ABSTRACTS BRASILEIROS

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Orlando, FL
H. pylori: Epidemiology, Outcomes, and Consequences

Ancestral Origin and Virulence Markers of H. pylori Strains and Host Genetic Structure As Predictors of Gastric Cancer and Duodenal Ulcer in an Admixed Population

8:00 | 15 | Dulciene M. Queiroz1, Charles Anacleto1, Cynthia G. Trant1, Andrea M. Pinto1, Rafael S. Calixto1, Kadima N. Teixeira1, Fernanda S. Kehdy1, Eduardo T. Santos2, Roney S. Coimbra3, Gifone A. Rocha1, Andreia Maria C. Rocha1

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Abstract:
Recently, H. pylori (HP) strains of European ancestral origin were seen to be associated with pre-malignant histological lesions in gastritis individuals from a high risk area for gastric cancer in Colombia. Our aim was to investigate the phylogeographic origin of HP strains from patients with HP-associated severe diseases as well as the genetic structure of the patients in order to determine whether they are predictors for duodenal ulcer or gastric carcinoma in the admixed population from South-east/Brazil. This study was approved by Institution Ethics Committee. Phylogeographic origin was evaluated in 103 HP strains from patients with gastric cancer (n=27), duodenal ulcer (n=28) and gastritis as the control group (n=48) by sequencing of both strands of 397 to 690 bp per gene of the atpA, efp, mutY, trpC, ureI, and yph house-keeping genes. The sequences were aligned (MUSCLE program), deposited in multi-locus sequence typing-MLST database (http://pubmlst.org.helicobacter). Neighbor joining tree of HP strains (1201 classified in ancestral haplogroups and our 103 strains) was created by MEGA5 using the Kimura model with 10,000 bootstraps. To determine the ethnicity of each patient, 106 validated SNPs were evaluated by Sequenon iPLEX Plataform at University of Minnesota-USA. We estimated individuals’ ancestry using three parental groups: African and European from HapMap II/III and Brazilian rain forest Amerindians collected by our group, and accepted that these samples were representative of the parental population and that the patients were admixed individuals, by using the Structure 2.3.3. program. The data were analysed by Fisher, χ2, Student and correlation tests with SPSS 17. HP strains were classified as hpAfrica1 (66-64.1% hpWAfrica and 7-6.8% hpSAfrica) and hpEurope (30-29.1%). hpAfrica1 strains were observed in 85.7% of duodenal ulcer patients, in 88.9% of gastric cancer patients and in 52.1% of gastritis patients (p<0.001). However, when the patients were stratified by the bacterium virulence markers, the association disappeared (p>0.25), because 80.0% (24/30) of the hpEuropean strains were cagA-negative and s2i2m2 vacA genotype. s1i1m1 vacA genotype was associated with gastric cancer and s11m1or m2 with duodenal ulcer (p<0.001). The % of each ancestry (European, African and Amerindian) were similar in the 3 groups of patients (p>0.46) being the former the highest one (table). European ancestry was weakly positively correlated with corpus gastritis (r=0.2,p=0.05) and intestinal metaplasia (r=0.2,p=0.04) in the s1 vacA gastritis group. European ancestry also positively correlated with European origin of HP strains (r=0.5,p=0.01). We show that HP virulence markers more than HP ancestry "per se" and genetic structure of the population are the most important predictor for gastric cancer and duodenal ulcer in the studied admixed population.

<table>
<thead>
<tr>
<th></th>
<th>African</th>
<th>European</th>
<th>Amerindian</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>%</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>Gastric cancer</td>
<td>24.3</td>
<td>54.2</td>
<td>11.3</td>
</tr>
<tr>
<td>Duodenal ulcer</td>
<td>51.5</td>
<td>55.7</td>
<td>12.7</td>
</tr>
<tr>
<td>Gastritis</td>
<td>22.3</td>
<td>55.5</td>
<td>12.2</td>
</tr>
</tbody>
</table>
Disclosure(s):
The following people have nothing to disclose: Dulciene M. Queiroz, Charles Anacleto, Cynthia G. Trant, Andrea M. Pinto, Rafael S. Calixto, Kadima N. Teixeira, Fernanda S. Kehdy, Eduardo T. Santos, Roney S. Coimbra, Gifone A. Rocha, Andreia Maria C. Rocha
Management of H. pylori infection

13C-Urea Breath Test Values: a Large Database Study Focusing At Gender Differences
Sa1927 | Frederico P. Marinho, Osmar R. Trindade, Luiz G. Coelho

