69 Case Finding of Clinically Silent Celiac Disease by Rapid Fingertip Point of Care Test
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Gastroenterology - May 2013 (Vol. 144, Issue 5, Supplement 1, Page S-14, DOI: 10.1016/S0016-5085(13)60049-9)

Sa1890 Crypt Hyperplastic Duodenal Enteropathy in Helicobacter pylori (HP) Infection
Mariana Jinga, Alina Popp, Juha Taavola, Daniel Vasile Balaban, Catalina I. Bardas, Kajia Laurila, Markku Mäki

Tu1053 The Value of Contrast Enhanced Ultrasound (CEUS) for Focal Liver Lesions Characterization - A Multicenter Romanian Study
Ioan Sporea, Radu I. Badea, Alina Popescu, Zeno Sparchez, Roxana Sirli, Mirela Danila, Larisa D. Sandulescu, Simona Bota, Dorina Pestrou Calescu, Cristina Cijeveschi Prelipcean, Catalina Mihai, Dana Nedelcu, Ciprian Brsc, Lucian Ciobaca, Adrian Saftoiu, Liana S. Gheorghe, Mihai Socaciu, Alina F. Martie, Simona Ioanitescu, Attila Tamas, Costin T. Streba, Mihaela Iordache, Iulia I. Simionov, Mariana Jinga, Adrian Anghel
SOX9 Regulates Cell Proliferation Through Activation of IGFBP-4 in Apcmin/+ Adenomas and Colorectal Cancer Cells
Zhongcheng Shie, Chi-I Chang, Yuko Mori-Akiyama

BACKGROUND & AIMS: In the normal intestinal epithelium, SOX9 expression is localized in the crypt cells. SOX9 is also expressed in diverse cancers, including colorectal cancer (CRC). Our previous loss-of-function study showed increased proliferation in SOX9-deficient crypts, indicating SOX9 suppresses cellular proliferation. We examined the role of SOX9 in proliferation of normal intestinal epithelium, Apcmin/+ mouse adenomas, and CRC cells.

METHODS: SOX9 deficient Apcmin/+ mice were generated to investigate the role of SOX9 in tumors. Crypt epithelial cells isolated from SOX9-deficient mice were also used to identify the potential target genes of SOX9 results: SOX9 deficiency in Apcmin/+ mice resulted in increased tumor burden relative to Apcmin/+ control mice. Insulin-like growth factor-binding protein 4 (IGFBP-4), a well documented inhibitor of the IGIGFR axis, was significantly downregulated in SOX9-deficient intestinal epithelial cells as well as in adenoma cells of SOX9-deficient Apcmin/+ mice. Co-staining experiments revealed colocalization of IGFBP-4 and SOX9 in mouse and human intestinal epithelial cells as well as primary CRC specimens. Reporter assays and chromatin immunoprecipitation (ChIP) demonstrated direct binding of SOX9 to IGFBP-4 promoter. Overexpression of SOX9 attenuated cellular proliferation, which was restored following treatment with a neurotrophin analog against IGF-1R, suggesting that SOX9 requires IGFBP-4 to suppress cellular proliferation. CONCLUSION: SOX9 suppresses cellular proliferation in intestinal epithelium, adenoma cells of Apcmin/+ mice, and CRC cells through activation of IGFBP-4.

How Do the 2012 Espghan Coeliac Disease Guidelines Perform in a GI Clinic
Dominica Gidrewicz, Mathia E. Lyon, Cynthia T revenue, J. Decker Butzner

Background and Aims: We retrospectively evaluated the 2012 ESPGHAN Coeliac Disease Guideline recommendation for the elimination of an intestinal biopsy in selected children with suspected celiac disease (CD). Criteria for a diagnosis without biopsy include: symptoms or signs of CD, IgA-tTG >10 x ULN, a positive anti-endomysial antibody (EMA) and positive HLA DQ2/DQ8 testing.

Methods: We utilized the Calgary Laboratory Services (CLS) database of 18 243 consecutive IgA-tTG results (Euroimmune) collected in 16 402 children under age 18. Ninety-seven percent (97.6%) were diagnosed with CD. The 65 patients with a tTG >10 x ULN and a positive EMA could either have had an IgA-tTG greater than 10 times the upper limit of normal, or a positive anti-endomysial antibody (EMA) and positive HLA DQ2/DQ8 testing.

