon dioxide, which is detected in exhaled air. The gas composition of exhaled air is estimated.

Results

After intra-gastric pH-metry an increase of acid-forming function of the stomach was found in 26 patients (86.7%), and reduction of acid-forming function of the stomach was found in 4 patients (13.7%). The results of the non-invasive aeroions breath test for detection of acid-forming function in 28 patients (93.3%) were confirmed by the results of intra-gastric pH-metry.

Conclusions

The non-invasive non-radioisotope aeroions breath test for detection of acid-forming function of the stomach in gastroenterological practice provides an assessment of gastric acidity and can help in the differential diagnosis of CGDP. Advantages of this method for the patient are accuracy of the results, convenience, safety and low price.

A BLOOD GENE EXPRESSION-BASED TEST FOR EARLY DETECTION OF COLORECTAL CANCER: FINAL

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Introduction

Accurate non-invasive tests for early stages screening of colorectal cancer (CRC) are not available today.

Study Aims

The aim of this study was the development and validation of a test that differentiates subjects with colorectal cancer and adenomas from healthy controls.

Methods

An international multi-center case-control study including three South Korean and six Swiss centers was conducted from June 2010 to December 2011. Patients older than 50 years were prospectively enrolled and evaluated. Among them, 680 samples were allocated to the three main study groups including control subjects (Swiss n=124, Korean n=99), patients with adenomas > 1 cm (Swiss n=100, Korean n=154) and patients with CRC (Swiss n=74, Korean n=129). These subjects were referred for colonoscopy or scheduled for interventional surgery. The remaining 653 subjects were diagnosed with other types of solid cancers or other diseases such as inflammatory bowel diseases or diverticulitis and were included to test the algorithm specificity. Upon blood collection, PBMC were isolated and analyzed for gene expression by RT-PCR with a panel of 29 biomarkers. Subjects belonging to the three main study groups were randomly assigned to training, validation and test set, at a proportion of 40%, 20% and 40%, respectively. The training and validation set were used for algorithm development. The independent test set was used for clinical performance determination

Results

Statistical analyses revealed gene expression differences between Korean and Swiss populations. We applied two different classifications. The Swiss algorithm showed a specificity of 88% and sensitivity of 71% for CRC stage I-II (76% CRC IIV) and of 51% for adenoma detection. The Korean algorithm showed specificity of 69% and sensitivity of 63% for CRC stage III (70% CRC I-IV) and of 46% for adenoma detection.

Conclusions

This study confirmed blood transcriptome to be a source of biomarkers for CRC detection. Moreover, we validated a test for diagnosis of early CRC stages and adenomas with potential to be a non-invasive compliant screening test with performances in the same range of tests currently used by national programs. The differences observed between Korean and Swiss populations will require further clinical investigations.

Conflict of interests

Dorta G. and Nichita C. are members of the scientific board of Diagnoplex (designer of the investigated test). Monnier-Benoit S., Ciarloni L., Imaizumi N., Hosseinian S. are employees of Diagnoplex.

PREVALENCE OF ANAEMIA IN CHILDREN WITH INFLAMMATORY BOWEL DISEASE IN RUSSIAN FEDERATION

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Introduction

Anaemia is a common complication of inflammatory bowel disease (IBD), although the reported prevalence of this condition has been markedly variable. However, the existing data in children are still limited.

Study Aims

The aim of this study was to determine and analyse the prevalence of anaemia for hospitalised paediatric patients diagnosed with IBD in 2010-2013 in Scientific Centre of Children Health in Moscow, Russian Federation.

Methods

The study included 186 children diagnosed with IBD aged 6 months to 18 years (mean age 12±4.6), 94 presenting with Crohn's disease (CD) and 92 with ulcerative colitis (UC). Patients were divided into 2 groups, anaemic and non-anaemic. Anaemia was defined as haemoglobin level lower than the normal value of the laboratory of our hospital (based on the World Health Organisation criteria). The influence of type of IBD, age, gender, time from diagnosis, disease activity, undergoing treatment were evaluated.

Results

One-third of patients with IBD were anaemic. No significant difference in prevalence of anaemia between CD (33%) and UC (29%) patients found. Mean haemoglobin in the anaemic UC and CD groups was 9.6 (8.5-11.0) and 10.3 (9.3-10.6) respectively. No gender difference observed among anaemic IBD patients. Anaemia was most common in children under 3 years of age (61%). The prevalence of anaemia in older children and adolescents was 28%. Most patients with UC and CD had moderate form of anaemia (71% with CD and 52% with UC). Anaemia was more common at diagnosis than during follow-up (45% and 28%, respectively, p=0.001). Disease activity scores (PUCAI; PCDAI) showed an inverse correlation with haemoglobin level. Patients with mild, moderate and severe UC disease activity were anaemic in 19%, 44%, 62% cases respectively. The same inverse correlation found for CD patients. In comparison to IBD patients receiving corticosteroid drugs, children receiving anti-TNF-a treatment (infliximab) with the same disease activity score had lower rates of anaemia (55% vs. 37.5%).

Conclusions

Anaemia found present in every third IBD patient and remains a frequently associated pathology to the inflammatory bowel disease, especially in infants and young children and requiring specific management.

HEREDITARY PANCREATITIS AND FORMATION OF DIABETES

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Introduction

The impact of hereditary factors on the formation of chronic pancreatitis (CP) is established. The strength of such impact depends on the type of CP.

Study Aims

Identify the prevalence of mutation in genes CFTR, SPINK 1 N34S or PRSS1 in patients with CP and diabetes.

Methods

150 patients with pancreatic disease were examined. All patients had severe course of the disease: history of acute pancreatitis, pancreatic calcifications and cysts, endured pan+creatoduodenal resection, and other diseases of pancreas: cancer and cystadenoma. 41 patients with idiopathic, 75 alcoholic, 17 biliary, 15 other (cancer and cystadenoma), 2 autoimmune were presented in the group. Identification of mutations in genes CFTR, SPINK 1 N34S or PRSS1 using polymerase chain reaction (PCR) was performed.

Results

Mutation in CFTR gene detected in 3 patients. Mutation SPINK 1 N34S detected in 13 patients, PRSS1 in 27 patients. Both mutations simultaneously detected in 5 patients. PRSS1 mutation found in 13 patients with alcoholic pancreatitis, SPINK 1 N34S in 3 patients, both mutations in 3 patients. In patients with idiopathic pancreatitis PRSS1 mutation detected in 7 patients, SPINK 1 N34S in 4 patients, both mutations in 2 patients. In patients with biliary pancreatitis PRSS1 mutation found in 3 patients, SPINK 1 N34S in 3 patients, no simultaneous mutations detected. In this group there were 8 patients with mucinous cystadenoma and mutation of N34S SPINK 1 detected in one case and PRSS1 mutations in 3 cases. Among 7 patients with pancreatic cancer in 3 patients there have been three identified mutations Significant association between the presence of mutations SPINK and incidence of diabetes was found, relative risk of diabetes as a complication of chronic pancreatitis in patients with this mutation was 3.5 (1.7-7.26, 95% CI), p=0.0007. In patients with pancreatogenic diabetes revealed low levels of glucose-dependent insulinotropic peptide (GIP) = P+D 0.8 ± 0.03 ng / ml (control 1.2 ± 0.02 ng /ml) $p<0.05$.

Conclusions

Hereditary chronic pancreatitis was diagnosed in 32.0% of cases in Moscow. Significant association between the presence of mutations SPINK and incidence of diabetes was found.

OESOPHAGEAL PERFORATION BY THE FISH BONE LEADING TO THE RETROPHAGEAL AND EPIDURAL ABSCESS WITH VERTEBRAL OSTEOMYELITIS

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Introduction

We present a case of 72-year-old woman with retrophageal and epidural abscess and secondary vertebral osteomyelitis to perforation of the oesophagus by the fish bone. Cases of vertebral osteomyelitis and retrophageal abscess are rare and diagnosis is often delayed.

Study Aims

Case report.

Methods

Patient was treated in the Department of Internal Medicine (later - in the Department of Neurosurgery) of Daugavpils Regional City Hospital and investigated using ultrasound, CT, MRI, x-ray, endoscopic methods, blood analysis (integrated and biochemistry), blood culture, urine analysis.

Results

72-years-old woman was admitted with the following complaints: weakness progression, fever, back pain in the shoulder region. One week post-admission she started to complain of weakness and limitation in movement of both arms and hands. Later tetra paresis has appeared. Five weeks prior to admission the patient swallowed a fish bone by accident with food swallowing difficulties following pain during swallowing. 8-9 days later the complaints of weakness and fever appeared. The first gastroscopy was performed only one week after the incident and revealing no significant findings. The blood analysis showed the signs of acute inflammation (CRO 386.9 mg/l, Leukocytosis-14.66). Streptococcus anginosus (haemoliticus) found in blood culture. MRI and CT revealed C5-C7 spondilodiscitis with epidural and retrophageal abscess causing vertebral compression and secondary vertebral osteomyelitis. The patient continued treatment in Neurosurgery Department (C6-C7 partial vertebrectomy and the cervical abscess drainage via an anterior approach).

Conclusions

Data from anamnesis, clinical findings, results of blood analysis results, blood culture, radiological and surgical exams established the connection between purulent abscess and oesophagus, regardless of absence of direct signs of the oesophagus perforation.

INFLUENCE OF AUTOLOGOUS MONONUCLEAR BONE MARROW CELLS ON REGENERATION OF PROLONG UNCLOSING GASTRIC ULCERES

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Introduction

Prolong unclosing gastric ulcers (PUGU) are frequently connected with the occurrence of cytokine imbalance.

Study Aims

Aim of the research was to study the influence of transplantation of cultivated autologous mononuclear bone marrow cells (MNK BM) on the PUGU healing.

Methods

30 white rats were divided into three groups. The Study Group - PUGU and transplantation of autologous MNK BM. Control 1 Group - with introduction of autologous MNK BM to intact animals. Control 2 Group - with PUGU and introduction of physiological solution. Introduction of cells was performed on the 40th day after PUGU modelling. Transplantation of 1x106 cells in 0.5 millilitre was made on the 45th day by pricking around the ulcerous defect. Dynamics of the ulcerous defect healing was estimated morphologically and visually. IL-4, IL-1α, IFN-γ and TNF-α were determined in the blood serum.

Results

Gradual lowering of the level of IL-1α, IFN-γ and TNF-α pro-inflammatory cytokines and IL-4 increase had taken place by the 30th day under the influence of MNK BM, high level of pro-inflammatory cytokines and a low level of anti-inflammatory cytokines remained in the group of animals without transplantation. Ulcerous defect healing could be seen only after MNK BM transplantation.

Conclusions

MNK transplantation inhibits autoimmune inflammation eliminating the imbalance in the Th1/TH2 system. As a result of the PUGU regulatory exposure regeneration processes enabling PUGU healing are activated.

SIGNS OF MICROSCOPIC COLON INFLAMMATION IN UNCOMPLICATED DIVERTICULAR DISEASE

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Introduction

Diverticular disease of colon is a widespread chronic pathology presenting with colonic diverticula. Structural damage of the bowel wall is closely related to the violation of repair processes that become conditional upon immune response for plural antigens (bacteria, virus, food proteins).

Study Aims

Study of complication predictors in patients with symptomatic diverticular disease but without endoscopic and laboratory signs of diverticulitis.

Methods

87 patients with symptomatic diverticular disease with average age 57.6±9.4 years. In each patient diagnosis verified by endoscopic and x-ray examination, blood serum pro- and anti-inflammatory cytokines, faecal calprotectin, mucosal biopsies taken between diverticula. Morphologic picture of colon mucosa biopsies were studied. Haematoxylin and eosin staining performed in order to assess the histology of sigmoid tract. Written informed consents obtained from all patients before the study

Results

58 patients with increased production of pro-inflammatory cytokines and decreased production of anti-inflammatory cytokines (TNFα = 187.8±19.5 pg/ml, IL-6 = 67.1±18.4 pg/ml, IL-1α = 105.9±26.7 pg/ml). Faecal calprotectin was increased in 62 patients suffering from abdominal pain and/or constipation or diarrhoea (mean 124±8.5 mcg/g). Same patients had morphological changes characterised by plural macrophages with large dense inclusion and lymphocytes with big nucleus. Fields normal colonocytes replacement by undifferentiated epithelium cells. Faecal calprotectin correlated well with lymphocyte infiltration of the intestinal mucosa. During the next 12 months 9 cases of acute diverticulitis registered in the group with microscopic colon inflammation signs (62 patients) and one case in the group without such signs (25 patients) (14.5% vs 4%)

Conclusions

Patients with normal level of faecal calprotectin and pro-inflammatory cytokines and without histological changes have lower risk of diverticulitis than those patients having persisting histological inflammation. This proves our hypothesis that chronic microscopic colon inflammation is a predictor for complications development.

CAPSULE ENDOSCOPY IN KYIV REGIONAL HOSPITAL: REPORT OF 209 CASES

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Introduction

The introduction of capsule endoscopy (CE) in clinical practice increased the interest for the study of the small-bowel. Consequently, in about 10 years, an impressive quantity of literature on indications, diagnostic yield (DY), safety profile and technical evolution of CE has been published as well as several reviews. CE meta-analyses formed the basis of national/international guidelines; these guidelines place CE in a prime position for the diagnostic work-up of patients with obscure gastrointestinal bleeding, known and/or suspected Crohn's disease and possible small-bowel neoplasia.

Study Aims

Report obtained results in 209 patients investigated by capsule endoscopy and discuss the place of this new technique in small bowel exploration.

Methods

Study conducted with the use of OMOM capsule endoscopy system. During the period from May 2011 to September 2013 in the Department of Proctology we examined 209 patients aged 16 to 83 years (mean age 45 years), including 106 women, 103 men. All patients underwent gastroscopy and colonoscopy. Patients presented with the following complaints: chronic abdominal pain – 59%, admixture of blood in the stool – 18.6%, gastrointestinal bleeding – 6.6%, diarrhoea – 14.8%, flatulence – 17.2%, mucus – 11.0%, constipation – 15.3%, chronic pyrexia – 8.10%, weight loss – 0.5%.

Results

The following lesions detected: jejunal and ileal ulcers with active bleeding – 1.4%; normal endoscopic view of jejunum and ileum – 9.6%; Crohn's disease of the small and large intestine – 1.4%; small intestine tumour – 2.8%; chronic enteritis with villous atrophy – 7.6%; celiac disease – 0,5%; polyps of the small intestine – 3,8%; chronic enteritis without villous atrophy – 17.7%; Crohn's disease of the small intestine – 18.9%; jejunal and ileal ulcers – 4.7%; intestinal bleeding without a clear source localisation – 0,5%; lymphoid hyperplasia of the ileum – 3,3%; vascular malformations – 6.8%; small bowel metastasis – 0.5%. The sensitivity, specificity, positive and negative predictive values of CE to detect the lesion(s) were 92.9%, 68.2%, 84.8%, and 83.3%, respectively.

Conclusions

Capsule endoscopy (CE) is a simple, safe, non-invasive, reliable technique, well accepted and tolerated by the patients, allowing complete exploration of the small intestine.