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Abstract:
Introduction: Although 13C-urea breath test (UBT) constitutes one of the most accurate non-invasive test for diagnosis of H. pylori infection, persist uncertain if the UBT values are similar in males and females. Aim: To determine the delta over baseline (DOB) UBT values in males and females in a large cohort of patients in a university hospital. Methods: Retrospective (2003-2011), cross-sectional study conducted at Federal University of Minas Gerais, Belo Horizonte, Brazil. Previously validated UBT was performed with an infrared analyzer (IRIS, Wagner Analysen-Technik, Germany), using 75mg 13C-urea in 200 mL of orange juice after overnight fasting. Breath samples were collected at 0 and 30 min. All tests with a delta over baseline (DOB) >4‰ at 30 min were considered positive. Database analyses were performed using Minitab-16, Excel-2007, and Mann-Whitney test. Results: After excluding multiple testing for an individual, 12,988 UBTs [7659 in females (59%) and 5239 (41%) in males) were performed. The majority of the patients were adults (mean age: 46 years, range 1-107, SD 16.8). UBT was positive in 3911 (30%) and negative in 9077 (70%). The median DOB positive UBT values in females (23.4 ‰) were significantly higher than in males (18.4 ‰) (p<0.000). Among the positive UBT tests, there were no significant gender differences between age (females: 46 years, males: 44 years) and body mass index (BMI) range (females: 24.8 Kg/m², males: 24.3 Kg/m²). Conclusions: H. pylori positive females have an unexplained significantly higher UBT values than infected males and these findings might have clinical consequences.

Disclosure(s):
The following people have nothing to disclose: Frederico P. Marinho, Osmar R. Trindade, Luiz G. Coelho
Viral Hepatitis: Epidemiology and Management

Hepatitis C in the Amazon Rainforest

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Abstract:
Introduction: Hepatitis C (HCV) is a disease with a significant global impact. Brazil is a country characterized as intermediate endemicity, with few epidemiological data on the population of the Amazon rainforest. Objectives: To determine the prevalence of HCV in the inhabitants of the city of Iranduba, located 22 kilometers from the capital Amazonas, the largest state in the Amazon region, and identify risk factors.

Methods: After approval by the ethics committee of the University of the State of Amazonas, this prospective study was conducted between May and October of 2012, in partnership with the county health department, which provided us a team of two nurses, eighteen nursing technicians and twelve community health workers. To the residents of the urban area were released day and places where anti-HCV testing were going to be offered as well as to the residents of rural areas, including the local population, the survey was made available in health centers or at their homes. After signing an informed consent term, the volunteers were subjected to an anti-HCV rapid test from Bioeasy® and an epidemiological questionnaire.

Results: 656 volunteers participated, from 19 neighborhoods spread between urban and rural areas. The standard deviation of age was ± 14.74, and 34.1% (225) were male and 65.9% (431) females. Regarding sexuality, 79.1% (517), were heterosexual. As for naturality, the majority were from the state itself, totaling 63.8% (417) of the sample. As for education, 7.9% (52) said they were illiterate, 28.3% (185) having attained secondary education and 8.1% (53) to enter higher education. Among the participants 11.3% (73) were health professionals. A total of 0.2% (1) related infection by human immunodeficiency virus. 4.8% (25) reported past history of jaundice and 39.2% (202) had relatives who were diagnosed with hepatitis at some point in life. For risk factors, 38.1% (250) reported daily consumption of alcohol, 20.9% (136) reported tattoos and/or piercings on the body and 4.9% (32) were injecting drug users and 22.5 % (18) received a blood transfusion before 1990. Of the 279 reports of surgery 2.5% (7) underwent some type of surgery before the 90s. One case was registered of anti-HCV reactive, with confirmation of the polymerase chain reaction real time, with genotype 2, was a female, mulatto, aged 62, with incomplete primary education, natural from the state of Amazonas, housewife, divorced, with a history of blood transfusion in 1992.

Conclusion: The study showed prevalence of 0.2%, as characterizing the Amazon rainforest region of low endemicity for HCV, in contrast to the national average, diverging also the type of predominant genotype in the country, the type 1.

Disclosure(s):
The following people have nothing to disclose: Midiã B. Andrade, George V. Silva, Valter C. Neto, André P. Almeida, Felicien G. Vasquez, Lígia H. Freitas, Gabriel R. Di Tommaso, Mayara D.
Ferreira, Juliana M. Moura, Carolina Silva, Renata F. Lima, Sanmya B. Oliveira, Adriana Malheiro, Felipe Naveca, Cristina M. Rocha
**Self-Expandable Metal Stent Is a Valid Alternative in the Palliation of Gastric Outlet Obstruction Patients With High Karnofsky Performance Status**