Results: In this cohort, 829 patients (3.0%, 95%CI, 3.6-2.5%) had a positive tTG (>10 x ULN) of which 352 (42.4%, 39.6-46.4%) had a tTG >10 x ULN (>200 x ULN) of which 352, 342 (97.2%, 94.7-98.5%) had positive EMA and 277 (78.1%, 73.8-82.6%) had an intestinal biopsy (221 symptomatic, 56 asymptomatic with a CD associated condition). Of the 221 symptomatic children with a tTG >200 x ULN and positive EMA, 217 (98.2%, 95.1-99.4%) were diagnosed with CD based on Marsh 2/3 histologic criteria (209 Marsh 3, 8 Marsh 2). Fourteen children with symptoms (5.0%, 3.3-7.6%) who met the "non-biopsy" criteria had biopsies that were not diagnostic of CD (Table). Of these four children with false positive serology, three had abnormal intestinal biopsies with normal intraepithelial lymphocyte counts, and all were DQ2/DQ8 positive. Ten children with a tTG >10 x ULN had a negative EMA and the following characteristics: biopsies not diagnostic of CD (3), biopsy positive CD (4) and not referred (3). Of the 54 asymptomatic patients, 50 (92.2%, 81.2-93.6%) had a positive EMA. Of the 94 patients, 83 (88%) underwent endoscopy with biopsies with the distribution of 20 x ULN had a positive EMA.

Table 1 - Patients with positive celiac serology but negative biopsy results

<table>
<thead>
<tr>
<th>Patient no.</th>
<th>Age</th>
<th>EMA</th>
<th>HLA</th>
<th>Diarrhea, abdominal pain, fever</th>
<th>No pathological diagnosis</th>
<th>Normal IgA-tTG &amp; EMA on gluten</th>
<th>Gastroenterol 8:4 (2015)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2.8</td>
<td>2.5</td>
<td>DQ2 (+)</td>
<td>No</td>
<td>Normal IgA-tTG &amp; EMA on gluten</td>
<td>Gastroenterol 8:4 (2015)</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>5.6</td>
<td>10</td>
<td>DQ2 (+)</td>
<td>No</td>
<td>Normal IgA-tTG &amp; EMA on gluten</td>
<td>Gastroenterol 8:4 (2015)</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>8.0</td>
<td>20</td>
<td>DQ2 (+)</td>
<td>No</td>
<td>Normal IgA-tTG &amp; EMA on gluten</td>
<td>Gastroenterol 8:4 (2015)</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>4.9</td>
<td>40</td>
<td>DQ2/DQ8 (+)</td>
<td>No</td>
<td>Normal IgA-tTG &amp; EMA on gluten</td>
<td>Gastroenterol 8:4 (2015)</td>
<td></td>
</tr>
</tbody>
</table>

Patient 1-4: EMA positive, HLA positive. Diarrhea, abdominal pain, fever, and no pathological diagnosis. All patients with positive EMA and normal IgA-tTG & EMA on gluten. Gastroenterol 8:4 (2015).
living in Fukushima prefecture, who were suffering from peptic ulcer at six hospitals for two months after the Earthquake (March 11 - May 10, 2011), with those living in different areas, with the same age or sex, during the same period. We identified two hospitals near the Fukushima Daiichi Nuclear Power Plant as Area 1, three hospitals located 40 km from the Pacific Ocean as Area 2, and one hospital located 100 km from the Pacific Ocean as Area 3. Results: The number of upper gastrointestinal endoscopies for peptic ulcer cases, compared with the previous year, decreased in 2011 and then increased in 2012 (upper GI endoscopy, 2,447 in 2010, 1,636 in 2011, and 2,357 in 2012; peptic ulcer, 126, 81, and 103, respectively) All areas showed a similar tendency. The ratio of gastric to duodenal ulcer, age, and sex showed no difference in each year, irrespective of the area. In terms of the bleeding cases in peptic ulcer that in 2011 (31.9%), especially at Area 1, was significantly higher than that in 2010 (38.1%) and in 2012 (30.2%). For the bleeding cases in 2011, the rate at one month after the disaster was 69.1%, which was higher than that one month or later, 40.5% (±0.03)). The situation of infection with H. pylori was observed in 70% of the patients. Remarkably, 13/22 (59%) had an increased density of H. pylori infection negative samples from 4.9 to 18.6 cells/mm epithelium, compared to densities seen in coeliac disease. Conclusions: We showed that duodenal villous atrophy with crypt hyperplasia in H. pylori infected patients. Additionally, in many parts of the world, may result in a duodenal enteropathy mimicking celiac disease, partial and subtotal villous atrophy together with mucosal inflammation. This preliminary finding should be repeated in a larger patient cohort.