PREVALENCE OF INFLAMMATORY BOWEL DISEASE IN LATVIA

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Introduction

The prevalence of inflammatory bowel diseases has been shown to vary greatly throughout the world, notably among the European countries with a marked increase in the north-south direction. Few prevalence studies of these diseases in Eastern Europe have shown the prevalence to be lower than in the neighbouring European countries. No epidemiologic studies have been done in Latvia to date.

Study Aims

The aim of the study was gathering sparse available information about the number of patients with inflammatory bowel diseases and estimating the prevalence of ulcerative colitis and Crohn's disease in Latvia.

Methods

Data on patients with inflammatory bowel diseases discharged from hospitals obtained from the Centre of Disease Control and Prevention of Latvia was compared to the number of patients receiving state reimbursed medications as published by National Health Service of Latvia. Further estimation of the age and gender structure of these patients was performed on available small sample of 107 patients.

Results

As per data from CDCP between 2000 and 2012 on average 0.054 and 0.1258 patients/1000 inhabitants/year were discharged with Crohn's disease or ulcerative colitis diagnosis respectively, which when recalculated to the number of inhabitants in Latvia comprised around 110 and 260 discharges per year. According NHS data the number of patients with Crohn's disease receiving state reimbursed medications in 2011 and 2012 were 311 and 367 respectively. For ulcerative colitis these numbers were 1155 and 1287 respectively. Analysis of a random sample of patients (n=107) receiving state reimbursed medications showed 40 males and 50 females with ulcerative colitis, and 4 males and 13 females with Crohn's disease. There was a significant difference between the average age in both genders for ulcerative colitis (55 and 46 years for females and males respectively, p=0.01) but a similar tendency in Crohn's disease didn't prove statistically significant.

Conclusions

The little data that is available show, that in Latvia ulcerative colitis is about three times more common than Crohn's disease, with female patients being significantly older that males and average age difference of 9 years. Further studies are needed.

EXPERIENCE OF USING OSMOTIC LAXATIVES IN TREATMENT OF CHRONIC CONSTIPATION IN CHILDREN

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Introduction

Constipation is one of the most current problems in gastroenterological practice throughout the world.

Study Aims

To assess the clinical efficacy of polyethylene glycol (macrogol) with molecular weight 4000 kDa in children with chronic constipation.

Methods

Clinical efficacy assessed in 30 children aged 2–12 years with chronic constipation. The follow-up was performed on an outpatient basis, patients and their parents kept diaries, noting stool characteristics according to the Bristol stool scale. Coprological analysis and abdominal ultrasound were carried out. The duration of the follow-up after the withdrawal of the studied drug was 6 months.

Results

During the 1st week of treatment the frequency of stool increased in 23 (76.6%) children, normalisation of stool frequency to the 4th week of treatment was achieved in 93.3% of patients. Stool consistency after 1 month of treatment met criteria of the 3rd and 4th types according to the Bristol Stool Scale in 27 (90%) children. Painful defecations have been stopped by the 3rd week of treatment.

Conclusions

The drug was shown to be highly effective in the treatment of chronic constipation in children, discontinuing such symptoms as the fear of the potty and painful defecations and having a strong positive dynamics after its withdrawal.

THE ROLE OF VIRAL INFECTION IN CHRONIC ESOPHAGITIS IN CHILDREN

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Introduction

Some viruses such as Herpes Simplex virus (HV), Cytomegalovirus (CMV), Epstein-Barr virus (EBV), have been described as a cause of acute esophagitis, but whether chronic viral esophagitis are present in immunocompetent children, has not yet been established.

Study Aims

Studying the role of viral infection in chronic esophagitis (CE) in children and revealing their features.

Methods

102 patients between 3 to 17 years old with histologically confirmed chronic esophagitis (CE) surveyed. Upper endoscopy with 2 biopsies obtained from low part of oesophagus performed in all patients. Histology (hematoxylin-eosin stain) and immunohistochemistry with monoclonal antibodies to HV, CMV, EBV made for all biopsies. All patients additionally investigated with 24-hour pH-monitoring for confirmation of GERD.

Results

Immunohistochemically viruses found in oesophageal mucosa in 65 (64%) children (1st group), 2 of them with only viral infection, but the other 63 – viral infection combined with GERD. 37 children (2nd group) have GERD without viruses. In 50 (77%) children of 1 group HV have been revealed, in 22 (34%) - CMV, in 19 (29%) - VEB, in 22 (34%) combination of two or three viruses. Clinical manifestation of viral esophagitis was similar to reflux-esophagitis. Endoscopic signs of CE found in 55% of children of 1 group and in 40.5% of 2nd group, erosions found only in the 1st group (15%). The inflammation index in the 1st group was significantly higher, dyskeratosis (14%), parakeratosis (6%) and balloon dystrophy (32%) of oesophageal epithelium have also been revealed, but columnar metaplasia found only in patients with GERD.

Conclusions

High frequency of chronic virus infection as the cause of CE was established in immunocompetent patients. Erosions, higher degree of inflammatory changes morphologically and more manifested clinical symptoms are typical for chronic virus esophagitis.

ASSOCIATION BETWEEN SERUM 25-HYDROXYVITAMIN D CONCENTRATION AND VITAMIN D CONTAINING FOODS CONSUMPTION FREQUENCIES IN LATVIAN MEN

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Introduction

About 50% of the elderly living in private households have vitamin D deficiency; in geriatrics vitamin D deficiency is more a rule than exception. It is caused by reduced endogenous biosynthesis, low UVB exposure and a diet low in vitamin D. D status is quite common particularly in winter in countries above 40°N, but also the fact that such low vitamin D status can be improved by food-based strategies is of key relevance.

Study Aims

Identify sources of vitamin D, it deficiencies in men over 45 years old. We studied the prevalence of vitamin D deficiency and the association of vitamin D [25(OH)D] with metabolic risk factors in Latvian men.

Methods

252 males aged 45-80 included in the study. Serum vitamin D level [25(OH)D], amount of consumed vitamin D and BMI established for all the participants. The survey conducted to acquire information about the amount of vitamin D consumed with food (food consumption survey questionnaire) in BIOR. Lifestyle data from questionnaires and dietary data from 3-day food diaries also collected.

Results

Vitamin D deficiency [25(OH)D < 20 ng/mL] noted in 74.2% of participants. Mean 25(OH)D level was not significantly lower in the overweight group (BMI > 25). Level of physical activity and vitamin D intake did not significantly affect 25(OH)D. However, 25(OH)D levels positively correlated with milk intake and negatively correlated with soft drink intake. Average amount of vitamin D from 100 IU of salmon, 144 IU of herring, 6 IU of mackerel, of the egg yolk 20 IU per day. From dairy products: butter 8 IU, cream 4 IU. Vitamin D amount in food statistically reliably directly correlated with serum vitamin D levels (r=0.973; p=0.01).

Conclusions

Mean serum 25(OH)D concentration positively relates to the consumption frequencies of salmon, mackerel, herring, all fish and dairy products. These results suggest high proportion (>74%) of Latvian men with vitamin D deficiency or inadequacy, and serum 25(OH)D was associating with the consumption of vitamin D food sources including fish and milk.

DIAGNOSIS OF ULTRASONIC TRANSIENT ELASTOGRAPHY FOR NON-INVASIVE ASSESSMENT OF LIVER FIBROSIS IN CHILDREN WITH CHRONIC LIVER DISEASES

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Introduction

Liver fibrosis in children can be evaluated through invasive (liver biopsy-LB) or non-invasive methods. Liver stiffness (LS) measurement is a non-invasive method for liver fibrosis assessment by means of transient elastography (TE).

Study Aims

We aimed to establish LS cut off values and their performance in quantifying liver fibrosis in children with chronic liver diseases.

Methods

The study included 914 children with chronic liver diseases of different aetiologies (0 to 18 years: mean age 10.6±4.5 years). Control group consisted of 20 patients without of chronic liver diseases. In each patient LS measurements performed by means of TE (FibroScan, Echosens, France). In each patient 10 valid LS measurements performed and a median value calculated, measured in kiloPascals (kPa) and only evaluations with at least 60% success rate and IQR <30% considered reliable. LB performed in 178 children with assessment of liver fibrosis stages (METAVIR).

Results

In children with chronic liver disease LS was 10.6±0.4 kPa (range 2.7–55.5 kPa), control group – 3.93±0.15 kPa (range 2.5–5.0 kPa) ($p<0.001$). LS values significantly correlated with fibrosis ($r = 0.64$, $p<0.05$). Diagnosis of TE in predicting fibrosis stages in children: F = 1 (cut off value: 5.8 kPa, Se – 87.5%, Sp – 96.2%, AUROC – 0.943); F = 2 (cut off value: 7.8 kPa, Se – 81.7%, Sp – 96.3%, AUROC – 0.928); F = 3 (cut off value: 9.4 kPa, Se – 95.7%, Sp – 93.7%, AUROC – 0.975); F = 4 (cut off value: 12.7 kPa, Se – 78.2%, Sp – 100%, AUROC – 0.942).

Conclusions

TE is a good, non-invasive method for predicting each stage of fibrosis in children with chronic liver diseases.

MULTIMODAL MANAGEMENT OF PATIENTS WITH SUSPECTED SMALL BOWEL TUMOURS

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Introduction

Small bowel tumours (SBT) usually are considered to be a rare disease and are often diagnosed and treated untimely.

Study Aims

Estimation of the benefits of multimodal approach, including videocapsule and balloon-assisted enteroscopy (BAE), in preoperative diagnosis and minimally invasive treatment of SBT.

Methods

From I.2007 to X.2013 93 patients with suspected SBT examined with 54 (58.1%) patients (male – 25, female – 29, ranging 18 to 85 years, mean age 42.3±16.3 years) tumours diagnosed by videocapsule endoscopy (VCE) and BAE. According to VCE data SBT were revealed in 22 (40.7%) cases. BAE detected tumours in 41 (75,9%) cases (including 17 cases after CE). Endoscopic ultrasonography performed in 13 patients during BAE for precise diagnostics. During complex examination in 39 (41.9%) patients the diagnosis of SBT was rejected. 12 patients admitted to the hospital and operated urgently for small bowel obstruction/peritonitis caused by carcinoid (2), GIST (2), lymphoma (2), leiomyoma (1), lipoma (1), fibroid polyps (2), metastatic lesions (2).

Results

Histologically revealed tumours: epithelial in 29 (53.7%) patients (Peutz-Jegher's haemartoma – 12, hyperplastic polyp – 8, adenocarcinoma – 5, tubular adenoma – 3, undifferentiated carcinoma – 1) and nonepithelial in 25 (46.3%) patients (GIST – 7, neuroendocrine tumours – 6 (including carcinoid – 3), lymphoma – 5, lymphangioma – 2, cavernous haemangioma – 1, angiofibrolipoma – 1, lipoma – 1). Two patients after CE with suspected submucosal tumours abandoned the following treatment. Endoscopic interventions were performed in 19 (35.2%). Surgery performed in 23 (42.6%): partial small intestine resection via mini-laparotomy access (9) and conventional laparotomy (14). Conservative treatment used in 12 (22.2%) patients.

Conclusions

Multimodal approach, including VCE and BAE with EUS ensures the SBT detection more often at the earlier stages of the disease. BAE allows to perform endoscopic treatment in 35.2% and avoiding surgery in 57.4% patients.

COMPLEX ENDOSCOPIC APPROACH IN PATIENTS WITH SUSPECTED INTESTINAL ABNORMALITIES

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Introduction

Both videocapsule endoscopy (VCE) and balloon-assisted enteroscopy (BAE) have their own benefits and specific limitations.

Study Aims

Estimation of the benefits of complex approach of VCE and BAE in patients with suspected small bowel abnormalities.

Methods

From 14.02.2007 to 12.10.2013 VCE followed by BAE performed in 81 patients (39 – male, 42 – female, mean age 52.1±14.6 years, range 17-89) with suspected small bowel diseases. Obscure GI bleeding was an indication for VCE in 44 (54.3%) cases. The insertion route for BAE was determined according to the site of the suspected lesions detected by VCE.

Results

In 11 (13.6%) patients without a definite lesion on VCE no abnormalities found also by the BAE. In 2 (2.5%) cases VCE revealed cavernous haemangioma and ulcers in cecum which were missed in 2 prior colonoscopies. Small bowel lesions were suspected on VCE in 75 (92.6%) patients: tumours in 39 (52.0%) patients; enteritis in 23 (30.7%); vascular lesions in 13 (17.3%). Diagnosis confirmed by BAE in 55 (73.3%) from 75 patients. Tumours confirmed in 51.3% (20/39) plus in 2 patients with negative BAE. Laparoscopy revealing tumours with extraorganic growth performed; inflammation and ulcerations - in 100.0% (22/22), however 1 case detected as an ulcer turned to be an ulceration in the base of Meckel's diverticulum; vascular lesions - in 92.3% (12/13). Conservative treatment applied in 39 (52.0%) cases. Endoscopic treatment performed in 21 (28.0%): APC and clipping in 10 cases, polyp removal in 9; bougienage strictures in Crohn's disease in 2. 15 patients (20.0%) underwent surgery for tumours (11), Crohn's disease with a stricture (1), angioectasia and ulcers with recurrent GI bleeding (3), Meckel's diverticulum (1). The sensitivity, specificity, positive predictive value and negative predictive value, diagnostic accuracy of combined VCE and BAE for the small bowel lesions were 100%, 93.7%, 98.4%, 100% and 80.3%, respectively.

Conclusions

VCE can provide useful information on indications and selection of the route for BAE. Combined use of VCE and BAE is highly (80.6%) effective in the diagnosis and management of patients with small bowel diseases.

ENDOSCOPIC ULTRASOUND OF SMALL BOWEL

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Introduction

There are limited reports on experience using EUS with balloon-assisted enteroscopy (BAE), providing observation of the entire small bowel.

Study Aims

Evaluate clinical utility of performing BAE-EUS for precise examination of the small bowel.

Methods

From December 2011 EUS in deep parts of the small bowel performed in 23 patients (9 male and 14 female; average age 44.2±14.4 years) using single-balloon enteroscope (SIF-Q180), including 2 cases using prototype therapeutic enteroscope (XSIF-180JY, Olympus) with wider diameter of working channel and additional water-jet. For EUS prototype EUS probe UM-3Y 20MHz (Olympus) was used from II.2011 and 12, 15, 20 MHz mini-probes (Fujifilm) from VII.2012.

Results

Clear ultrasound image obtained in all cases. The usage of the prototype scope with a bigger channel provided with an easier probe insertion and simultaneous water supply. In 4 cases accessing normal 5-layers intestinal wall was possible. In 2 cases with lymphoid follicular hyperplasia and thickening of the small bowel wall more than 5.2 mm a differential diagnosis with lymphoma made. The layer of origin of the protruding lesions determined in 12 of 13 patients. 3 patients with Peutz-Jeghers syndrome (hyperechoic lesions); 1 case with lymphangioma and 1 - angiofibrolipoma (hypo/hyperechoic lesion); 3 cases with GIST (hypoechoic lesions), 2 patients with neuroendocrine tumour (hypoechoic lesions), one lipoma (hyperechoic lesion) and one patient with lymphoma (hypoechoic lesion). In one patient EUS promoted exclusion of suspected tumour. In 1 patient with Crohn`s disease there was thickening of the wall up to 5,1 mm, while in the other 3 patients with erosions and ulcers the wall was less than 4 mm. There were no complications related to BAE-EUS. Endoscopic intervention was performed in 4 cases, surgery in 7, and conservative treatment in 7.