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**Abstract:**
Introduction: Gastric outlet obstruction is commonly seen in patients with advanced pancreatic cancer, distal gastric cancer and periampullary carcinoma. Many of these patients tend to be poor candidates for palliative surgery. Alternatively, endoscopic placement of self-expandable metal stents (SEMS) has been increasingly used for these patients. Aim: To evaluate the efficacy and safety of SEMS for patients with an indication of endoscopic palliative treatment of malignant gastric outlet obstruction. Patients and Methods: A total of 39 consecutive patients with unresectable malignant gastroduodenal obstruction, who underwent endoscopic palliation through SEMS, between February 2010 and April 2012, were retrospectively studied. Clinical outcomes including tumor type, site of obstruction, success rate, Karnofsky performance status (KPS), gastric outlet obstruction scoring system of food intake (GOSS), complications and survival were evaluated. Results: The mean age was 62.2 years-old (varying from 35 to 84 years-old) and 21 patients were female. Primary malignancy corresponded to: pancreatic cancer in 14, gastric cancer in 10, common bile duct cancer in 9, metastatic lesions in 3 (breast, kidney, lung), and colon cancer extrinsic compression in 2. The maximum oral intake before stenting was liquid diet in 37 patients and semisolid food in 2. Technical success rate of stenting was 100%. The stents were placed transpyloric in 36 patients and into the duodenal bulb in 3. Twenty three patients also had previous biliary stenting. After 30 days, the mortality rate was 35.8% (14/39); and 2 patients were lost of follow-up. After 60 days, 3/23 more patients died (13.1%) and 6 of 23 (26.1%) patients were lost of follow-up. Early complications within 21 days occurred in 2 patients: stent migration and bleeding. Stent occlusion occurred after 40 days in one patient due to tumor ingrowth. Higher KPS was associated to the improvement of GOSS (p < 0.001). Patients who had obstructive symptoms improvement in 30 days presented median KPS = 47.06, in 60 days median of KPS = 50.00, and in 90 days median of KPS = 58.33. At 30 days, 100% of the patients with KPS of 40 or higher presented symptoms improvement. Median overall survival was 50 days for KPS ≤ 40 and 100 days for KPS ≥ 40, p = 0.001. Conclusions: 1. SEMS is an efficient and safe alternative for patients with malignant gastric outlet obstruction; 2. A Karnofsky performance status ≥ 40 was associated to better GOSS after placement of SEMS for the palliation of malignant gastric outlet obstruction, while low KPS represents poor predictive factor of GOSS.

**Disclosure(s):**
The following people have nothing to disclose: Ricardo S. Uemura, Celia Marques, Adriana V. Safatle-Ribeiro, Marcelo S. Lima, Bruno C. Martins, Felipe A. Retes, Caterina Pennacchi, Leonardo Vallinoto, Ulysses Ribeiro, Fauze Maluf-Filho
Duodeno-Jejunal Bypass Liner for the Treatment of Obesity and Type 2 Diabetes: 1-Year Treatment With 6-Months Post-Removal Follow-up

Sa1427 | Eduardo G. de Moura¹, Bruno C. Martins¹, Guilherme Sauniti¹, Ivan R. Orso¹, Suzana L. de Oliveira³, Marco Aurélio Santo⁵, Manoel P. Galvao Neto³, Almino C. Ramos³, Marcio C. Mancini⁴, Arthur B. Garrido², Alfredo Halpern⁴, Paulo Sakai¹, Ivan Cecconello²

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Abstract:
BACKGROUND: endoscopic duodeno-jejunal bypass liner (DJBL) promotes functional exclusion of duodenum and initial jejunum. Previous studies have shown effective weight loss and improvement of type 2 diabetes mellitus (T2D). However, post-removal results are lacking. The aim of this study was to evaluate the efficacy and safety of DJBL, maintained for 12 months, on weight loss and T2D control, and the results after its removal.

METHODS: open-label, cohort, prospective study, including 22 patients with obesity (BMI ≥ 35 kg/m²) and T2D, candidates for bariatric surgery, submitted to DJBL implant maintained for 12 months, and with 6-months follow-up after removal.

RESULTS: DJBL was successfully implanted in all patients. Thirteen patients completed 12 months with device and 12 returned 6 months after removal. Intention-to-treat analysis was done including all patients with device implanted (n = 22). Comparing baseline with last observation carried forward (LOCF), there was significant reduction of weight (119.4 ± 23 kg vs. 102.1 ± 18.7 kg - p < 0.001), BMI (45.3 ± 7.1 kg/m2 vs. 38.7 ± 5.7 kg/m2 - p < 0.001), fasting glucose (179.4 ± 68.8 vs. 139 ± 58.1 mg/dL - p < 0.001), HbA1c (8.9 ± 1.7% vs. 6.9 ± 1.2% - p < 0.001). On per protocol analysis, the 12 patients who returned 6 months after device removal were considered. Weight loss and glycemic control obtained with DJBL were maintained at the end of follow-up (weight, BMI and HbA1c - p < 0.001 compared with baseline; fasting glucose - p= 0.001 compared with baseline). There was also significant reduction of triglycerides, cholesterol, insulin and C-peptide at the LOCF (ITT analysis). CONCLUSION: DJBL maintained for one year is safe and efficient for weight loss and T2D control. Benefits are maintained 6-months after removal.

Disclosure(s):
**Improvement of Insulin Resistance and Reduction of Cardiovascular Risk Among Obese Patients With Type 2 Diabetes With the Duodenojejunal Bypass Liner**


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**Abstract:**
BACKGROUND To evaluate the effectiveness of the Duodeno Jejunal Bypass Liner (DJBL) in the improvement of resistance to insulin and reduction of cardiovascular risk among morbidly obese patients with type 2 diabetes mellitus (T2DM), using the Triglycerides / HDL cholesterol ratio (TG/HDL), the percentage of weight loss, and glycemic control.