S1889
Helicobacter pylori Activates CD277, a New Co-Inhibitory Molecule
Miriam Calvino-Fernández, Selma Benito-Martínez, Adrian G. McNicholl, Javier P. Guibert, Trinidad Parra Cid

INTRODUCTION: H. pylori promotes immune response, vigorous but unable to cause spontaneous eradication of the bacteria, therefore it leads to a persistent inflammatory process. This aberrant immune response, is triggered by the interactions between pathogen and host cells. Co-inhibitory molecules play a crucial role in the abrogation of T cell responses in the context of chronic infections, and signals mediated by B7 family members (PD-L1), appear to be crucial. Butyrophilins (CD277) share significant sequence homology with B7 molecules and have been implicated in a number of immune responses. Butyrophilins, as increased expression of CD3+ positive IELs, was seen in 70% of the patients. Remarkably, 13/22 (59%) had an increased density of H. pylori-infected gastric biopsies compared with non-infected controls. These data suggest the possibility that the eradication of H. pylori could reduce the density of CD277-positive IELs in duodenal biopsies. However, the relationship between H. pylori infection and CD277 expression in gastric epithelial cells (AGS), and its relationship with density, bacterial genotype and clinical outcomes. METHODS: AGS were co-cultured with different H. pylori strains (Hp: cagA-, Hp3: urease-, Hp4: cagA+) or 2x10^6 or 2x10^7 CFU/mL with different H. pylori strains (Hp: cagA-, Hp3: urease-, Hp4: cagA+) or 2x10^6 or 2x10^7 CFU/mL with different H. pylori strains (Hp: cagA-, Hp3: urease-, Hp4: cagA+) or 2x10^6 or 2x10^7 CFU/mL. Western blots were performed to detect CD277 expression levels in AGS cells. Results: H. pylori-infected AGS cells showed a significant increase in CD277 expression compared with uninfected controls. Conclusions: H. pylori infection induces AGS cells in addition immune response, indicating their role as Agemin Preseenting Cells, but the same time increases the expression of CD277. Due to the inhibitory properties of butyrophilins the host cells could contribute to the chronicity and severity of infection inducing in T cells. CD277 emerges as a new target to help disabling immune evasion and boost immunity in infected patients.

S1892
The Association Between Helicobacter pylori Status and Incidence of Metachronous Gastric Cancer After Endoscopic Resection of Early Gastric Cancer
Young Hui Kim, Myong-Cherl Kook, Hee-Won Kwak, Soo-Jeong Cho, Jang Yeol Lee, Chan Gyo Kim, Il Ju Choi

Background/Aims: Although a short-term prospective randomized controlled trial proved that the eradication of Helicobacter pylori (Hp) could reduce gastric cancer, recent retrospective long-term follow up data suggested that metachronous gastric cancer development was not reduced by Hp eradication. In this study we investigated the effect of Hp eradication on the incidence of metachronous gastric cancer after endoscopic resection (ER). Patients and Methods: From May 2001 to December 2009, we reviewed retrospectively the medical records of 374 patients who underwent ER of early gastric cancer (EGC) and had more than 1 year follow-up period at the National Cancer Center, Korea. Hp status was assessed...
Is Serum Alanine Aminotransferase a Useful Biomarker of Nonalcoholic Fatty Liver Disease in the General Population?
José Luis Martín-Rodríguez, Juan P. Arrebola, Javier Fernández-Mena, Jorge L. González-Calviño

Introduction: Epidemiological studies have shown that nonalcoholic fatty liver disease (NAFLD) not only is a possible precursor of cirrhosis, but also has been associated with metabolic syndrome, diabetes and cardiovascular disease. There is a need to find a biomarker which proves to be reliable, non-invasive, and easy to perform in clinical practice. Our aim was to know whether serum alanine aminotransferase (ALT) value is a reliable biomarker of liver fat content in subjects with NAFLD in the general population, and to determine if the current threshold of normality for ALT is appropriate to assess the presence of liver fat in these subjects. Methods: This is a cross-sectional, randomized, prospective, population-based study. We studied 120 healthy subjects attending health screening centers, alcohol consumers, less than 50 yewh. Subjects underwent blood tests including aminotransferases. Viral hepatitis, autoimmune, drugs and others causes of liver disease were excluded. Measurements: quantification of liver fat content by spectroscopy 1H MR with magnetic field strength of 3 tesla. We used a cut off value: >5% of liver fat content as the upper limit of normal for the diagnosis of hepatic steatosis (1). Serum ALT levels by commercially available kits. Results: There was an excellent positive correlation between liver fat content and serum levels of ALT (r = 0.73, p < 0.001). All subjects with ALT values >37 U/L had hepatic steatosis (PPV: 100%) and none of the subjects with ALT <20 U/L had steatosis (NPV: 100%). ROC curves were created, obtaining that the cutoff value that represents the normal threshold for the diagnosis of NAFLD was ALT = 17 U/L (sensitivity: 94.67%, specificity 73.91%, PPV: 85.84%, NPV: 89.47%). Conclusion: This study shows that serum ALT levels could be a reliable biomarker of NAFLD if the upper limit of normal for ALT is set at 23 U/L.