Conclusions

BAE-EUS provides adequate US imaging and useful information about the wall structure and nature of the detected abnormalities in deep parts of the small bowel.

BENEFITS OF ENTEROSCOPY IN PATIENTS WITH SUSPECTED SMALL BOWEL BLEEDING

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Introduction

Videocapsule (VCE) and balloon-assisted enteroscopy (BAE) rapidly become the methods of choice in the management of patients with obscure GI bleeding.

Study Aims

Estimation of VCE and BAE possibilities in 119 consecutive patients with GI bleeding of unknown origin.

Methods

From 14.02.2007 to 26.10.2013 87 CE and 114 BAE performed in 119 patients (65 male, 54 female, mean age 49.9±13.3 years, range 17-89) with obscure GI bleeding. In 50 (42.0%) patients BAE was performed after the CE. Obvious bleeding on admission was found in 93; occult in 26 patients. 90 planned and 29 urgent enteroscopies performed.

Results

The source of intestinal bleeding established in 86 (72.3%) patients: vascular pathology in 33 (38.4%); intestinal erosions and ulcers in 24 (27.9%); tumours in 24 (27.9%): adenocarcinoma in 4, undifferentiated carcinoma in one, GIST in 6, NET in 3, lymphoma in 2, angiofibrolypoma in one, lymphangioma in one, Peutz-Jeghers syndrome in 2, tubular adenoma in one, hyperplastic polyp in one, submucosal tumours with unknown histology in 2 (these patients refused further examinations); diverticulum in 4 (4.7%, including 3 Meckel's diverticulum); post-polypectomy area in one (1.1%). Endoscopic haemostasis during BAE with APC or clipping performed in 15 (17.4%) cases of multiple vessel malformations; polyp removal in 3 (3.5%); retrieval a video capsule during BAE stuck in a small bowel in 2 cases (in one – the cause was adenocarcinoma and in another – Meckel's diverticulum). 23 (26.7%) patients underwent surgery (in case of the small bowel tumours – 16, diverticulum – 4 and vascular pathology with on-going intestinal bleeding – 1, ulcer of ileotransversal anastomosis – 1, erosive ileitis – 1. 45 (52.4%) patients received conservative treatment. There was no recurrent bleeding in any patients during follow up period.

Conclusions

Enteroscopy is a useful method for diagnosis and treatment of patients with suspected small bowel bleeding. It provides the opportunity for detection of the source of small bowel bleeding in 72.3% cases that led to correct treatment: conservative – 52.4%, endoscopic – 20.9%, surgical – in 26.7%.

SINGLE CENTRE ANALYSIS OF THERAPEUTIC ENDOSCOPIC RETROGRADE CHOLANGIOPANCREATOGRAPHY DATA OF POST CHOLECYSTECTOMY FEMALE PATIENTS IN LATVIA

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Introduction

No comparative studies on post cholecystectomy and therapeutic ERCP patients' long-term results have been previously performed in Latvia.

Study Aims

Evaluation of the results from first time or repeated therapeutic endoscopic retrograde cholangiopancreatographies (ERCP) for post cholecystectomy patients with repeated gallstones who received treatment in the Endoscopy Department of Pauls Stradins Clinical University Hospital Gastroenterology Centre during the last decade, and analysis of the treatment effectiveness and identifying therapeutic improvement.

Methods

Retrospective longitudinal comparative study analysed Gastroenterology Centre data and selected 1940 therapeutic ERCP. In depth analysis of 224 primary or repeated therapeutic ERCP was performed, dividing patients with diverse hormonal characteristics into three groups: 1) 16 ERCP with endoscopic manipulations (n=21); 2) 43 ERCP with manipulations (n=59); 3) 165 ERCP with manipulations (n=248). Evaluated time period: January, 2000 to November, 2011. Age range: 29 to 99 years. Statistical data were processed using: 2 test, CIA (Confidence interval analysis, CI calculator_v4, Newcomb-Wilson method, 2002) MS Excel; non parametrical tests (Kruskal-Wallis, Mann-Whitney); non parametrical (Spearmen) correlation analysis.

Results

For selected patient groups: 99.11% pathological findings during ERCP; no pathology found in 0.89% cases. Successful ERCP manipulations: 98.66%; failure during manipulations: 1.34%. Increased use of the pre-cut needle-knife papillotomy noted (20.43%) with beneficial long-term results and successful performance in all cases. Analysis of post cholecystectomy patients with different hormonal backgrounds showed an increase of the combined manipulations (17 diverse variations) and growing use of the mechanical lithotripsy during the combined procedures in the third patient group. Forecast significant ERCP protocol data for the Latvian population established during the research.

Conclusions

Research identified negative bile modulating factors that had not been taken into account before thus promoting repeated episodes of choledocholithiasis, allowed to invent extended therapeutic ERCP protocol and create individual litogenous (lithogenous) prevention cards for patients. Investigation discovered first time data about the frequency and importance of duodenal diverticula for repeated biliary calculi for Latvian population as well as identified connection with gut microbiome changes.

PRIMARY HEPATIC MALIGNANT FIBROUS HISTIOCYTOMA – CASE REPORT AND REVIEW OF LITERATURE

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Introduction

Malignant Fibrous Histiocytoma (MFH) is a pleomorphic high grade soft tissue tumour composed of fibroblasts, myofibroblasts, and histiocytes. MFH is the most frequent soft tissue tumour in adults commonly occurring in extremities. MFH is found in the extremities 70-75% of cases and in 50% of all cases MFH are found in the lower extremity. Primary MFH of the liver is extremely rare.

Study Aims

The aim of our study was to report the unusual presentation of patient with confirmed primary MFH of the liver and compare to other cases in the literature.

Methods

Analysis of clinical records of patients with primary hepatic MFH treated in Riga Eastern University Hospital from 7 to 8 September 2013. Additionally literature concerning primary hepatic malignant fibrous histiocytoma cases was reviewed. Routine preoperative examinations (physical examination, blood tests, ultrasonography and CT) performed. Diagnosis was pathologically confirmed based on gross findings and histological properties. Tissue samples were fixed in formalin and embedded in paraffin and processed routinely. The sections were stained with (haemotoxylin & eosin and immunohistochemistry: vimentin, CD68 and Ki-67 staining).

Results

We report a case of a 61-year-old man with large multiple yellow and dark brown coloured mass lesion in the left and right lobe of the liver (measured from 2.0 to 13.7×11.6 cm) and others organs. The clinicians suggested the diagnosis of malignant tumour, however the primary localisation was not known. The patient died within one day after admission and was sent for autopsy. Histopathological findings confirmed diagnosis of malignant fibrous histiocytoma of pleomorphic type with multiple metastases in the pancreas, spleen, lungs, left kidney and left inguinal lymph nodes groups. Patient died due to progression of the disease.

Conclusions

MFH in the liver is a rare malignant mesenchymal tumour, however clinicians should be aware of this diagnosis. Its clinical presentations are related to rapid growth and necrosis of tumour compared to others well known primary liver tumours. Histopathological findings and immunohistochemical examination are essential for diagnosis of MFH.

GASTROINTESTINAL DISEASE AND LIFESTYLE AS PREDICTORS OF OSTEOPOROSIS IN ELDERLY WOMEN

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Introduction

Osteoporosis is a global medico-social problem that gains in importance every year due to the changes in modern people's lifestyle and ageing of population.

Study Aims

Studying the effect of lifestyle on the development of secondary osteoporosis in elderly women with gastrointestinal disease.

Methods

Upon examining women with gastrointestinal disease at the regional teaching hospital №1 of Volgograd, a voluntary survey on women's lifestyle was performed. The respondents were divided into two groups: the study group – elderly women (n=246) and control group, women in their second part of life (36-55) (n=117). In each group the results of examination were estimated for stomach disease, pancreatitis, intestinal disease and liver disease. In all patients bone density was evaluated using the method of dual energy X-ray absorptiometry of the lumbar portion of the spine, and proximal portion of left femur.

Results

The mean age among elderly women was 65.13±0.56; in adult women – 49.54±0.19. In the study group osteoporosis was revealed in 36.99% of women, in control group – in 13.68% of cases. A high rate of osteoporosis in both age groups was noted in women with intestinal disease; in elderly women 1.35 times (significantly) higher than in women in their second part of life. Stomach and duodenum diseases rate second: in women of the study group osteoporosis was revealed 2.69 times more often than in the control group. Osteoporosis developed more seldom in patients with pancreatic or hepatic disease. In their questionnaires, elderly patients with verified osteoporosis reported consumption of rough, spicy food and alcohol abuse significantly more often. They neglect wholesome diet containing animal fats and vitamins. This category of examined individuals reported stress at work and in family life, little exercise, no active leisure. An analysis of the findings indicates that in women with gastrointestinal disease the development of osteoporosis is favoured by malabsorption, disorder of vitamin D and its metabolites absorption. Disturbances of lifestyle in elderly patients are risk factors for the development of intestinal, gastric and duodenal disease; besides, they favour the development of osteoporosis.

Conclusions

Disturbance in healthy lifestyle is an accessory predictor of osteoporosis in elderly women with intestinal disease.

ALCOHOLIC CIRRHOSIS AND MYOCARDIAL DYSFUNCTION

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Introduction

Heart disease in alcoholics takes the 3rd place after alcoholic liver disease and pancreatic cancer in terms of frequency and is often combined with them. Clinically recognisable cardiac abnormality occurs in 50% of alcoholics. We aimed to examine the nature of cardiac lesions in patients with alcoholic liver cirrhosis.

Study Aims

Retrospective analysis of 700 cases of patients with alcoholic cirrhosis. Among patients with alcoholic liver cirrhosis in 2006 amounted to 10.7% of CHD patients, 31.1% – patients with arterial hypertension (AH) and 4.1% – dilated cardiomyopathy (DCM), in 2007: 9.3%, and 25, 9% and 1% respectively, in 2008 fewer CHD patients to 4.3% and dilated cardiomyopathy – up to 3%, the number of hypertensive patients – 37.1%. We studied 50 patients with alcoholic cirrhosis, the average age was 54.3±4.2 years, among them 39 were men and 11 women.

Methods

Level of NT-proBNP on an empty stomach, the ECHO-CG was performed in all patients.

Results

Average maintenance NT-proBNP in the 1st group with average index LVDS 73±38 ml, LVDD 122±54 ml, LVEF 69±36 % has made 84±45.2 μmol/l, by data the ECHO-CG, at all dysfunction is marked diastolic. In II group NT-proBNP 88±53 μmol/l, by data the ECHO-CG average index LVDS 62±26 ml, LVDD 127±40 ml, LVEF 66±25 %, at all are marked diastolic dysfunction. In III group NT-proBNP 97±29 μmol/l, by data the ECHO-CG with average index LVDS 68±30 ml, LVDD 151±30 ml, LVEF 67±27%, at all diastolic dysfunction found.

Conclusions

The present research confirms presence of myocardium dysfunction in patients with an alcoholic cirrhosis. Decreased systolic function of LV in patients with cirrhosis Ch-P A, B, C is marked at 100% of patients infringement diastolic relaxations of LV (diastolic dysfunction), increase of level NT-proBNP was revealed. The increase in NT-proBNP level can be the high-sensitivity indicator for pre-clinic myocardium dysfunctions in cirrhosis.

HEPATIC PATHOLOGIES AND PHARMACODYNAMICS, PHARMACOKINETICS OF ACE INHIBITORS

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Introduction

Assessment of particular features of Enalapril and Lisinopril pharmacodynamics and pharmacokinetics in hypertensive patients with hepatic pathologies with the goal of the treatment change.

Study Aims

The study of the pharmacokinetics and pharmacodynamics of ACE inhibitors in patients with hypertension and liver pathology.

Methods

As many as 120 hypertensive subjects with steatosis (Group 1), hepatic cirrhosis (HC – Group 2) and without any hepatic pathologies (Group 3 – control group) – 40 patients per group, respectively – were enrolled in the study. Each group was subdivided into two subgroups (depending on the prescribed drug: Enalapril or Lisinopril 10 mg). Assessment of the efficacy of the hypotensive drugs, daily monitoring of arterial pressure monitoring (DMAP) was performed. The time index (TI) was assessed as the efficacy index.

Results

The Enalapril and Lisinopril pharmacokinetics were studied in 38 subjects. The resulting pharmacokinetic parameters point at the general trend towards decreasing the liver metabolic activity at steatosis and HC. The maximum concentration of the active Enalapril metabolite (Enalaprilate) decreased depending on the degree of hepatic functional state disorders. Thus, while the mean maximum Enalaprilate concentration (Cmax) made up 58.1±1.41 ng/ml in the patients from the control group, insignificant decrease in the Enalaprilate blood level (54.7±4.19 ng/ml) was revealed in hypertensive patients with hepatic steatosis; statistically significant decrease down to 38.8±9.3 ng/ml ($p<0.001$) was detected in patients with hypertension and HC. At that the time to maximum Enalaprilate concentration increased from 3.25±0.29 hours in patients from Group 3 to 4.17±0.26 hours in hypertensive patients with hepatic steatosis ($p<0.001$)and 5.5±0.38 hours ($p<0.001$) in people suffering from hypertension and HC.

Conclusions

Water soluble Lisinopril, being a pharmacologically active form, has the advantage related to its administration in patients with impaired hepatic function as compared to other ACE inhibitors. Against the background of Lisinopril 10 mg therapy, the reduction in such average daily indices as arterial pressure and arterial pressure TI was observed in all of the three groups. A good antihypertensive effect was obtained in 55% of HC patients with Lisinopril treatment.

THREE YEARS EXPERIENCE OF NON-COMPLICATED PERFORATED GASTRODUODENAL ULCER TREATMENT

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Introduction

Gastric and duodenal ulcer is still one of the most important and expensive for treatment gastrointestinal diseases. Bleeding, perforation, and stenosis are the most frequent complications of the surgeon's practice. Ulcer perforation is the most common lethal complication in the elderly because of the delayed diagnosis and untreated comorbidities.

Study Aims

Show treatment options and prognostic unfavorable risk factors in patients with gastroduodenal ulcer perforation.

Methods

Three-year experience in the perforated gastroduodenal ulcer disease was retrospectively analysis. 18-75 years old patients with perforated gastroduodenal ulcer and duration history of up to 24 hours.

Results

212 patients with gastroduodenal perforation treated in Riga East Clinical University Hospital: 153 male (median age 39) and 59 female patients (median age 56 years). Median exposition time 180 minutes. All patients underwent abdominal x-ray for the free air in abdominal cavity (68.9% positive), patients with negative x-ray underwent CT (positive in 89.9%). The patient's age and ulcer perforation pitch, which was converted to square millimeters correlate with inflammatory marker CRP. CRP rapidly increased in elderly patients ($r = 0.462$, $p < 0.001$) and greater ulcer perforation diameter ($r = 0.405$, $p < 0.001$). All patients underwent surgery. In 90.8% cases surgical procedure consisted of laparotomy and suture, 7.4% laparoscopic suture and lavage of the peritoneum. 3 patients (with median age 74 years) died due to severe comorbidities.

Conclusions

Despite the extensive diagnostic and drug treatment options, gastroduodenal ulcer complications still reach a high number of patients for surgical hospital.