METHODS This study included 54 patients implanted with the DJBL and followed for a period of 6 months. All patients had a TG / HDL ratio above 3.5, suggesting greater insulin resistance and lipid profile consistent with increased cardiovascular risk. The initial value of the ratio was compared with the value obtained 6 months after device implantation, in order to assess whether this value decreased, indicating an improvement in insulin resistance and cardiovascular risk reduction. We also evaluated the improvement of glycated hemoglobin (HbA1c) levels and the weight loss resulted from the use of the device, and we correlated that with the improvement of the TG/HDL ratio.

RESULTS All patients implanted with the DJBL presented a statistically significant reduction of the HbA1c levels, with the majority of the patients (70.3%) obtaining diabetes control with HbA1c levels lower than 7% at the end of the study. All patients also presented a significant weight reduction, with an average loss of 12.6% of their initial weight. We observed an important improvement in insulin resistance and metabolic syndrome, with a significant reduction of the TG/HDL ratio from 5.75 to 4.36 (p = 0.0001) with 42.6% of the patients presenting a TG/HDL ratio lower than 3.5 at the end of the study. However, the improvement of the TG / HDL is strongly associated with loss of more than 10% of the initial weight.

CONCLUSIONS The DJBL, when used for a period of 6 months, is effective in the control of T2DM, weight loss, improvement of insulin resistance, improvement of the metabolic syndrome, and decrease of cardiovascular risk among morbidly obese patients with type 2 diabetes mellitus.

**Disclosure(s):**
Manoel P. Galvão Neto – Consulting: GI Dynamics
The following people have nothing to disclose: Eduardo G. de Moura, Ivan R. Orso, Bruno C. Martins, Guilherme Sauniti, Suzana L. de Oliveira, Marco Aurélio Santo, Marcio C. Mancini, Almino C. Ramos, Arthur B. Garrido, Alfredo Halpern, Paulo Sakai, Ivan Cecconello
Influence of the Duodenojejunal Bypass Liner in the Gastric Emptying

Sa1429 | Eduardo G. de Moura¹, Guilherme Sauniti¹, Bruno C. Martins¹, Ivan R. Orso¹, Suzana L. de Oliveira¹, Marco Aurélio Santo², Marcio C. Mancini³, Manoel P. Galvao Neto⁴, Almino C. Ramos³, Arthur B. Garrido³, Alfredo Halpern⁴, Paulo Sakai¹, Ivan Cecconello²

Affiliation
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Abstract:
Introduction: A new treatment for obesity and type 2 diabetes, the duodenal jejunal bypass liner, a totally endoscopic device, been gaining ground in recent years. Despite the good results, the mechanisms of action of DJBL have not been studied.
Objective: To study the changes promoted by DJBL gastric emptying, and the relationship of these changes with clinical outcomes while using the device.
Methods: 25 obese and type 2 diabetes, who used the DJBL for a minimum of 16 weeks and maximum of 24 weeks, perform scintigraphic gastric emptying test, with standard meal labeled, and with analysis of 1, 2 and 4 hours after ingestion, before, during 16 weeks of use, and after 4 weeks of withdrawal of DJBL. We obtained measurements of weight, glycated hemoglobin, triglycerides and HDL, before placing the device and after 4 weeks of their withdrawal. The mean and standard deviation of gastric retention were obtained and compared between the three tests, and after, compared between patients who were and those that failed in selected clinical parameters (weight loss greater than 10%, glycated hemoglobin less than 7%, and TGL / HDL ratio less than 3.5). We also assessed subjectively satiety and food intake during the 16 weeks of using the device.
Results: At baseline examination, 23 patients had normal gastric emptying and, 2 accelerated gastric emptying. In the examination of 16 weeks of use, 12 patients had slowing of the exam, and after 4 weeks of withdrawal, we observed 3 with delayed gastric emptying and 1 accelerated. When evaluated average retention, during the 16th week of use, there is greater retention for the first, second and fourth hour compared to baseline (1st h 74 ± 16.3% p = 0.001, 2nd h 45 ± 25% p <0.001; 4th ± 15 15.8% p <0.001). For the fourth hour of examination, there is no statistical difference between the baseline examination and the fourth week post-withdrawal (2 ± 2% and 4% ± 5.9% p = 0.57). When compared, there is no statistical difference between the gastric retention in the 16th week among patients who achieved and those who did not achieve control of diabetes (p = 0.73), among those who lost more than 10% in weight and those who did not lose (p = 0.275) and among those who decreased the ratio TGL / HDL ratio to less than 3.5 and not decreased (p = 0.89). During the 16th week of use, 23 patients (92%) reported increased sense of early satiety and satiation greater, and all reported eating less food volume for the period prior to placement of the device.
Conclusion: The DJBL cause delayed gastric emptying, reversible after discontinuation, but this change in gastric emptying, despite being symptomatic with increased satiety and satiation, reducing the volume of food ingested, has no relation to weight loss, improvement of diabetes or TGL / HDL ratio.