Tul053
Noninvasive Assessment of Liver Fibrosis by Measurement of LF Index in Patients With Chronic Viral Hepatitis
Norihisa Yada, Satoru Hagiwara, Tadaaki Aztumi, Masahiko Takita, Satoshi Kitai, Tatsuo Inoue, Yasumori Mimani, Kazuo Ueda, Naoshi Nishioka, Masatosh Kudo

Objective: The aim of this study was to assess prospectively the accuracy of measurement of liver fibrosis by measurement of Liver fibrosis index (LF Index) with real-time tissue elastography (RTE) in patients with chronic viral hepatitis C (HCV) and B (HBV). Methods: Two hundred and five patients were prospectively enrolled. One hundred and fifty four subjects were HCV and 51 were HBV. RTE and ultrasound-guided biopsy were performed on the day of baseline. RTE which has been performed in Kazuo 20.0±13.8 months, 541, was calculated by image features. Fibrosis stage was diagnosed from pathological specimens obtained by ultrasound-guided biopsy. LF Index and serological markers were compared with pathological diagnosis, and the diagnostic performance of RTE was examined. Results: Activity was significantly correlated with fibrosis (r = 0.528, p = 0.003). LF Index stage F0-F1, F2, F3, and F4 was 1.64 ± 0.7, 2.11 ± 0.9, 2.52 ± 0.6, and 2.72 ± 0.92, respectively, demonstrating a stepwise increase with increasing severity of liver fibrosis (p < 0.001). LF Index in activity A0, A1, A2, and A3 was 1.48 ± 0.23, 1.85 ± 0.23, 2.30 ± 0.12, and 2.10, respectively, demonstrating a stepwise increase with no significant increasing severity of liver activity (p > 0.295). LF Index in stage F0-F1, F2, F3, and F4 was 1.96 ± 0.2 and 2.72 ± 0.9, with significant difference (p < 0.001). LF Index in stage F0-F1 and F2-F4 was 1.6 ± 0.07 and 2.36 ± 0.07, with significant difference (p < 0.001). Area under the receiver operating characteristic curve of the LF Index, percent count, aspartate/alanine aminotransferase ratio, aspartate aminotransferase-to-platelet ratio, and FibroIndex for predicting cirrhosis (F4 vs. F0-F3) was 0.82, 0.833, 0.688, 0.797 and 0.841, for predicting F3 stage or higher (F3-F4 vs. F0-F2) was 0.875, 0.831, 0.723, 0.784 and 0.826, respectively. Conclusions: Measurement of LF Index with RTE is useful for diagnosis of liver fibrosis, regardless of stage, in patients with chronic viral hepatitis.

Tul054
Prognostic Value of Contrast-Enhanced Ultrasound in Patients With Small Hepatocellular Carcinoma
Yu Otani, Tamiado, Tatsuo Inoue, Yuko Suzuki, Ryuji Sudo, Hidetaka Iwamoto, Keisuke Calvin

Background: Gross tumor classification was reported as a prognostic factor after resection in studies of primary liver cancer, 5th edition, established by the Liver Cancer Study Group of Japan. Gross tumor classification was based on the general rules for the clinical and pathological types, 8 single nodular types with extranodular growth, and 5 contiguous multinodular types. In this study, we retrospectively enrolled 32 patients (the mean observation period 31.8 months) recived a curative therapy against HCC less than 3cm (11 patients underwent hepatectomy and 21 patients were subjected to percutaneous treatment). Methods: Two hundred and five patients were prospectively enrolled. One hundred and fifty four patients diagnosed with 1-3 de novo FLL at standard ultrasound examination, the presence of a reference method (CT, MRI or biopsy), the absence of information for CEUS for this study. The inclusion criteria were: patients with contraindication for CEUS study (acute myocardial infarction, class IIIbIV heart failure, pregnant women), patients diagnosed with simple cysts at standard ultrasound and patients with known FLL, for example after percutaneous treatment. FLL lesions were characterized at CEUS according European Federation of Societies for Ultrasound in Medicine and Biology (EFUMB) guidelines. For statistical analysis, indeterminate FLL at CEUS were rated as false classifications. Results: In the analysis were included 536 cases with 544 malignant lesions (64.2%) and 192 benign lesions (35.8%). The study included 134 cases (24.9%) indeterminate FLL at CEUS. CEUS classification in this study was accurate at gross classification of HCC. CEUS may be useful for predicting recurrence of HCC less than 3cm in diameter before curative therapy.