LIVER BIOCHEMICAL PARAMETERS IN PATIENTS WITH LIVER ECHINOCOCCOSIS

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Introduction

Echinococcosis is a parasitic disease caused by tapeworms of Echinococcus family. According to research data the disease prevalence region in recent years is expanding, as is evident from the increasing number of patients in Latvia. The most frequently affected organ is the liver.

Study Aims

The study aim was to analyse the most commonly used biochemical parameters of liver in echinococcosis patients.

Methods

The study was based on data obtained from medical records of echinococcosis patients available in the period from 2006 to 2007.

Results

During this period 46 patients hospitalised, including 37 with confirmed E.granulosus and 8 E.multilocularis infection. There were 4 parameters analyzed – ALT, AST, GGT and AP to describe the degree of liver cell damage. The level of ALT was increased in 30.5% of cases (32.4% E.granulosus, 28.6% E.multilocularis infection), the average level was 48.85 U/l (max 340 U/l, min 6 U/L), in cystic echinococcosis – 47.7 U/l and in alveolar echinococcosis – 50.0 U/l. The level of AST was above the normal in 31.2% of patients (29.0% E.granulosus, 33.3% E.multilocularis infection), the average level was 56.66 U/l (max 657 U/l, min 14 U/l), slightly higher (60.13 U/l) in cases of alveolar echinococcosis, compared to 53.2 U/l in patients with cystic echinococcosis. The level of AP was above normal in 68.1% of patients, including 64.7% cases of cystic echinococcosis (384.5 U/l) and 71,4% patients with alveolar echinococcosis (372 U/l), reaching the average of 378.25 U/l. The elevation of GGT level was observed in 18.9% of cases, the average was 220.6 U/l, maximum – 793 U/l.

Conclusions

Approximately 30% of the patients had elevated levels of liver transaminase. The levels are slightly higher in E.multilocularis patients and could be related to infiltrative nature of E.multilocularis growth, causing more severe liver cell damage than E.granulosus. The increase of AP level was observed in up to 70% of patients, suggesting that most of echinococcosis patients have varying degree of cholestasis. The overall conclusion is that the detection of the level of biochemical markers in echinococcosis patients should be widely used because it can point to the spread of parasitic process and its potential complications.

DYNAMICS OF LIVER DYSFUNCTION IN AUTOIMMUNE HEPATITIS

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Introduction

Currently there is no developed method determining the degree of liver dysfunction according to the International Classification of Functioning, Disability and Health (ICF).

Study Aims

Determination of liver dysfunction degree and of dynamic changes in patients receiving treatment for autoimmune hepatitis (AIH).

Methods

Retrospective analysis of 25 paediatric patient histories with AIG (mean age 9.9±0.8 years). The degree of liver function impairment evaluated using the point rating scale, developed and patented in FSBI "SCCH" RAMS.

Results

In AIH the liver function had a 29.8±2.8% lower level. In children with liver cirrhosis liver function had a 34.1±3.4% decrease, without liver cirrhosis 22.1±2.0% decrease. After 6 months of standard therapy the level of liver dysfunction was 19.7±1.7%. In children with liver cirrhosis the level of liver dysfunction reached 19.3±1/2% decrease. In patients without liver cirrhosis the degree of liver dysfunction was 20.6±1.9%. After 12 months of standard therapy the degree of liver dysfunction was 22.0±2.1%. In children with liver cirrhosis the degree of liver dysfunction reached 23.0±2.1% increase. In patients without liver cirrhosis the degree of liver dysfunction was 21.2±2.0%.

Conclusions

In children with autoimmune hepatitis the liver function had 29.8±2,8% decrease (moderate impairment). Standard therapy of autoimmune hepatitis in children in most cases significantly improves liver function.

CLINICAL AND ENDOSCOPIC DISSOCIATIONS IN CHILDREN WITH CROHN'S DISEASE

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Introduction

Correlation between different methods used for assessment of clinical and endoscopic activity of Crohn's disease (CD) is not well understood. This study examined correlations between the Paediatric Crohn's Disease Activity Index (PCDAI), the Simple Endoscopic Score for Crohn's Disease (SES-CD), C-reactive protein (CRP) and faecal calprotectin (FC).

Study Aims

Establishing the relationship between different methods used for evaluation of clinical, laboratory and endoscopic activity of CD in children.

Methods

The study included 126 patients with CD between ages of 1 month to 18 years (mean age 11.5±0.5 years) undergoing colonoscopy. PCDAI, SES-CD, CRP parameters and FC levels were established. All children were divided into 2 groups: exacerbation and remission.

Results

Average correlation ($r=0.50$) with $p< 0.001$ between PCDAI and SES-CD in children in the acute stage of CD. High correlation ($r=0.79$) with $p<0.001$ between CRP and PCDAI in patients in the acute stage of CD. Weak relationship ($r=0.26$) with $p<0.05$ demonstrated between CRP and SES-CD in children in the acute stage of CD. Average correlation ($r=0.50$) with $p<0.05$ found between PCDAI and FC level in patients with exacerbation of CD. During remission no significant correlations found. No reliable correlation found between FC level and SES-CD in either patients in the acute stage of CD, or in its remission.

Conclusions

During the acute stage of CD a weak relationship between clinical and endoscopic criteria activity was established. Dissociation between clinical, laboratory and endoscopic characteristics in children during remission of CD was shown. The results suggest the need of endoscopy in children with CD for assessment of disease activity, even in the absence of clinical and laboratory activity.

FREQUENCY OF TUBERCULOSIS IN PATIENTS WITH INFLAMMATORY BOWELS DISEASE (IBD) RECEIVING ANTI-TNF THERAPY (INFLIXIMAB) IN MOSCOW REGION

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Introduction

The use of anti-TNF therapy, in particular infliximab, may lead to the development of TBC-infection due to immunosuppressive action of this biological drugs.

Study Aims

Determining the frequency of TBC infection in IBD patients receiving infliximab in Moscow region (Moscow excluded) population.

Methods

71 IBD patients observed: 45 with ulcerative colitis (UC) and 26 with Crohn's disease (CD) between 18–54 years (mean age 37.5±4.1) male to female rate=31:40. Duration of the disease ranged from 6 months to 11 years (mean duration 6.8 years). Duration of infliximab treatment ranged from 6 months to 5 years (total 9248 patient years). Before infliximab administration all patients were completely screened to exclude active TBC (chest x-rays, PPD test, phthisiatrician examination, history of TBC and contacts with TBC patients were taken into account). Incidence of active TBC in Russia (66 per 100000 population and 46 per 100000 in Moscow region in 2011) is higher than in Europe and USA. This served as the reason for repeat screening every 6 months due to possible higher TBC risk in this group of patients.

Results

In 5 patients treated with infliximab active TBC was diagnosed (about 0.05 per 100 patients years, which is not higher than in the majority of countries), with pulmonary tuberculosis in all cases. In 4 cases relapses of latent TBC observed that were not identified at the screening, one patient had primary TBC infection. Infliximab was discontinued after TBC diagnosis. Specific anti tuberculosis therapy was performed

Conclusions

In countries and regions with high TBC incidence the risk of TBC infection should be expected during biological drugs therapy in IBD patients. However in our IBD patients the frequency of TBC did not exceed TBC rate in other countries. We believe that complete TBC screening before treatment with biological drugs and repeat screening every 6 months can reduce the risk of TBC in IBD patients treated with anti TNF agents

OPTIMISATION OF LACTOSE MALABSORPTION DIAGNOSIS IN PATIENTS WITH ULCERATIVE COLITIS

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Introduction

The role of lactose malabsorption in ulcerative colitis (UC) is controversial. The aim of this study was to compare the prevalence of lactose malabsorption in UC patients group and control group and to modify lactose consumption in view of the results.

Study Aims

Examining the frequency of lactase malabsorption in patients with ulcerative colitis using breathing test.

Methods

Lactose malabsorption (LM) was studied using the hydrogen breath test (HBT) in 34 patients with UC and 24 controls after ingestion of 25 g of lactose. A questionnaire on ingestion of milk products was also performed. Level of LM was assessed with hydrogen breath testing (HBT) with the help of the device Gastro plus (Bedfont Scientific Ltd., UK). The partial pressure of hydrogen (PPT) was defined in basal conditions, each further 30 minutes during 3 hours after intake of lactose. Graphico-mathematical analysis performed, the results were compared with clinical symptoms (diarrhoea, pain, belching and flatulence).

Results

Out of 34 patients with UC, 23 (67.6%) presented lactose malabsorption compared with 9 of 24 (37.5%) controls (p=0.032). Twenty-two patients (46%) were advised to completely eliminate lactose from their diets. Ten patients (29.4%) were recommended to use Laktazar, 2 capsules with meals 3 times a day for 1 month. Lactazar (Farmstandart, Russia) contains 3.450 units of the enzyme lactase. After a course of basic therapy (oral mesalazine 2 g/day and dietary fiber supplementation (at least 20 g/d), eliminate lactose from their diets and Laktazar) the level LM was detected in only 34.2% of patients.

Conclusions

When UC recorded high level of LN, encouraging the reduction in dietary milk intake and Laktazar (6900 units) for at least 4 weeks.

HEPATIC INFARCTION IN THE PATIENT WITH DIABETES MELLITUS TYPE 2

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Introduction

Vascular disorders of liver are relatively uncommon and often lead to portal hypertension and severe liver disease. Continuously high metabolic activity of the liver makes it particularly vulnerable to vascular events, but due to its complex dual blood supply is provided unique protection against ischemic injury.

Study Aims

Presentation of a clinical case in the patient with hepatic and splenic infarction with liver abscesses complication.

Methods

Case report.

Results

68 years old patient has been urgently admitted with complaints of tightness, dull bilateral abdominal pain in mesogastric area. The pain appeared 1 week before hospitalisation, after intense physical activity (wood chopping). The pain and fever gradually increased. Patient had a history of diabetes for 5 years, several years ago myocardial infarction. The patient also has peripheral vascular disease. Upon examination: stable haemodynamics, abdomen painful bilaterally in mesogastric area with positive Bloomberg symptom. Leukocytosis, elevated AlAt, AsAT, CRP 353 mg/l, glucose 14.8 mmol/l, blood cultures found E. Coli, Fibrinogen 10.0 g/l, D-dimers 5.70 mg/l. Diagnosis was confirmed by computer tomography angiography (CTA) with a. lienalis and a. hepatica right hepatic lobe branch closure, a broad area of infarction in the spleen, liver, right lobe of the liver abscess (Ø 8 cm) and slight right hydrothorax. Liver abscesses drainage performed under US control. Anticoagulant fraxiparin 0.6 ml s/c, antiplatelet – plavix 75 mg p/o, antibiotic augmentin – 1.2 g × 3 i/v for 5 days, imepenem 0.5 g × 3 i/v 8 days, metronidazol 0.5 g × 3 i/v for 14 days, desintoxication therapy, insulin therapy (NovoMix 30 × 2 as a basic therapy). No significant improvement with CRP to 16.9 mg/l, leukocytosis to 7100. The patient continues treatment in the palliative hospital.

Conclusions

We present a patient with severe generalised atherosclerosis and long-term history of diabetes mellitus, resulting in a higher risk of developing liver infarction than in general population.

REPEATED ENDOSCOPY RISK FACTORS IN PATIENTS WITH UPPER NON-VARICEAL GASTROINTESTINAL BLEEDING DURING SINGLE HOSPITALISATION

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Introduction

Acute upper gastrointestinal bleeding is a frequent occurrence and is one of the most serious situations in emergency gastroenterology. Patients with upper non-variceal gastrointestinal bleeding form a significant group also in P. Stradins Clinical University Hospital Gastroenterology, Hepatology and Nutrition therapy Centre.

Study Aims

Research aimed to identify risk factors for repeated endoscopy in patients with upper non-variceal gastrointestinal bleeding during single hospitalisation in P. Stradins Clinical University Hospital.

Methods

Patients with upper non-variceal gastrointestinal bleeding with risk assessment for complications, risk factors for adverse outcomes, reflecting the more frequent causes of bleeding, active bleeding during endoscopy, description of the applied treatments were included. Tailed risk assessment of 279 endoscopies in patients with upper non-variceal gastrointestinal bleeding treated in P. Stradins Clinical University Hospital in year 2012 performed. Analysis of patient demographics, clinical characteristics, endoscopic findings, and treatment. Statistical analysis: Data Conversion Microsoft Office Excel 2011. Data processing using mathematical methods of statistical analysis (calculating the average value of the parameter, the minimum and maximum values, standard deviation, 95% confidence interval).

Results

166 male and 113 female patients with an average age of 61.14±17.8 years (19-93). Repeated endoscopy during single hospitalisation was performed in 73 patients (26.16%), most of which (74%) within 72 hours after the first endoscopy. Repeated bleeding is just one of the reasons for repeated endoscopy. Recurrent bleeding recorded in 45 patients (16.12%) in the study group. The study confirmed the following prognostic factors for re-bleeding: the occurrence of a shock, Forrest IA, lesion size > 20 mm, Rockall> 5 concomitant diseases ($p < 0.05$).

Conclusions

Repeated endoscopy carried out in patients with inadequate reporting of the first endoscopy, or non-detected bleeding source. Statistical correlation in this group between repeated endoscopy and shock, the amount of transfused blood products, endoscopic findings accordingly Forrest classification and Rockall scale in patients with upper non-variceal gastrointestinal bleeding ($p<0.05$) was found. Early clinical and endoscopic assessment of prognostic factors is essential for patients with upper non-variceal gastrointestinal bleeding in order to ensure optimal therapeutic measures.

ANALYSIS OF RISK FACTORS AFFECTING THE BEHAVIOUR OF CROHN'S DISEASE AND THE NEED FOR SURGERY

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Introduction

Crohn's disease (CD) is a chronic systemic inflammatory disease, mainly affecting the gastrointestinal tract with extraintestinal manifestations. Historic referral centre-based cohort studies have shown that three-quarters of patients with CD require surgical treatment during follow-up and the cumulative risk for surgery 10 years after CD diagnosis ranges from 40% to 71%. It has been observed that surgery was performed more often in males with aggressive disease involving small bowel and perianal area. Risk factors for surgical intervention in patients with CD are not known.

Study Aims

Evaluation of potential factors affecting the behaviour of CD and the need for surgery.

Methods

Retrospective study of 81 patients with CD treated in Pauls Stradins Clinical University Hospital between January 2010 to December 2012. Database with 12 analysed parameters (gender, age, disease location and behaviour, need for surgery etc.) was developed. Statistical analysis made using SPSS ver.20.

Results

Total 81 patients treated 37 (46%) female and 44 (54%) male. Average age of patient at diagnosis was 33.3±14.8 years. Most patients (50.6%) with CD were diagnosed before the age of 29.21 (25.9%) patients underwent surgery. Previous surgery was observed more frequently in patients with long-term disease duration of 3 to 11 years. The mean disease duration before surgery was 80 months. CD was most often localised in the ileocolon (34.6%), and was usually complex with stricture formation or penetrating. Other localisations of CD were: colon – 29.6%, ileum – 25.9%, upper gastrointestinal tract – 2.4% and unknown location in 7.5%. The behaviour of CD was classified as stricturing in 37.0%, penetrating – 17.3%, inflammatory – 43.2% and unknown – 2.5%. Statistically significant correlation was observed between: 1) patient sex and disease behaviour (χ^2=16.43, p=0.002); 2) previous surgery and a) location (χ^2=13.87, p=0.011), b) behaviour (χ^2=23.75, p=0.00009), c) duration of CD (χ^2=21.09, p=0.008).