Disclosure(s):
**Gastrointestinal by-Pass Created by Means of X Ray Guided Endoscopy**
Sa1432 | Kiyoshi Hashiba, Horus A. Brasil, Carlos A. Cappellanes, Pablo R. Siqueira, Marcelo Averbach, Francisco C. Carnevale, Juliana M. Drigo

**Affiliation**
Endoscopic Unit Sirio Libanes Hospital, São Paulo, Brazil

**Abstract:**
Background: The opening of a new pathway between the esophagus or stomach and the jejunum has always been a surgical procedure. Aim: to report our experience using air as contrast in the performance of bypass between two gastrointestinal segments placed close together after unsuccessful surgical procedure. Patients and Methods: Three patients need access to jejunum from the esophagus and stomach. CASE 1 had a total obstruction of esophagojejunostomy, after total gastrectomy. A second patient (CASE 2) had a gastrocutaneous fistula after a gastric bypass and the third, (CASE 3) had a stricture of a biliary anastomosis to the jejunum. In all cases, the jejunum was intentionally distended by air injection. In the first case this was done by means of a jejunostomy. After distention, a puncture with a 19 gauge needle (Wilson-Cook Winston-Salem, NC, USA) followed by injection of iodinated contrast in order to show jejunal folds. A tridimensional X-Ray (Artis Zeego-Siemens) was used to make the procedure safer. When the jejunal folds were seen, a guidewire (0.035 or 0.018 Hydra Jagwire® Guidewire ST SS 0.35, Boston Scientific, USA or MET II 35-480®, WCook, USA) was inserted into the lumen and the track was dilated by means of a 10mm balloon (Boston Scientific, USA). Through the opening, a metallic (Hanarostent®, M.I Tech, Korea) or many plastic endoprostheses (W-Cook, USA) have been placed to keep the new pathway. Results: CASE 1: After 24 days, a control endoscopy revealed distal migration of the metallic endoprostheses which was repositioned and fixed by means of four clips (Resolution® Clip, Boston Scientific, Natick, USA). The endoprostheses was retrieved after two months. The new pathway has remained open after 9 months of follow up in all patients. Only one patient, had fever and mild pain for two days (CASE 2). In the patient with a Roux en Y, (CASE 3) the gastrojejunal pathway closed spontaneously after the treatment of biliary stenosis with five 7 Fr plastic endoprostheses. In the other two cases, the plastic endoprostheses were retrieved after three weeks. No deaths occurred related to the procedures. Conclusion: Endoscopic therapy guided by means X ray using air in the jejunal loop as contrast is useful for the opening of a pathway from esophagus and/or stomach to jejunum in selected cases, after unsuccessful surgery. Long term studies should be necessary in order to confirm these data.

**Disclosure(s):**
Kiyoshi Hashiba – Consulting: Cook Endoscopy
The following people have nothing to disclose: Horus A. Brasil, Carlos A. Cappellanes, Pablo R. Siqueira, Marcelo Averbach, Francisco C. Carnevale, Juliana M. Drigo
Use of an Endoscopic Suturing System to Prevent Stent Migration
Sa1438 | Larissa Fujii, Eduardo A. Bonin, Christopher J. Gostout, Louis M. Wong Kee Song

Affiliation
1Division of Gastroenterology and Hepatology, Mayo Clinic, Rochester, MN; 2Instituto Jacques Perissat, Curitiba, Brazil.

Abstract:
Background: Covered self-expandable metal stents (CSEMS) are increasingly being utilized for management of benign disease, including strictures, fistulas, anastomotic leaks, and perforations, particularly in the upper gastrointestinal tract. However, stent migration remains a major limitation, occurring in up to 62% in some series, resulting in repeated, costly interventions. We describe our experience using an endoscopic suturing device to anchor CSEMS and minimize migration.

Methods: All patients who underwent stent fixation using an endoscopic suturing system (Overstitch, Apollo Endosurgery, Austin, TX) at our institution were identified using a prospectively maintained endoscopy database. Data were abstracted for patient demographics, indications for stent placement, prior history of stent placement and migration, technical success, number of sutures utilized for stent fixation, rate of stent migration despite suture fixation, clinical success (defined as resolution of symptoms or underlying problem), and procedure-related adverse events (AEs). All upper procedures were performed under anesthesia support, whereas the single lower endoscopic procedure was performed under moderate sedation. Scheduled CSEMS removal was performed at 4-12 weeks post placement with suture sectioning using endoscopic scissors or argon plasma coagulation.

Results: A total of 14 patients (12 men) with mean age of 63 years (range 17-85 years) underwent stent anchoring procedures using the endoscopic suturing device (Table 1). The technical success rate for stent placement and fixation was 100%, and the number of sutures utilized ranged from 1 to 5. There were no AEs related specifically to the suturing procedure, though stent-induced tracheoesophageal fistula occurred in 1 patient. Stent migration occurred in 3 (21%) patients at 7, 15 and 40 days post-procedure despite suture fixation. However, stent migration was prevented by suture fixation in 5 of 7 (71%) patients in whom prior stent placement resulted in migration. Clinical success was durable in 7 (50%) patients, but transient in 3 patients (21%) in whom symptom recurrence or abnormal imaging occurred at a mean of 28 days (range 16-40 days) post stent removal. The remaining patients had incomplete or no resolution of symptoms or underlying condition following stent removal.