Tul055
The Value of Contrast Enhanced Ultrasound (CEUS) for Focal Liver Lesions Characterization - A Multicenter Romanian Study

Introduction: CEUS is increasingly used in clinical practice for characterisation of local liver lesions (FL). The aim of our study was to assess the value of CEUS to differentiate between malignant and benign lesions and for diagnosing different types of FLL. Material and methods: The CEUS performed in 8 Romanian centers were prospectively collected between February 2011, 1st - June 2012, 1th. The inclusion criteria were: age >18 years, patients diagnosed with 1-3 de novo FLL at standard ultrasound examination, the presence of a reference method (CT, MRI or biopsy), the absence of information for CEUS for this study. The inclusion criteria were: patients with contraindication for CEUS study (acute myocardial infarction, class IIIbIV heart failure, pregnant women), patients diagnosed with simple cysts at standard ultrasound and patients with known FLL, for example after percutaneous treatment. FLL lesions were characterized at CEUS according European Federation of Societies for Ultrasound in Medicine and Biology (EFUMB) guidelines. For statistical analysis, indeterminate FLL at CEUS were rated as false classifications. Results: In the analysis were included 536 cases with 544 malignant lesions (64.2%) and 192 benign lesions (35.8%). The study included 134 cases (24.9%) indeterminate FLL at CEUS. CEUS classification in this study was accurate at gross classification of HCC. CEUS may be useful for predicting recurrence of HCC less than 3cm in diameter before curative therapy.

Tul056
Endoscopic Ultrasound-Directed Core Biopsy of the Liver for Diffuse Hepatic Disease
Fares Hamad, Faizan A. Khan, Mustafa Nawaz, Kamran Ayub

AUTHORS: Hamad, Fares; Khan, Faizan; Nawaz, Mustafa; Ayub, Kamran INSTITUTIONS (ALL): 1. Christian Medical Center, Barbanks, IL, USA: 2. St James, Olympia Fields, IL, USA ABSTRACT BODY: BACKGROUND: Liver biopsy is a major diagnostic tool for evaluating diseases of the liver. Typically, this is performed using percutaneous route. However, percutaneous biopsy can be difficult in certain patients including morbid obesity, liver cirrhosis, and patients with ascites. In such patients, liver biopsy is sometimes performed using other invasive techniques such as transjugular or laparoscopic approach. PURPOSE: To evaluate the safety, and efficacy of EUS-directed core biopsy of the liver using 19 gauge suction needle in patients with diffuse hepatic disease. METHODS: EUS of the liver was performed in patients who were considered difficult candidates for percutaneous liver biopsy, or who refused to undergo liver biopsy without sedation. Patients with massive ascites, morbid obesity, and those who were unable to cooperate with breath holding were invited to participate. Consenting adults were included in the study. A Fenaza FG-38XU linear array echoendoscope was used. Endoscopic ultrasound-guided needle biopsy was used in 28 patients, and an Olympus GF-UC240P echoendoscope was used in 52 patients. A Wilson Cook (Winston-Salem, N.C.) 19-gauge suction needle was used to obtain the needle for suction-core biopsy. RESULTS: EUS findings matched the liver biopsy in the patients lying in the left lateral position after standard pharyngeal anesthesia and conscious sedation. The scope was advanced into the stomach and the biopsy specimen was obtained from the left lobe. In 5 patients, a second specimen was obtained from the right lobe as part of a second procedure. RESULTS: EUS-directed liver biopsy was performed in 112 patients. Indications were failed percutaneous liver biopsy (39), patients with morbid obesity (16), and inability to cooperate with breath holding (14). Malignant ascites (62), massive ascites (27), coagulopathy (3). A good core of tissue was obtained in one pass from all patients. The procedure was tolerated well by most patients. Four patients required analgesia for mild to moderate pain after the procedure. One patient