Conclusions

Location, behaviour and duration of CD correlate with the need for surgery. Stricturing type of CD occurred more frequently in females. No significant differences were detected between patient age at diagnosis and different disease behaviour.

CAN NEW ULTRASONOGRAPHIC FATTY MEAL TEST WITH ISOSORBIDE DINITRATE GIVE ADDITIONAL INFORMATION ON CHOLEDYNAMIC DISORDERS IN PATIENTS WITH CHRONIC PANCREATITIS AND FUNCTIONAL GALLBLADDER DISORDERS

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Introduction

Choledynamic disorders often mask a functional disorder of the gall bladder in chronic pancreatitis creating a need for introduction of new diagnostic tests and approaches.

Study Aims

The purpose of our study was to analyse if new ultrasonographic repeated fatty meal test (FMT) with isosorbide dinitrate (ID) can give additional information about choledynamic disorders in patients with chronic pancreatitis (CP) and functional gallbladder disorder (FGD).

Methods

Choledynamic disorders modifications study in the presence of traditional FMT was performed. Modifications included: 1) measurements every 20 min during the period of 100 min, 2) evaluation of gallbladder (GB) relaxation, 3) common biliary duct (CBD) dimensions, 4) semiquantitative assessment of intensity of pain syndrome in projection of GB by visual-analogous scales (VAS), 5) next day repetition of FMT with isosorbide dinitrate (10 mg sublingually 40 min before test). 18 patients with CP and clinical signs of biliary dyskinesia and pain syndrome were examined.

Results

Basal FMT revealed in 13 (72%) cases hyperkinetic and in 5 (28%) cases – hypokinetic disturbances. In patients with hyperkinetic disorders FMT with ID gave in 69% of cases decrease in GB contractility rate: by 40 min of test GB volume increased significantly (by 46.3%, $p<0.05$). In patients with hypokinetic disturbances basal FMT defined delayed relaxation of GB: from 40 to 80 min of test GB volume increased only by 3.3±1.5 ml. Hypokinetic disturbances were accompanied by pain syndrome (VAS = 2.3±0.3 units) and increase in CBD dimension by 1.9±0.3 mm. This combination of disorders is typical for Luthkens and Oddi sphincters hypertone. FMT with ID initiated improvement in relaxation: from 40 to 80 min of test GB volume increased by 7.6±1.7 ml ($p<0.05$), maximal increase in CBD dimension was only 1.1±0.4 mm ($p<0.05$) and level of VAS decreased to 1.4±0.3 units ($p<0.05$).

Conclusions

FMT with ID can gave interesting additional information about choledynamic disorders in patients with CP. This test can detect changes in: 1) GB relaxation, verifying Luthkens sphincter hypertonus, 2) CBD dimension, allowing to verify Oddi sphincter hypertonus. Detection of these abnormalities may lead to differentiation and optimisation of therapy.

NEW APPROACHES TO IMPROVE THE BASIC TREATMENT OF SEVERE ULCERATIVE COLITIS

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Introduction

Estimation of clinical efficacy of rifaximin in decontamination of the colon by patients with severe ulcerative colitis (UC) with the purpose to optimise the course of the basic therapy.

Study Aims

Prospective randomised open study.

Methods

26 patients with severe UC: 10 male, 16 female. The duration of GCS ranged from 4 to 16 years. Activity of disease was assessed by periodical clinical, endoscopic and histological examinations. Level of small intestinal bacterial overgrowth (SIBO) was assessed with hydrogen breath testing (HBT) with the help of the device Gastro plus (Bedfont Scientific Ltd., UK). The partial pressure of hydrogen (PPT) has been defined in the basal conditions, further each 30 minutes during 3 hours after intake lactulose. Graphico-mathematical analysis has done, the results were compared with clinical symptoms, bacteriological examination of excrements. Basic therapy UC: oral mesalazine 3 g/day and azatioprine 1,5 mg/kg/day. A total of 26 patients with UC were randomly treated 2 groups: 1st group – 13 patients received treatment metronidazole 0,75 g/day within 20 days; 2nd group – 13 patients received two 4-day treatment rifaximin a daily dose of 1.2 g at intervals of 7 days. One month later after the treatment tolerability assessment of combination therapy, the effectiveness of decontamination of the colon.

Results

In 22 (84.6%) patients with a typical peak rate of partial pressure of hydrogen to 140 minutes of research was registered. 24-day treatment provided positive clinical results: in 6 (46.2%) patients in group 1: index activity Mayo (IAM) UC decreased by 2 points; in 7 (43.8%) by 3 points, respectively. In group 2 results were more significant: in 9 (69.2%) of IAM decreased by more than 3 points; in 4 (30.8%) by 2 points respectively. Level of SIBO reduced the severity of PPT in 140 minutes of research. In group 1, patients with PPT to 140-minute averaged 2.85+1.4, group 2 - only 1.3+0.3.

Conclusions

At patients with active UC disease were found to have SIBO markers, recommending the use of repeated bacterial eradication of the colon.

NEW APPROACHES FOR IMPROVEMENT OF SEVERE GASTROESOPHAGEAL REFLUX DISEASE THERAPY

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Introduction

High rate of recurrence of gastroesophageal reflux disease contributes to the development and active use of new approaches in basic therapy.

Study Aims

Investigation of the frequency and features of pathologic characteristic of intestinal metaplasia (IM) in the mucosa of oesophagus (ME) in patients with complicated gastroesophageal reflux disease (GERD) and its morphogenesis on the background of high-dose pantoprazole therapy (HDPT).

Methods

1407 biopsies of oesophageal mucosa obtained from 398 GERD patients studied. 46 patients with verified by morphologist Barrett's oesophagus (BE) received pantoprazole 40 mg daily for 48 weeks. Performed endoscopic and morphological monitoring every 12 weeks. Haematoxylin and eosin stain, van Gieson's stain, Lefler's stain, PAS – reaction + alcian blue were used during the histological examination.

Results

IM with goblet cells (GC) was incomplete and was developed on a background of chronic esophagitis with cylindrical cell metaplasia, gastric (cardiac) type in 74%. IM had a different prevalence: from individual BE to large lesions with a flat or villous surface. The most comprehensive IM was in the zone of squamous cell cylinder connection in the margins of deep ulcers or against mucosa hyalinosis, developing in the outcome of reparative processes. In 11 (24%) cases noted the predominance of the intestinal epithelium in 8 (17.4%) patients revealed dysplasia of the intestinal epithelium of low degree (LD), in 1 (2.2%) cases developed adenocarcinoma. On the background of HDPT stated reduction in the intensity of the inflammatory process in the mucous, the healing of erosions and ulcers, an increase in area of gastric (cardia) epithelium, along with a decrease in the number of goblet and blue cylindrical cells, hyperplasia of parietal cells. Progression of IM was available in the amplification of inflammatory activity, regression – in case of fundal heterotopias mucosa, arises because of the HDTP. LD has not been regressed, characterized by reduction in mucous discharge in the epithelium, a decrease in the number of GC, proliferation of "blue cylindrical cells".

Conclusions

Patients with GERD with IM in the oesophageal mucosa on the background of HDPT require repeated endoscopy with histological examination every 4 week.

SURFACE MULTICHANNEL EMG INVESTIGATION OF EXTERNAL ANAL SPHINCTER INNERVATION BEFORE AND AFTER VAGINAL DELIVERY – A PROPOSED CLINICAL PROTOCOL

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Introduction

Recent studies demonstrated significant correlation between anal sphincter damage during vaginal birth, with or without episiotomy, and subsequent development of anal incontinence. Right side mediolateral episiotomy is usually recommended. The damage of pudendal nerve during episiotomy can lead to anal sphincter mass decrease and anal incontinence. Pre-emptive location of innervation zones (IZs) with anal sphincter electromyography (EMG) could allow choosing the least invasive side for episiotomy. Avoiding the incision of IZs would presumably reduce the incidence of anal incontinence. As EMG is a novel diagnostic tool - strong clinical evidence regarding this principle is still lacking.

Study Aims

The aim of the study was validation of the surface EMG as a screening tool to locate the IZs of anal sphincter and evaluation of the effect of episiotomy related trauma on the external anal sphincter muscle.

Methods

In this prospective case control study, pregnant primiparas will be involved and surface EMG will be performed to detect the distribution of IZs of external anal sphincter. Endoanal ultrasound of external anal sphincter and Longo score assessment will be done to exclude any sphincter damage or obstructive defecation syndrome. The EMG measurements will be performed 3 times: during the 2nd trimester of pregnancy, 6-8 weeks and 1 year after delivery, in order to recognize any changes in the innervation after delivery. The obstetricians will be informed about the EMG findings indicating sphincter IZs and will be suggested to perform episiotomy on the opposite side of dominant innervation. In order to compare possible innervation damage subjects will be divided into three groups, 1) episiotomy made as routine on the right side, 2) episiotomy made on an opposite side of dominant innervation, 3) control group – caesarean deliveries.

Results

Study protocol has been accepted by the Riga Stradins University Ethics commission and recruitment of first patients will be started in 2013.

Conclusions

The proposed clinical protocol will emphasise EMG method as the fast and reliable clinical test characterise innervation pattern of external anal sphincter. This information could help the obstetricians to choose the side of episiotomy in order to avoid iatrogenic damage of pudendal nerve and subsequently minimise the risk of anal incontinence.

INHERITANCE OF WILSON'S DISEASE AND ITS CLINICAL APPEARANCE IN FOUR UNRELATED FAMILIES IN LATVIA

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Introduction

Wilson's disease (WD) is an autosomal recessive disorder of copper metabolism caused by more than 500 mutations in gene ATP7B (the most prevalent mutation is H1069Q among individuals of Northern Europe). The condition can be under-diagnosed as a consequence of enormous clinical variability of WD, including hepatic, neurological and other symptoms. DNA analysis to identify defects in the ATP7B gene can provide unequivocal confirmation of WD in affected symptomatic or pre-symptomatic individuals.

Study Aims

Performing H1069Q and other mutation detection in the ATP7B gene in clinically diagnosed with WD patients and in their first-degree relatives; comparison of clinical findings to molecular ones.

Methods

Four unrelated families containing at least one patient with clinically confirmed WD (point score 2 or more) and 10 asymptomatic relatives. For all individuals clinical form at presentation, biochemical parameters (serum ceruloplasmin, liver function tests, 24-hour urinary copper excretion response to D-penicillamine), morphological changes in the liver were assessed. DNA analysis: Mutation H1069Q analysis was performed by PCR Bi-PASA method and other mutation testing by direct sequencing.

Results

ATP7B gene mutations' detection was performed in 14 individuals. Genotypes found in symptomatic WD patients: 3 – H1069Q/H1069Q and 1 – H1069Q/2298_2299insC, confirming the WD. All four patients had hepatic presentation form. One patient was diagnosed in Germany. Two patients had liver failure, low serum ceruloplasmin, highly elevated 24-hour urinary copper in response to D-penicillamine and a lethal outcome due to acute liver failure. One patient had slightly changed liver function tests and low serum ceruloplasmin. Genotypes found in the first degree relatives: 4 – H1069Q/ H1069Q and 1 – H1069Q/2298_2299insC, confirming the WD. All were asymptomatic, three had low serum ceruloplasmin, highly elevated 24-hour urinary copper in response to D-penicillamine and morphological signs of a steatohepatitis and a liver fibrosis, but two didn't have any biochemical, morphological changes at all.

Conclusions

In cases when WD is confirmed by molecular methods, family genetic counselling and mutation selective screening in family members should be accomplished. All asymptomatic molecularly confirmed WD patients should be tested biochemically, morphologically and kept under careful doctor's attention ageless.

GENETIC ASPECTS OF UGT1A1 GENE POLYMORPHISM

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Introduction

Development of Gilbert's syndrome is associated with insertional polymorphism in the promoter region of the UGT1A1 gene due to the increasing number of TA repeats more than 6. Clinical manifestations of Gilbert's syndrome are observed in the case of homozygous polymorphism, however, some episodes of liver disorders occur in a heterozygous carrier.

Study Aims

The aim of the work was to investigate the UGT1A1 genotype in patients with Gilbert's syndrome and association with its clinical manifestations.

Methods

Seventy-eight patients with clinical manifestations of Gilbert's syndrome were included in this analysis. Genomic DNA was extracted from peripheral blood leukocytes by using Venosafe EDTA K3 (Belgium) and DNA-express-blood (Lytech, Russia). PCR amplification of genomic DNA was performed by using diagnostic kit (Lytech, Russia) and thermocycler Gene Amp PCR System 2400 (Applied Biosystems, USA). The samples were detected by electrophoresis in 3% agarose gel and visualization of the results by UV transilluminator TFX-20.M (Vilber Lourmat, France).

Results

The analysis revealed heterozygous carriers in 54% cases, the numbers of mutant homozygotes were 14% and normal homozygotes - 33%. These data were higher than the data of literature (40-45%). Indirect bilirubin level was elevated in blood in 47% cases in the patients with heterozygote state, but hyperbilirubinemia does not exceed 30 mmol/l, while in patients with mutant homozygote giperbirubinemia considerably higher and reached 43-51 mol/l in 83% of cases. Thus hyperbilirubinemia observed in heterozygous carriers of the mutation also leads to a decrease in production uridine-diphosphate-glucuronosyltransferase and as a consequence, to a violation of indirect bilirubin glucuronidation. Jaundice, dyspeptic and astenovegetatic syndromes are observed in the patients with mutant homozygote in 98% cases and in the patients with heterozygote state in 54% cases.

Conclusions

Presence of mutation of UGT1A1 gene may be a cause of clinical symptoms of Gilbert's syndrome in heterozygote state.

ANTIGEN SPECIFIC IGE AND IGG4 IN PATIENTS WITH ATOPIC DERMATITIS

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Introduction

Food hypersensitivity is a widespread and common problem, however, at the same time this issue has not been widely reflected in literature, except IgE class antibody and "true" allergy studies. IgE class of antibodies sign the allergy in human body and antigen specific IgE as an allergy marker is determined worldwide. Atopic dermatitis is considered as one of serious long-term allergic reactions. In many cases antigen specific IgE against particular antigen are not detectable and irritating antigen remain hidden. Little information exists in scientific papers about IgG4 antigen specific antibodies and their relationships with food intolerance and allergic reactions. The authors of study identify IgE and IgG4 antigen specific antibodies against most widely used products and compare the existence of such antibodies in individuals suffering from skin problems.

Study Aims

Finding suitable laboratory test for detection of food intolerance against particular products that could cause atopic dermatitis as well.

Methods

The study included 20 patients (10 men, 10 women, aged from 1 to 16) with atopic dermatitis. Antigen specific IgE and IgG4 analysis by using regional adopted antigen panel with identical antigen set for both Ig classes was executed.

Results

Serum from patients with atopic dermatitis (n=20) were analysed regarding presence of IgE and IgG4 class antigen specific antibodies against food antigens. In 95% cases IgE class antibodies were not found in clinically relevant level (less than 2nd class reactivity), mostly belongs to 0-1 class and show reactivity against milk proteins. In 17 serum samples the elevated antigen specific IgG4 were found (class 3 and higher). The main antigens were egg white, banana, milk proteins and wheat and rye flours. More than 50% of patients show clinical improvement on exclusion diet during 3-5 months of follow up.