Conclusions: The use of an endoscopic suturing system for stent fixation is feasible and safe. Although stent migration occurred despite suture fixation, it prevented migration in a substantial proportion of patients in whom prior stenting resulted in stent migration. Prospective comparative trials are awaited to determine the long-term efficacy and safety of endoscopic suturing to anchor endoluminal stents.

Table 1: Patient Characteristics
<table>
<thead>
<tr>
<th>No.</th>
<th>Indication</th>
<th>Prior Stenting (#Attempts)</th>
<th>SEMS (mm length x mm diameter)</th>
<th># Sutures</th>
<th>SEMS Migration Despite Suture Fixation</th>
<th>Clinical Success</th>
<th>Complications</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Gastrogastric anastomotic stricture</td>
<td>N</td>
<td>PC-SEMS (130 x 7)</td>
<td>1</td>
<td>N</td>
<td>Complete</td>
<td>N</td>
</tr>
<tr>
<td>2</td>
<td>Gastrocutaneous fistula</td>
<td>N</td>
<td>PC-SEMS (160 x 1)</td>
<td>2</td>
<td>N</td>
<td>Incomplete</td>
<td>Y (dysphagia)</td>
</tr>
<tr>
<td>3</td>
<td>Enterocolic fistula</td>
<td>N</td>
<td>PC-SEMS (100 x 2)</td>
<td>2</td>
<td>N</td>
<td>Complete</td>
<td>N</td>
</tr>
<tr>
<td>4</td>
<td>Tracheoesophageal fistula</td>
<td>N</td>
<td>PC-SEMS (70 x 10)</td>
<td>3</td>
<td>Y</td>
<td>Incomplete</td>
<td>N</td>
</tr>
<tr>
<td>5</td>
<td>Esophageogastric anastomotic dehiscence</td>
<td>Y (1)</td>
<td>PC-SEMS (120 x 10)</td>
<td>3</td>
<td>N</td>
<td>Complete</td>
<td>Y (stenosis induced tracheoesophageal fistula)</td>
</tr>
<tr>
<td>6</td>
<td>Esophageogastric anastomotic stricture</td>
<td>Y (6)</td>
<td>PC-SEMS (100 x 11)</td>
<td>1</td>
<td>Y</td>
<td>Transient</td>
<td>N</td>
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<td>7</td>
<td>Esophageogastric anastomotic stricture</td>
<td>N</td>
<td>PC-SEMS (100 x 11)</td>
<td>3</td>
<td>N</td>
<td>Transient</td>
<td>N</td>
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<tr>
<td>8</td>
<td>Colorectal anastomotic stricture</td>
<td>N</td>
<td>PC-SEMS (70 x 10)</td>
<td>3</td>
<td>N</td>
<td>Complete</td>
<td>N</td>
</tr>
<tr>
<td>9</td>
<td>Esophageal perforation</td>
<td>Y</td>
<td>PC-SEMS (100 x 23)</td>
<td>3</td>
<td>N</td>
<td>Complete</td>
<td>N</td>
</tr>
<tr>
<td>10</td>
<td>Esophageal stricture</td>
<td>Y (3)</td>
<td>PC-SEMS (130 x 11)</td>
<td>4</td>
<td>N</td>
<td>Complete</td>
<td>N</td>
</tr>
<tr>
<td>11</td>
<td>Gastrojejunal anastomotic stricture</td>
<td>Y (1)</td>
<td>PC-SEMS (100 x 11)</td>
<td>5</td>
<td>Y</td>
<td>Transient</td>
<td>N</td>
</tr>
<tr>
<td>12</td>
<td>Esophageal perforation</td>
<td>Y (1)</td>
<td>PC-SEMS (120 x 20)</td>
<td>2</td>
<td>N</td>
<td>Incomplete</td>
<td>N</td>
</tr>
<tr>
<td>13</td>
<td>Chronic jejuno-cutaneous fistula</td>
<td>N</td>
<td>PC-SEMS (70 x 10)</td>
<td>3</td>
<td>N</td>
<td>Incomplete</td>
<td>N</td>
</tr>
<tr>
<td>14</td>
<td>Esophageogastric anastomotic stricture</td>
<td>Y (3)</td>
<td>PC-SEMS (100 x 11)</td>
<td>2</td>
<td>N</td>
<td>Complete</td>
<td>N</td>
</tr>
</tbody>
</table>

Y= yes; N= no; FC= fully covered; PC= partially covered; SEMS= self-expanding metal stent

Disclosure(s):
Christopher J. Gostout - Consulting: Vysera, Ireland, Olympus America, Inc.; Grant/Research Support: Apollo Endosurgery Inc, Olympus Japan; Stock Shareholder: Torax Medical
The following people have nothing to disclose: Larissa Fujii, Eduardo A. Bonin, Louis M. Wong, Kee Song
Surgical or Endoscopic Management of Post-ERCP Large Duodenal Perforations: A Multicenter Prospective Trial

11:00 | 65 | Everson L. Artifon1,2, Marco Antonio B. Cunha2, Dayse P. Aparicio2, Eduardo B. da Silveira2, Carlos K. Furuya1,2, José Paione2

Affiliation
1University of São Paulo Medical School, São Paulo, Brazil; 2Ana Costa Hospital, Santos, Brazil

Abstract:
Background: Post-sphincterotomy large perforation (PSP) of the duodenum is not uncommon. While most perforations can be successfully managed conservatively, patients with transmural PSP often require a surgical intervention.

Aim: To compare the outcomes of patients undergoing endoscopic and surgical treatment for a transmural PSP.

Method: From 2007 to 2012, 23/4117 (0.5%) patients from 3 tertiary centers with transmural large PSP were randomized to either (I) covered SEMS plus at least 2 endoclips to approximate the duodenal mucosa; or (II) open vs laparoscopic surgery repair within 12 hours of the complication. All patients were treated with IV antibiotics, NGT suction, IV PPI and restricted from oral intake. The covered SEMS were successfully removed from all patients within 30 days. The classification of Stapfer was used to determine the type of perforation.

Results: Table 1

Conclusion: Our results suggest that endoscopic management of transmural PSP can be successfully achieved in a significant subset of patients yet at a lower cost and a shorter hospital stay. Larger studies to identify independent predictors of a successful outcome are needed.

Table 1

<table>
<thead>
<tr>
<th></th>
<th>Group I</th>
<th>Group II</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>12</td>
<td>11</td>
<td>NS</td>
</tr>
<tr>
<td>Mean age (years)</td>
<td>69.7</td>
<td>63.9</td>
<td>-</td>
</tr>
<tr>
<td>Perforation type</td>
<td>5/12 (41.6%)</td>
<td>4/11 (36.3%)</td>
<td>NS</td>
</tr>
<tr>
<td>Success of procedure (%)</td>
<td>11/12 (91.6%)</td>
<td>11/11 (100%)</td>
<td>NS</td>
</tr>
<tr>
<td>Peritonial perforation (%)</td>
<td>5/12 (41.6%)</td>
<td>3/11 (27.3%)</td>
<td>0.086</td>
</tr>
<tr>
<td>Retropertional perforation (%)</td>
<td>7/12 (58.3%)</td>
<td>8/11 (72.7%)</td>
<td>0.191</td>
</tr>
<tr>
<td>Mean time of hospitalization (days; range)</td>
<td>4.1 [3-5]</td>
<td>5.2 [3-18]</td>
<td>0.0123</td>
</tr>
<tr>
<td>Size of perforation (mm)</td>
<td>10-20</td>
<td>3/12 (25%)</td>
<td>NS</td>
</tr>
<tr>
<td>Technical procedure</td>
<td>SEMS + clips = 12</td>
<td>Hepaticojunostomy = 4/11 (36.3%)</td>
<td>Duodenal suture = 3/11 (27.2%)</td>
</tr>
<tr>
<td>Complications (%)</td>
<td>Retropertional abscess: 1/12 (8.3%)</td>
<td>Abscess: 1/11 (9.1%)</td>
<td>N S</td>
</tr>
<tr>
<td>Mean total cost (US)</td>
<td>14,700 ± 2835</td>
<td>19,472 ± 5,877</td>
<td>0.0103</td>
</tr>
</tbody>
</table>

Disclosure(s):
The following people have nothing to disclose: Everson L. Artifon, Marco Antonio B. Cunha, Dayse P. Aparicio, Eduardo B. da Silveira, Carlos K. Furuya, José Paione
EUS Imaging and Therapeutics: New Answers to Old Questions

Endoscopic Ultrasound (EUS) Guided Biliary Drainage: What Have We Learned?

2:15 | 140 | Michel Kahaleh¹, Manuel Perez-Miranda², Everson L. Artifon³, Kapil Gupta⁴, Do Hyun Park⁵, Jong Ho Moon⁶, Hyun Jong Choi⁷, Carlos De la Serna⁸, Jose-Guillermo De La Mora-Levy⁹, Juan Octavio Alonso-Larraga⁹, Miguel A. Ramirez⁸, Raj J. Shah⁹, Brian C. Brauer⁹, Norio Fukami⁹, Monica Gaidhane¹, Erwan Bories¹⁰, Marc Giovannini¹⁰

Affiliation
¹Division of Gastroenterology and Hepatology, Weill Cornell Medical College, New York, NY; ²Gastroenterology, Hospital Universitario Rio Hortega, Valladolid, Spain; ³Pancreatic and Biliary Unit, Ana Costa Hospital, Valladolid, Brazil; ⁴Gastroenterology, Cedars-Sinai Medical Center, Los Angeles, CA; ⁵Gastroenterology, University of Ulsan College of Medicine, Asan Medical Center, Seoul, Republic of Korea; ⁶Gastroenterology, Soon Chun Hyang University School of Medicine, Seoul, Republic of Korea; ⁷Gastroenterology, Instituto Nacional de Cancerologia, Mexico, Mexico; ⁸Gastroenterology, INSTITUTO NACIONAL DE CIENCIAS MEDICAS Y NUTRICION SALVADOR ZUBIRAN, Mexico, Mexico; ⁹Gastroenterology, University of Colorado Anschutz Medical Campus, Denver, CO; ¹⁰Endoscopic Unit, Paoli-Calmettes Institute, Marseille, France

Abstract:
Background: Endoscopic retrograde cholangio-pancreatography (ERCP) is the preferred technique for treating benign or malignant biliary strictures but may fail in patients with altered anatomy or impaired papillary access. The last decade has seen dramatic increase in the use of EUS-guided biliary drainage (EUS-BD) as an alternative to percutaneous drainage. However many questions still remain related to preferred access and type of drainage. Our study’s aim was to evaluate predictive factors of success in EUS-BD.