Conclusions

High occurrence of antigen specific IgG4 in patients with atopic dermatitis and significant clinical improvement after exclusion diet based on these findings show necessity for further investigation regarding antigen specific IgG4 relationship with food intolerance.

INTERLEUKIN-8 GENE CLUSTER POLYMORPHISMS AND CAGA-POSITIVE HELICOBACTER PYLORI STRAINS INCREASE THE RISK OF COMPLICATIONS OF DUODENAL ULCER IN CHILDREN

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Introduction

Duodenal ulcers in children are associated with Helicobacter pylori gastric infection with cagA-positive strains, but factors linked to the host are poorly known. Cytokine genes taking part in the immunological response to Helicobacter pylori infection are good candidates for study of genetic predisposition to duodenal ulcer disease.

Study Aims

This study evaluated the role of proinflammatory interleukin-8 gene cluster polymorphisms and strains of Helicobacter pylori on risk of complications of duodenal ulcers in children.

Methods

DNA from 120 Chernivtsi region children aged from 6 to 18 years with duodenal ulcer (13 (10,8%) children with complications of duodenal ulcer: 8 (61.5%) patients with bleeding, 5 (38.5%) patients with perforation) and 100 ethnically matched healthy controls was typed for the IL-8-251A/T gene polymorphisms by polymerase chain reaction-based methods and TaqMan assays. Helicobacter pylori status use was determined in all patients and controls. CagA status of Helicobacter pylori was evaluated by polymerase chain reaction. Odds ratios (OR) and 95% confidence intervals (CI) were calculated by logistic model.

Results

Mutant heterozygote's genotype IL-8-251A/T associated with increased risk of duodenal ulcer (OR=4.28, χ^2=24.41, 95%CI=2.31-7.65, p<0.001) regardless of Helicobacter pylori strains. But, logistic regression analysis identified the presence of homozygous mutant genotype of IL-8-251A/A as associated with the most severe inflammation and development of duodenal ulcer complications in children with CagA-positive strains of Helicobacter pylori (OR=2.88, χ^2=7.64, 95%CI=1,09-6,22, p<0.05).

Conclusions

This study provides evidence that genetic factors, such as interleukin-8 gene polymorphism and strains of Helicobacter pylori, play a key role in the pathogenesis of duodenal ulcers and their complications in children.

DISSEMINATED GASTRIC CANCER AND CONCOMITANT PREGNANCY

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Introduction

Gastric cancer associated with pregnancy is quite rare and the prognosis for the woman is usually extremely poor. Furthermore, physicians are confronted with two conflicting issues in this condition: the need for treatment of the maternal gastric cancer and the continuation of the pregnancy.

Study Aims

Report a case of 40-year-old woman suffering from disseminated gastric cancer during pregnancy after total gastrectomy and chemotherapy.

Methods

A 40-year-old, gravida 5 para 3 pregnant woman with disseminated gastric cancer at the 30th week of pregnancy. From patient's past medical history was known that woman underwent a total gastrectomy with Braun oesophagojejunostomy after a diagnosis of poorly differentiated gastric adenocarcinoma at 38 years. After operation she received radiotherapy and 3 courses of adjuvant chemotherapy according to the Mayo scheme : (Leucovorin 50 mg; 5- Fluorouracil 500 mg) and 2 courses of adjuvant chemotherapy according to ECF scheme (5- Fluorouracil 300 mg, Epirubicin 80 mg, Cisplastin 100 mg). She became pregnant about 1.5 years after gastrectomy and chemotherapy was interrupted. Peritoneal dissemination were visualized in abdominal MRI scan. Foetal ultrasonography and foetal doppler studies did not reveal any pathology.

Results

Female patient admitted to our hospital on the 5th of September 2013 for the delivery induction stimulated by Cytotec. The baby was male, born by vaginal delivery at 30 weeks gestation age. Its birth weight was 1130 grams. The APGAR score was 1/5/6. The woman was discharged from the hospital on the 7th day without complications, but the infant was further hospitalised in the Children's Clinical University Hospital. The woman is scheduled for palliative chemotherapy.

Conclusions

This is the first known case of a pregnant woman with disseminated gastric cancer in Latvia. Possibly pregnancy might be one of the first predisposing factors for the development of disseminated process, associated with poor prognosis and survival. Despite of the delivery conditions the baby has been healthy so far.

STRUCTURE OF NUTRITIONAL INSUFFICIENCY AND THE EFFICIENCY OF NUTRITIONALLY PROVED TREATMENT STRATEGY FOR PATIENTS WITH SEVERE ULCERATIVE COLITIS RELAPSE

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Introduction

Ulcerative colitis (UC) is characterised by relapsing course, low effect from basic therapy, frequent recurrences and development of nutritional insufficiency (NI), with no standard treatment protocol available.

Study Aims

To determine the frequency and structure of the NI in patients with relapse of UC and to evaluate the efficiency of nutritional support (NS) of medical feeding formulas in a prospective 3 year follow-up study.

Methods

A three-stage study with prospective study of patients with IBD with ND for 3 years. Stage 1 - single-step screening and staging NI. Stage 2 - randomization into groups, prescription of 12 weeks profile therapy with estimation of remission frequency (Mayo index <2 points) and indicators of nutritional status. Stage 3 - assessment of the relapses frequency (ARF) in a 3-year prospective follow-up.

Results

The first step examined 410 patients with UC. NI was diagnosed in 249 (47.9%) patients with recurrent UC. The structure of NI: 1, 2 and 3 degree of NI was stated in 111 (27.1%), 96 (23.4%) and 42 (10.2%) patients with UC, respectively. At the second stage 80 patients with UC were randomized into 2 (I and II) groups of 40 patients each and, depending on the degree of NI, were divided into two sub-groups; A (2 degree NI) and B (3 degree NI). Patients of IA and IB groups received only UC basic therapy. Patients of IIA and IIB groups supplementary received nutrient mixture (peptamen and modulen IBD (Nestle)). In three-year follow-up, the ARF in IA and IB and IIA and IIB groups was 15 (75%) and 17 (85%) and 9 cases (45%) and 12 (60%) ($p<0.05$).

Conclusions

Nutritional support of UC basic therapy provides low level of UC recurring. Further study of NI formation mechanisms in UC is necessary for the development of new, more effective strategies for treating disease.

PILOT STUDY OF NEW DEVICE FOR H. PYLORI DETECTION

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Introduction

The non-invasive HELIC Ammonia Breath Test with indicator tubes is widely applied for diagnosis of Helicobacter pylori (HP) infection in Russia. Evaluation of the test results is done visually by measuring an indicator colour change. The sensitivity and specificity of HELIC Ammonia Breath Test according to different authors varies from 73% to 93.5% and from 36% to 94.4% respectively. Getting false positive results is often associated with violations of the requirements for patient's preparation and of the testing techniques. To reduce the probability of errors during the test, the automated device - HELIC Ammonia Breath Test Reader was developed. It allows reading and analysis of the results obtained by the indicator tubes.

Study Aims

To study the applicability of the HELIC Ammonia Breath Test Reader in the diagnosis of HP infection.

Methods

On the basis of Children's City Clinical Hospital and North-Western State Medical University named after I.I. Mechnikov (Saint- Petersburg) 45 patients were studied using HELIC Ammonia Breath Test. As a referent method histology was used. The interpretation of results was done both visually and by using the reader.

Results

Both visual and automated results showed concordance to histology. The maximum difference of the result measurements was 0.7 mm. HELIC Ammonia Breath Test Reader has higher accuracy and does not reduce the effectiveness of the method.

Conclusions

The new device can be used in routine gastroenterological practice; it provides exact compliance of the testing method due to the step-by-step test procedure; automatic (instead of visual) evaluation of the indicator change with 0.1-0.2 mm accuracy; and ability to capture and save the results of the analysis electronically.

OPTIMISATION OF DIAGNOSIS AND TREATMENT OF NUTRITIONAL INSUFFICIENCY IN PATIENTS WITH INFLAMMATORY BOWEL DISEASE

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Introduction

Ulcerative colitis (UC) is characterized by nutritional insufficiency (NI). The problem of developing methods for early diagnosis and effective schemes of nutrition support (NS) in patients with inflammatory bowel disease thus exists.

Study Aims

To determine the frequency and structure NI in patients with UC and evaluate the effectiveness of nutrition support (NS) in a two-phase three-level study with a prospective 3 year follow.

Methods

At the first stage the screening of patients with symptoms of UC. Validated questionnaires and MUST and NRS scales used. The second phase of the research carried out in specialised units where, after verification of the diagnosis of UC, the degree of NI was refined using additional laboratory tests. 410 patients with ulcerative colitis (UC) examined. The results of examinations' second phase allowed specifying the structure and the degree of NI in patients with IBD. NI of the 1, 2 and 3 degree was ascertained in 111 (27.1%), 96 (23.4%) and 42 (10.2%) patients with UC, respectively. During the second stage of the study, 80 patients with UC were randomised into 2 major (I and II) research groups from 40 patients in each, respectively. Patients from the I group provided positive dynamics received a high-protein (HPD) diet, and to the patients of II group in regimen of nutritious mixes: peptamen and modulen IBD (Nestle)) were prescribed. On the third phase of the study long-term outcomes of treatment in a longitudinal mode prospective study for 3 years were evaluated using index of relapses.

Results

IRF was maximum in the 1st group and constituted by the end of the study 15 (75%) and 17 (85%) cases, respectively. In the second group IRF was significantly lower 9 (45%) and 12 (60%) ($p < 0.05$). Thus, based on the data from long-term follow-up of patients with UC and NI, it can be concluded that using schemes with inclusion of nutrient mixtures: P&M provides a low level UC relapses.

Conclusions

Data from long-term follow-up of patients with UC and NI allows concluding that using schemes with inclusion of nutrient mixtures provides a low level UC relapses and stable remission of the disease.

PROTEOMIC ANALYSIS OF THE OESOPHAGEAL MUCOSA WITH GERD

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Introduction

The mechanisms responsible for the development of gastroesophageal reflux disease (GERD) are complex, multifactorial and not fully understood. Proteomic profiling of tissue cells constituting main layers of the wall of various gastrointestinal tract departments, is the most relevant method of assessing its functional state in norm and pathology.

Study Aims

Developing diagnostic molecular phenotypes of GERD in cohort groups of patients.

Methods

40 patients with newly diagnosed GERD aged from 22 to 48 years, 23 female (57.5%) and 17 (42.5%) male over 2 years period were included in this research. Duration of illness ranged from one to 25 years. 22 (55%) patients had catarrhal reflux (RE) RE A, 18 (45%) erosive RE (C-D) esophagitis. Control group consisted of 20 healthy subjects (mean age 36.2±10.2 years, 11 male and 9 female). Patients with GERD had daily intra-oesophageal pH-metry, EGD, biopsy. Separation of peptides and proteins of the oesophagus mucosa, their identification are made on the basis SDS-PAGE, 1DE, KITS FOR CLINICAL PROTEOMICS, MALDI-TOF-TOF - Mass Spectrometry.

Results

Comparative analysis of the molecular profile of oesophageal mucosa biopsy samples from patients with RE A and healthy individuals showed the presence of the following proteins in the control group, which were missing in GERD' group: 8 keratin, a protein of the small intestine that connects fatty acids, the main transcription factor IIN. The absolute number of patients with GERD was increased with the increase of this protein expression in the mucosa, which was not observed in healthy subjects: periplakin, laminin, proteinase's inhibitor B, alpha-B-crystallin; the largest number of patients with a apparent expression of the proteins were found in ER C-D.

Conclusions

Further study of the proteomic profile of the GERD patients' mucosa is relevant and is of diagnostic value, as will allow to reveal important diagnostic protein patterns or potential disease markers.

AMYLOIDOSIS OF UPPER GASTROINTESTINAL TRACT IN CASE OF LYMPHOMA

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Introduction

Amyloidosis could be primary (AL), reactive (secondary), dialysis related and senile systemic. Amyloidosis (A) of the gastrointestinal tract, with biopsy-proved disease, is rare. Patients with systemic immunoglobulin-chain A can be treated with anti-plasma cell therapy (A.Cowan et al., 2013). Usually gastric and esophageal A is a part of systemic form in 80-90 % of cases, in 60% it is reactive, but gastric amyloid deposits occur in ~ 1% of patients with systemic amyloidosis (A.Shtnawei et al., 2009). Gastrointestinal amyloidosis results from either mucosal or neuromuscular infiltration (C.Fenoglio-Preiser at al., 2008). Disease is characterized by abnormal presence of fibrillary proteins in one or more organs' extracellular spaces, causing structural and functional organ damage (N. Sangle et al., 2011).

Study Aims

To demonstrate rare pathology of stomach and esophagus in young patient with diffuse lymphoma.

Methods

Biopsies were stained with haematoxylin and eosin, Gimza and Congo-red methods. Immunohistochemistry was done with kappa, lambda, vimentin, CD5, bcl2, LCA, CD20, CD56, CK Ae1/3, Ki67 antibodies by EnVision method.

Results

30 years young female was hospitalized at Riga East Clinical University Hospital's Chemotherapy and Hematology Clinic with thoracalgia, swelling of neck. Compressive v. cava superior and enlargement of mediastinal lymph nodes was diagnosed. An endoscopy detected a granular appearance of gastric mucosa and small scars and tiny elevated areas (2-3 mm Ø) in esophagus. Gastric biopsy revealed pail eosinophilic, Congo red-positive amyloid deposits around small vessels and between atrophic glands with mild chronic gastritis of low its activity. In biopsy specimens from the esophagus we have proved amyloid aggregates (Congo red +) and erosions with chronic active inflammation around them. Biopsy of lymph node proved diffuse large cell B lymphoma, centroblastic variation with immunphenotype: CD5-, bcl2 only patchy+, LCA+, CD20+, CD56-, CK Ae1/3-and Ki67-55%. Patient has received chemotherapy and irradiation treatment.

Conclusions

As gastric amyloidosis is rare pathology, we wanted to pay colleagues attention to this possible complication of large cell lymphoma. Clinicians should be aware of the possible gastrointestinal involvement by different types of amyloidosis.

BODY COMPOSITION ANALYSIS IN PATIENTS WITH BENIGN OESOPHAGEAL STENOSIS

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Introduction

Patients with benign oesophageal stenosis comprise an important group amongst all of dysphagia patients in Latvian gastroenterology practice. Those patients have chronic food passage disorders through the oesophagus with dietary intake restrictions changing their eating habits.

Study Aims

This research aims to determine the body composition in patients with benign oesophageal stenosis and to evaluate the potential nutritional risk.

Methods

This research included body composition and nutritional risk assessment of 31 patients with benign oesophageal stenosis. Body composition analysis performed using bioelectrical impedance analysis method. Body fat, muscle mass and protein content analysed. Statistical analysis calculating the average value of the parameter, minimum and maximum values, standard deviation, 95% confidence interval performed.

Results

Body fat 31.5%±5.67 (95% CI 27.9 to 35.1) in female and 17.19%±6.98 (95% CI 13.8 to 20.55) in male. Muscle mass 62.8%±5.6 (95% CI 59.23 to 66.35) in female and 76.97%±6.94 (95% CI 73.63 to 80.32) in male. Protein 13.56%±1.58 (95% CI 12.55 to 14.56) in female and 17.34%±1.9 (95% CI 16.43 to 18.26) in male. Minerals 5.68±0.7% (95% CI 5.63 to 5.73) in female and 5.82%±0.79 (95% CI 5.79 to 5.86) in male. Body mass index (BMI) (kg/m²) 22.23±4.84 (95% CI 20.45 to 24.01). Ten patients (25.8%)<20.5; seven patients BMI>26.0 kg/m². Haemoglobin (g/L) mean value 125.13±15.83 (95% CI 119.32 to 130.94), albumin (g/L) mean value 42.61±3.16 (95% CI 41.45 to 43.77).

Conclusions

Patients with benign oesophageal stenosis were found to have significant body composition abnormalities: decreased muscle mass and unbalanced fat level. Patients' mean body mass index was satisfactory. Clinically it is useful ordering a body composition analysis. It is appropriate determining haemoglobin levels, whereas albumin levels do not correlate with body weight and body composition changes in these patients. Patients found to have a significant weight loss (> 10% within 6 months). However, patients with benign oesophageal stenosis can have a normal body composition and prevent nutritional risk with regular endoscopic therapy.

SONOGRAPHIC EVALUATION OF OESOPHAGUS CERVICAL SEGMENT AS A NEW GASTROESOPHAGEAL REFLUX DISEASE DIAGNOSTIC MODALITY

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Introduction

Earlier it has been shown that sonographic evaluation of abdominal segment of oesophagus can assist in diagnostics of gastroesophageal reflux diseases (GERD). Analysis of scientific literature has revealed the absence of publications on sonographic assessment of other oesophageal segments in GERD patients.

Study Aims

The purpose of this study was analysing possible endoscopic symptoms in cervical part of oesophagus in GERD patients.

Methods

16 patients with endoscopically verified GERD and 12 healthy volunteers were included in this study. Scanner Philips EnVisor HD with linear probe 12-3 MHz was used for ultrasonography. Exam performed on an empty stomach. In decubitus position at the level of thyroid isthmus we have evaluation structure and thickness of mucosa and muscular layer of oesophagus, presents of fluid and character of its movement, measured internal oesophageal dimension. After intake of 400-800 ml all measurements were repeated in decubitus position.

Results

Amongst all analysed parameters statistically significant differences detected in two patients. Internal oesophageal dimension in patients was larger than in healthy subjects and time of path of drink of standard chicken broth through oesophagus was shorter (4.95 vs 4.45 mm post fast and 10.1 vs 9.5 mm after test meal; 1.84 vs 2.32 s after fasting and 1.66 vs 2.68 s after test meal, respectively).

Conclusions

Changes in two parameters in patients with GERD most likely are functional and not structural. These are related to oesophageal tonic and motor activity disturbances. Ultrasonography of cervical segment of oesophagus can be useful in detection of GERD and its follow-up.

CLINICAL AND PATHOGENETIC SIGNIFICANCE OF TLR 2,4,6 IN CROHN'S DISEASE

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Introduction

The aetiology and pathogenesis of Crohn's disease (CD) is still not established. One of the theories for development of inflammatory bowel disease (IBD) is based on inflammatory response in the colonic mucosa as a result of imbalanced components of the local immune response in consequence of defects in innate immunity, significant components of which are toll-like receptors (TLR).

Study Aims

Assess the dynamics of changes expression of TLR 2,4,6 in Crohn's disease depending on phases of the disease.

Methods

19 patients with CD (16 female and 3 male) examined. Mean age 39.3±2.7 years. Control group included 20 healthy volunteers (15 female and 5 male), age 26.2±8.3 years.

Results

Patients with CD relapse had expression of TLR 2,4,6 as 81.1±2.4%, 12.8±1.3% and 7.2±0.9% respectively, whereas those in clinical remission: 56.0±2.9%, 6.8±1.4% and 4.1±0.8% ($p<0.05$). In the control group expression of TLR 2,4,6 was 66.2±0.9%, 3.7±0.3% and 3.4±0.2% respectively. These values had significant differences in the level of TLR in patients with relapsed CD ($p<0.05$), and had no differences in the remission phase of the disease. Significant differences revealed in the expression level depending on the severity of the disease. Patients with moderate CD had expressing of monocytes TLR 2,4,6 as 82.2±0.9%, 11.0±0.4%, 9.9±0.4%, which is 1.2, 3.0, and 2.9-fold more than the value of the control group ($p <0.05$), respectively. Whereas, patients with severe CD had expression of TLR 2,4,6 as 81.0±3.1%, 13.7±1.8%, 7.5±1.1%, which is 1.3, 3.8 and 1.3-fold more than the value in the control group ($p<0.05$), respectively. Increase in the expression of TLR 2,4,6 depending on the duration of the disease: there was a significant increase in the number of monocytes expressing TLR 2,4,6 ($p<0.05$). Correlation between expression and duration of CD found: $r=0.56$, $r=0.51$, $r=0.45$ ($p<0.05$), respectively.

Conclusions

Expression of TLR 2,4,6 dependence on the phase of the disease, the severity and duration of the disease is established, allowing to use these factors as markers of clinical remission.

MEGACYSTIS-MICROCOLON-INTESTINAL HYPOPERISTALSIS SYNDROME (MMIHS): RARE AND COMPLICATED CASE IN PAEDIATRIC GASTROENTEROLOGY

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Introduction

MMIHS is a rare autosomal-recessive congenital disorder and is one of the most severe forms of functional intestinal obstructions in the new-born. Characterised by abdominal distension due to distended non-obstructed urinary bladder, microcolon and decreased or absent intestinal peristalsis. The disease is found in females three or four times more often than in males and is considered to be fatal within the early months of life in most of the cases. The most frequent prenatal findings are enlarged bladder (88%) and hydronephrosis (57%) on ultrasound. Usually early clinical findings show abdominal distension. Other clinical symptoms are similar to all intestinal obstructions. Treatment is supportive and involves an ileostomy with total parenteral nutrition (TPN). These patients most commonly die from malnutrition, sepsis, kidney and liver failure depending on TPN and complications of TPN. This is a report of a female baby, first time admitted to Children's Clinical University Hospital Neonatology Department 12 hours after birth due to markedly distended abdomen. Prenatal ultrasound showed unknown cystic mass in the abdomen, polihydramnion. During early hospital stay she developed constipations, urinary obstruction, intestinal obstruction and has undergone 3 laparotomies with multiple biopsies, ileostomy and puncture epicystostomy. Pathological findings revealed colon hypogangliosis and genetic investigations showed de novo mutation. Currently she is 22 months old and stays in the hospital from 17.05.2012 due to total parenteral nutrition.

Study Aims

The aim of this report is to present a rare and severe clinical case with an emphasis on diagnostic and treatment aspects, including long-term parenteral nutrition.

Methods

Single case study.

Results

Single case study.

Conclusions

Successful management of such severe and rare disease as MMIHS is complicated and is possible in tertiary referral hospital's multidisciplinary team, which should include paediatric gastroenterologist, coloproctologist and urologist. Prenatal diagnosis remains difficult.

ANALYSIS OF PROBLEMS WITH ORAL ANTICOAGULANTS IN REAL CLINICAL PRACTICE IN PATIENTS WITH ATRIAL FIBRILLATION

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Introduction

Old generation oral anticoagulants (OAC) have been the first line of treatment for prevention of thromboembolic events in patients with non-valvular atrial fibrillation (NVAF) for a long time, although the use of vitamin K antagonists (VKA) is causing multiple problems for both patients and physicians.

Study Aims

The goal of this study was to analyse the main problems of OAC in clinical practice for patients with NVAF and their physicians.

Methods

1057 patients with NVAF receiving OAC therapy in different Latvian hospitals and outpatient practices enrolled in this study. Problems associated with OAC therapy analysed from the patients' perspective. Bleeding events were defined as Major Bleeding (MB) and clinical relevant non-major bleeding (CRNMB) according to the international guidelines. Study group included 245 medical practitioners with clinical experience in treatment and care of AF patients.

Results

725 (68.6%) users of VKA and 332 (31.4%) users of novel OAC (NOAC). According to CHA2DS2-VASc, in VKA group, scale median was 3, in NOAC group – it was 2,5. All cases of bleeding were reported: 33.2% in VKA vs 3.4% in NOAK users ($p<0.001$); MB in VKA group had 13 patients (1.8%) vs no MB were observed in NOAK (332, of them 287 dabigatran, 45 rivaroxaban). CRNMB in VKA group had 65 patients (8.9%) vs 5 (1.5%) in NOAK. More than 50% of VKA users had difficulties adjusting OAC dose and keeping INR between 2.0 and 3.0 and 31.8% had problems with INR control despite the fact that 90.6% were regularly controls. Dabigatran was preferred by patients in electrical cardioversion group 62.9% vs. 37.1% VKA with significantly lower rates of adverse events ($p<0.001$) as bleeding and high safety by neurological aspects in long-term control.

Conclusions

Clinical use of OAC for AF patients is more complicated in VKA group due to the side effects and complexity of use. NOAC are more safe and have significantly lower rate of complications and bleeding events. In electrical cardioversion group NOAK (dabigatran) were preferred before and after the procedure. Physicians found NOAC less problematic. Thromboembolic and bleeding risk factors are not considered properly enough before starting OAC therapy.

THERAPEUTIC CONCENTRATIONS OF INFLIXIMAB IN SERUM OF PATIENTS WITH ULCERATIVE COLITIS TREATED WITH ANTI-CYTOKINE THERAPY

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Introduction

Data on infliximab (INX) serum levels and its correlation to drug efficacy is insufficient because it was not recorded during main registration clinical trials. However, the long period of INX use reveals the development of antibodies to INX in some patients with UC, and this may be the reason for the reduction of clinical effect.

Study Aims

Study concentrations and therapeutic efficacy of INX in blood serum of ulcerative colitis patients treated with anti-cytokine therapy.

Methods

26 patients with ulcerative colitis (UC) chronic continuously relapsing form receiving INX therapy have been studied during 2010 to 2012 in the Department of Intestinal Pathology. The group included 17 males and 9 females; age ranging from 19 to 71 years (average 42.9±2.7 years).

Results

UC patients receiving INX had statistically significant increase ($p<0.001$) of drug concentration (INX) in serum with a decrease of severity of clinical and endoscopic disease activity. At INX low concentrations in blood serum from 0 to 5mkl/ml, Rahmilevich index rose to 7.7±0.4 points, Mayo to 5.8±0.5 points and were revealed antibodies to infliximab (AB to INX) to 69.6±14.5 ng/ml. In medium concentration of INX in serum of 5 to 20 ug/ml, the contents of antibodies to INX decreased to 17.3±8.0 ng/ml, Rahmilevich index lowered to 5,8 ± 0,5 points, index Mayo – to 3.1±0.4 points. At high concentrations of INX in serum from 20 to 45 mcg/ml, AB to INX were not detected 0 ng/ml, clinical activity index fell to UC 4.2±1.0 points, Mayo index to 2.5±0.2 points. In 8 patients (30.7%) out of 26 examined, receiving INX induction therapy revealed high drug concentration from 45 to 312 mkg/ml to an average 132.4±39.2 ng/ml, while AB to INX practically not detected 0-1,1 ng/ml in serum.

Conclusions

Therapeutic effect of INX in patients with UC receiving anticytokine therapy depends on the drug concentration in blood serum.

PATTERN OF SPECIFIC SYMPTOMS IN PATIENTS RECEIVING NON-STEROIDAL ANTI-INFLAMMATORY DRUGS

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Introduction

Non-steroidal anti-inflammatory drugs (NSAIDs) are one of the causes of the small intestine lesion formation. Injuries are associated with more frequent bleeding than that occurring in the stomach and duodenum and can also be regarded as more dangerous. Significant small intestine damage and bleeding can be observed in about 70% of chronic NSAID users, and in the majority of patients the injury is sub-clinical. However, NSAIDs caused enteropathy and its' clinical signs are not very well described.

Study Aims

Evaluate specifics complaints and clinical signs in patients with established NSAIDs enteritis diagnosed by the capsule endoscopy (CE).

Methods

Data of patients undergoing CE was consequently analysed. Special study protocol with more than 370 parameters was completed for each patient. Only patients with history of prolonged NSAID use (at least 2 months prior to CE) were enrolled in the study. Specific symptoms such as weakness, fatigue, abdominal pain, melena, diarrhoea, constipation and abnormal weight loss were evaluated in connection with NSAIDs enteropathy. All data was entered into the database with further statistical analysis using SPSS ver.16

Results

Total 305 CE performed and entered into the database. 83 patients were chronic NSAIDs users. NSAIDs enteritis detected in 30 (36.2%) cases. Positive statistically significant correlation found between NSAIDs enteritis and: weakness/ fatigue (χ^2=4.590; p=0.022); melena (χ^2=19.100; p=0.000012); constipation (χ^2=6.679; p=0,015); weight loss (χ^2=31.329; p=0.003).

Conclusions

Weakness/ fatigue, melena, constipation and weight loss probably are the specific symptoms for patients with NSAIDs enteritis.

PREVALENCE AND CLINIC-PATHOLOGIC CORRELATION OF CARCINOID IN APPENDECTOMY SPECIMENS IN SHARJAH, UNITED ARAB EMIRATES

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Introduction

Carcinoid tumours are rare but considered to be one of the most common tumours in appendix. Their incidence has been shown to vary in different studies.

Study Aims

This seminal study carried out to determine the incidence and clinico-pathologic profile of appendiceal carcinoids in a cohort of patients undergoing emergency appendectomies for clinically suspected acute appendicitis in the Emirate of Sharjah.

Methods

The study included the retrospective data of 964 patients operated for clinically suspected appendicitis and their analysed specimen in the Pathology laboratory of Al-Qasmi hospital Sharjah from January 2010 to December 2010.

Results

From 964 patients 9 (0.93%) had appendiceal carcinoids. The mean age was 28.7 years with a male to female ratio of 2:1. Eight tumours were located near the tip of the appendix with mean diameter of 3.3 mm. All tumours were found to be positive for chromogranin A, synaptophysin and neuron-specific enolase on immunohistochemistry (IHC). None of patients had recurrence or any reportable complications in the short follow up period (12-26 months).

Conclusions

Our study found higher incidence of appendiceal carcinoids in patients undergoing emergency appendectomy for acute appendicitis in the Emirate of Sharjah compared to two previous studies from the same geographical region. Moreover, tumours were found more commonly in young males in contrary to previous studies and all the tumours were positive for common neuroendocrine markers.

FEATURES OF DIGESTIVE SYSTEM'S MOTOR ACTIVITY IN PATIENTS WITH COELIAC DISEASE

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Introduction

Coeliac disease is one of the best examples of chronic digestive disease, where clinical appearance is characterised by combined motility disorders of various parts of the digestive tube and dysfunctions in the sphincter system.

Study Aims

To estimate the motility and evacuation disorders of gastrointestinal tract in adults with coeliac disease.

Methods

27 patients with coeliac disease diagnosed by upper-endoscopy, histology of duodenum biopsy specimens and HLA-typing were examined. The age of patients ranged from 19 to 57 years (mean age=38±13.85). 10 male and 17 female patients included in the study. Functional motility disorders were assessed in all patients by peripheral electrogastroenterography (EGEG) using gastroenteromonitor GEM-01 (Gastroskan GEM).

Results

Results of EGEG showed the signs of disturbances in tonus and rhythmicity of the stomach and the duodenum, contraction discoordination between the stomach and the duodenum, the ileum and the large bowel, gastroesophageal reflux (GER) and duodenogastric reflux (DGR) on an empty stomach and after standard food stimulation. Values of basal and stimulated levels of the studied parameters were considered as markers of inadequate response of the stomach and the duodenum (decline in absolute and percentile electrical energy, rhythmicity and amplitude parameters in food stimulation compared with basal values), hypertonus of the stomach (Pi/Ps above 34.0%) and the duodenum (Pi/Ps above 3.3%), contraction discoordination between the stomach and duodenum (comparison index [CI] above 16.0), as well as between the ileum and the large intestine (CI 0.21), GER and DGR, motility retardation of the large intestine (rhythmicity index in food stimulation <13.0). The most common combinations were hypertonus of the stomach, its inadequate response to food stimulation with GER and contraction discoordination between the stomach and the duodenum. Contraction discoordination between the stomach and the duodenum were often combined with DGR. The hypertonus of the ileum and the jejunum on an empty stomach were often combined with contraction discoordination between ileum and large intestine.

Conclusions

EGEG data obtained showed the need for improvement in pathogenic therapy of coeliac disease aimed at correction of gastrointestinal motility disorders.

COMPARATIVE EFFICACY OF SEQUENTIAL THERAPY WITH RABEPRAZOLE OR ESOMEPRAZOLE

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Introduction

Suboptimal nature of Helicobacter pylori (HP) eradication in various previously held by the anti-helicobacter pylori treatment regimens demands searching for new treatment options.

Study Aims

Evaluation of indicators for eradication of HP infection in patients with HP-associated diseases (intention to treat and per protocol).

Methods

Open comparative study evaluated indicators for eradication of HP in patients with HP-associated diseases. The first group (n=57) of patients with chronic HP gastritis, peptic ulcers in duodenum received rabeprazole (Pariet) 20 mg x 2 times a day for 10 days, amoxicillin 1.0 x 2 times daily for 5 days, from the 6th day of treatment clarithromycin (Klacid) + tinidazole 0.5 x 2 times a day for 5 days. Patients in the second group (n= 31) received esomeprazole (Nexium) 40 mg x 2 times daily instead of pariet. The presence of HP was confirmed in all patients by rapid urease test and histologically. Control of HP eradication was performed by rapid urease test, histologically and monoclonal test definition of antigen HP in the stool. In both groups for enhancement of eradication performance and prevention of adverse events additional prebiotic complex florolact 5,0 x 2 times daily was indicated of the background of the anti-HP mode + 2 weeks after the anti-HP regime. Both groups did not have any significant differences that could influence the final results of the study. Prebiotic Florolact contains fructooligosaccharides, gum arabic, and lactitol, which have a synergistic prebiotic effect.

Results

In the 1st group among all intention to treat eradication of HP was 89% and per protocol 93%, while in 2nd group 84% and 87% respectively. The differences between groups did not reach a statistically significant values. It should be noted that only mode sequential therapy with pariet and additional admission prebiotic complex florolact should be considered as optimal, with eradication higher than 90%.

Conclusions

Sequential therapy with rabeprazole and an additional admission of prebiotic florolact is one of possible options for anti-HP therapy of first line therapy of HP associated diseases in St. Petersburg.

COMBINED LIVODEXA AND VITAMIN E THERAPY FOR NASH TREATMENT

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Study Aims

Evaluation of the efficacy of hepatoprotective drug Livodexa (ursodeoxycholic acid) in patients with non-alcoholic steatohepatitis (NASH).

Methods

Randomized masked, placebo-controlled study of patients with NASH (n=59) receiving Livodexa 0.3 x 2 times a day (bid.) and Vitamin E Vitrum 400 ME bid. Diagnosis of NASH established in accordance with Powell et al criteria. The presence of other chronic liver diseases (viral and other aetiology) was excluded in all patients, ultrasound of liver for the detection of Non-alcoholic Fatty Liver Disease (NAFLD) signs on Batskov SS and elastography of liver for determination of the severity of fibrosis in accordance to METAVIR. In accordance with the medico-economic standards biochemical parameters were evaluated: ALT, AST, bilirubin, alkaline phosphatase, γ-GTP, cholesterol, glucose, total protein and protein fraction, amylase; complete blood count, urinalysis, trial of faeces and other studies. In the control group (n=19) patients received placebo.

Results

After 52 weeks of treatment with Livodexa statistically significant reduction in severity of cytolysis syndrome ($p<0.01$) found in the study group, as defined upon inclusion into the study. According to elastography a reduction of severity of fibrosis noted, $p<0.05$. The improvement in the overall health, the elimination of clinical manifestations of disease, improving quality of life according to the questionnaire Short Form 36. Positive dynamics of biochemical parameters, data elastography, etc. are not observed in the control group of patients, which took placebo.

Conclusions

Livodexa plus Vitamin E are effective drugs for treatment of NAFLD and in particular one of its forms with the damage of hepatocytes - NASH. Currently, preparations of ursodeoxycholic acid in combination with antioxidants should be considered as first-line therapy of NASH.

SERUM METABOLOMIC PROFILE AND GUT MICROBIOTA IN CELIAC DISEASE AND ULCERATIVE COLITIS

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Introduction

Intestinal microbiota is most probably involved in the development and maintenance of autoimmune inflammation in celiac disease and ulcerative colitis. Gas chromatography-mass spectrometry (GC-MS) of serum generates comprehensive metabolic profiles, reflecting integrated human (systemic) and gut microbial metabolism may be altered in disease states.

Study Aims

To investigate GC-MS-based serum metabolomic profiles and gut (faecal) microbiota composition using quantitative real-time polymerase chain reaction (qRT-PCR) in UC patients, CD patients and healthy controls, potentially to provide insights into disordered integrated metabolism in both diseases and underlying mechanisms.

Methods

Serum metabolic profiles and faecal samples were collected from 75 individuals: 20 patients with mild-moderate active UC, 35 CD patients, and 20 healthy controls (HC). The multivariate analysis techniques such as principal components analysis (PCA) were used to assess differences between groups.

Results

84 serum metabolites for differentiation between the diseased and non-diseased individuals, as well as between the UC and CD cohorts studied. 18 metabolites at least have a combined (human + microbial) origin. In serum of UC patients, phenylacetic acid (PAA), 4-hydroxyphenylacetic acid (4-HPAA), 3-indolylacetic acid (IAA), succinic acid (SA) and fumaric acid (FA) were the metabolites most prominently increased, whereas 3-phenylpropionic acid (PPA) was significantly decreased. Serum of CD patients showed significant increases in IAA, 3-indolepropionic acid (IPA), SA and FA. Differences in serum metabolite levels of UC patients, CD patients and controls may indicate the difference in the metabolic activity of gut microbiota (Clostridia and Bacteroides spp.) involved in phenylalanine and tyrosine metabolism. Increased serum levels of succinic acid, produced by some Bacteroides spp., suggest its possible damaging effect on intestinal mucosa especially in UC. Orally administered butyrate + inulin (Zacofalk NMX, 3 tablets per day for 4 weeks) as supplement to mesalazine in UC or gluten free diet (GFD) in CD was effective in reducing disease activity, with a marked improvement of serum metabolic profiles and gut microbiota (including reduction of Bacteroides fragilis/Faecalibacterium prausnitzii ratio) in both diseases.

Conclusions

Serum metabolomic profiling discriminates between UC patients, CD patients and healthy controls. Butyric acid + inulin can be effectively used in both conditions improving symptoms, serum metabolomic and gut microbiota profiles.

DRUG-RELATED ADVERSE EFFECTS OF CLARITHROMYCIN-BASED TRIPLE THERAPY FOR HELICOBACTER PYLORI ERADICATION IN PATIENTS WITH DUODENAL ULCER

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Study Aims

Investigation of the efficacy and drug-related adverse effects of clarithromycin-based eradication regimen as first line treatment in patients with Helicobacter pylori (HP) positive duodenal ulcer.

Methods

The study included 50 HP-positive patients with duodenal ulcer. Endoscopy, pH-metry, blood analyses were performed. Hp was confirmed histologically. Next regimen was recommended: PPI, amoxicillin, clarithromycin in standard dose 10-days twice; then 20-days PPI.

Results

In 50% of patients the frequency of dyspeptic complaints was increased and in 42% such complaints appeared firstly and continued 1.5 months after treatment. Eradication rate was 70%. Healing of duodenal ulcer was noted in 82% cases. Basal pH level increased ($p < 0.001$) in stomach corpus from 1.39±0.41 to 1.83±0.31, in antrum from 1.97±0.29 to 2.52±0.34 and in duodenum from 4.09±0.59 to 5.14±0.95. Significant increase of alanine transaminase, asparagines transaminase, alkaline phosphatase and triglycerides. Increase of levels of bilirubin and cholesterol were not statistically significant. Thus the standard triple eradication therapy based on clarithromycin leads to healing of duodenal ulcer in 82% of patients, initially reduces the acidity in the stomach, but does not reach the success rate (70%), causes a number of serious adverse effects.

Conclusions

Standard triple eradication therapy based on clarithromycin has low efficacy, causes or increases the frequency of dyspeptic complaints associated with antibiotics, has a hepatotoxic effect. Triple eradication therapy based on clarithromycin must not be recommended in comorbid patients with diseases of the hepatobiliary system and the metabolic syndrome.

NON-PHARMACOLOGIC METHODS IN THE TREATMENT OF HELICOBACTER PYLORI POSITIVE DUODENAL ULCER PATIENTS

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Study Aims

Investigation of the effects of proton pump inhibitor (PPI), probiotics and mineral water in patients with Helicobacter pylori (HP)-positive duodenal ulcer and establishing optimal HP eradication regimens.

Methods

250 patients randomised into 5 groups, with 50 patients in each group. Endoscopy, pH-metry, blood analyses performed in all patients. Following treatment regimens were applied: group I – 10-days twice: PPI, amoxicillin 1000 mg, clarithromycin 500 mg; then 20-days PPI; group II – same treatment plus probiotics; group III – PPI, probiotics, hydrocarbonate-chloride sodium mineral water; group IV – PPI, probiotics, chloride sodium mineral water; group V– probiotics and PPI.

Results

In 50% of patients of group I increased dyspeptic complaints and in 42% appeared firstly. In group II dyspeptic complaints disappeared in 74%. Dyspeptic complaints disappeared 78%, 76%, 74% in III, IV, V groups respectively. Eradication rate were 70%, 82%, 80%, 78%, 68% in I, II, III, IV, V groups respectively. Healing of duodenal ulcer were 82%, 84%, 86%, 84%, 78% in I, II, III, IV, V groups respectively. Intragastric and intraduodenal pH increased in all groups, especially in III one. In group I increased alanine transaminase, asparagines transaminase, alkaline phosphatase, triglycerides. In III, IV, V groups decreased alanine transaminase, asparagines transaminase, blood bilirubin, alkaline phosphatase, cholesterol and triglycerides.

Conclusions

Triple therapy causes or increases dyspeptic complaints, has low efficacy and hepatotoxic effect. Adding probiotics to standard triple therapy improves efficacy of HP eradication. Eradication regimen containing PPI, mineral water and probiotics is more preferable, safe regimen amongst the above-mentioned. This regimen may be specifically useful for patients with diseases of the hepatobiliary system and the metabolic syndrome.

UNEXPLAINED IRON DEFICIENCY ANAEMIA: THE ROLE OF HELICOBACTER PYLORI ERADICATION

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Study Aims

Investigation of the efficacy of Helicobacter pylori (HP) eradication in patients with unexplained chronic iron deficiency anaemia unresponsive to oral iron therapy.

Methods

27 HP-positive patients with unexplained chronic iron deficiency anaemia and unsuccessful treatment by haematologists. Endoscopy, blood analyses performed. HP confirmed histologically. Following eradication regimen recommended: 10-days twice daily oral administration of PPI in standard dose, amoxicillin 1000 mg, clarithromycin 500 mg, then 20-days twice daily PPI. Therapeutic success of HP eradication was confirmed by a negative histological examination, performed in 4-12 weeks after therapy.

Results

Before treatment in all patients the levels of haemoglobin, red blood cells and iron were 71-82 g/l, 3.41-3.55 x 10^{12}/l and 7.3-7.8 mkmol/l respectively. After eradication of Helicobacter pylori the levels of haemoglobin, red blood cells and iron were 138 g/l, 5.11 x 10^{12}/l and 11.2 mkmol/l respectively.

Conclusions

Patients with unexplained chronic iron deficiency anaemia unresponsive to oral iron therapy must be tested for HP. Eradication of HP infection by standard triple therapy increases the levels of haemoglobin, red blood cells and iron.

FIRST LIVER TRANSPLANTATION IN LATVIA IN A PATIENT WITH PRIMARY SCLEROSING CHOLANGITIS

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Introduction

Primary sclerosing cholangitis (PSC) is a chronic, cholestatic liver disease, complicated by secondary biliary cirrhosis. The only effective end stage treatment is liver transplantation (LT).

Study Aims

39-year-old male patient with mechanic jaundice was examined for differential diagnosis by diagnostic laparotomy with liver biopsy. PSC was diagnosed. Metal stents were placed in bile ducts to reduce jaundice. In 2007 after episode of diarrhea, colonoscopy was performed and total ulcerative colitis (UC) was diagnosed. Since that patient has been receiving ursodeoxycholic acid (UCDA) (500 mg/d) and sulphasalazine (2 g/d). Cirrhosis symptoms gradually progressed (2007–2010) with recurrent bleedings from esophageal varices, developed ascites. Additional therapy – propranolol, diuretics. In 2010 patient had several purulent cholangitis relapses, for what repeated ERCP were performed with biliary plastic stent replacement. Overall patient medical condition gradually worsening. In February 2010 by the decision of concilium patient was put on the LT awaiting list. Liver cirrhosis rating scale scores: CTP – 11, MELD – 13, predicted one-year survival rate (Mayo Clinic) – 13%.

Methods

First orthotopic LT in Latvia was performed successfully on the 13th of January 2011. Postoperative care V. portae anastomotic stricture appeared for what stent placement on 21 January 2011 was performed; During February 2011 jaundice appeared. Subhepatic abscess due to common bile duct destruction was diagnosed. New biliodigestive anastomosis was performed. The patient was discharged from hospital in a good general condition.

Results

On follow up the patient was doing well. In 2012 planned liver core biopsy performed with no morphological changes found in liver. In May 2012 patient was admitted to the hospital with severe diarrhea. Colonoscopy showed severe total UC exacerbation. Cryptosporidium antigen in stool was found. Antibacterial course of metronidazole for cryptosporidiasis and mesalazine, glucocorticoids (with tapering) for UC were added in therapy. In August 2012 patient had progressive cholestasis and MR hepatobiliary angiography was made. Biliodigestive anastomotic stricture and liver vessel's stenosis and/or thrombosis were excluded. UCDA (750 mg/d) added in therapy. Cholestasis decreased gradually. Patient is under supervision of gastroenterologist now.

Conclusions

Aims of demonstration: patient with chronic cholestatic liver disease, it's course and treatment options; the first LT in Latvia, patient's follow-up and treatment after LT.

Authors

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