Methods: 11 centers participated in a multicenter international registry study. Data on all patients undergoing EUS-BD from March 2008 to October 2012 were analyzed retrospectively. Demographics, access route, stricture etiology, altered anatomy, technique (intrahepatic or extrahepatic), stent placement route (transpapillary, transanastomotic/transenteric, hepaticogastrostomy), stent type (metal or plastic), outcome, and post procedure as well as long term complications were collected.

Results: A total of 281 patients (152, 54% males) with a mean age of 64.6 +/- 14.9 were included for analysis. 232/281 (86%) achieved successful biliary drainage through EUS-BD. 236 (84%) patients had malignant strictures and 45 (16%) had benign strictures. Only 54 patients had altered anatomy (19%). Intrahepatic technique was used in 152 patients (54%), while extrahepatic was used in 129 cases (46%). Rendezvous approach was used in 26 cases (9%). Transpapillary route was used in 74 (26%) cases, Transenteric/transanastomotic in 114 (41%) cases and hepaticogastrotomy in 89 (32%) cases. Metal stents were placed in 185 (66%) cases and plastic stents in 63 (22%). 97/281 (34.5%) cases had complications that included acute pancreatitis (1), aspiration pneumonia (1), bacteremia (1), bile leak (16), bile peritonitis (3), bleeding (27), cholangitis (18), jaundice (1), fever (2), stent migration (8), pain (4), post-ercp pancreatitis (1), Pneumoperitoneum (7), Bronchoaspiration (2) and obstruction (5). 79 (81%) of the complications occurred in malignant stricture cases. 56 (57%) complications occurred in metal stent cases, 26 (27%) in plastic stent cases, and 15 (15%) in cases with no stents. Logistic regression was conducted to evaluate the predictive factors for successful outcome and complications (Table 1). No factors were significantly associated with improved successful outcomes or low complication rates.

Conclusion: Successful outcomes and safety profile are not different for gender, stricture type, extrahepatic or intrahepatic technique or stent placement route. Different techniques and approaches may be employed based on etiology, stricture location, and eventual altered anatomy emphasizing the need to individualize treatment for every case.
Table 1: Predictive Factors for Successful outcome and Complications (281 n)

<table>
<thead>
<tr>
<th>Predictor</th>
<th>N(%)</th>
<th>Adjusted OR &amp; 95%CI For Safety Outcome</th>
<th>Adjusted OR &amp; 95%CI For Complications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Predictor 1</td>
<td>Male: 122 (54%)</td>
<td>1.00 [Reference]</td>
<td>1.00 [Reference]</td>
</tr>
<tr>
<td></td>
<td>Female: 129 (46%)</td>
<td>1.69 [0.53 - 5.38]</td>
<td>1.00 [0.59 - 1.69]</td>
</tr>
<tr>
<td>Predictor 2</td>
<td>Benign: 45 (16%)</td>
<td>2.71 [0.43 - 17.02]</td>
<td>0.52 [0.25 - 1.11]</td>
</tr>
<tr>
<td></td>
<td>Malignant: 236 (84%)</td>
<td>1.00 [Reference]</td>
<td>1.00 [Reference]</td>
</tr>
<tr>
<td>Predictor 3</td>
<td>Altered 54 (19%)</td>
<td>0.33 [0.09 - 1.17]</td>
<td>0.82 [0.41 - 1.62]</td>
</tr>
<tr>
<td></td>
<td>Normal: 222 (81%)</td>
<td>1.00 [Reference]</td>
<td>1.00 [Reference]</td>
</tr>
<tr>
<td>Predictor 4</td>
<td>Intrahepatic: 132 (39%)</td>
<td>0.31 [0.03 - 2.21]</td>
<td>2.07 [0.71 - 6.09]</td>
</tr>
<tr>
<td></td>
<td>Extrahepatic: 123 (41%)</td>
<td>1.00 [Reference]</td>
<td>1.00 [Reference]</td>
</tr>
<tr>
<td>Predictor 5</td>
<td>Yes: 26 (9%)</td>
<td>1.00 [Reference]</td>
<td>1.00 [Reference]</td>
</tr>
<tr>
<td></td>
<td>No: 255 (91%)</td>
<td>0.99 [0.603 - 3.26]</td>
<td>0.32 [0.09 - 1.20]</td>
</tr>
<tr>
<td>Predictor 6</td>
<td>Transpapillary: 74 (26%)</td>
<td>1.00 [Reference]</td>
<td>1.00 [Reference]</td>
</tr>
<tr>
<td></td>
<td>Transenteric: 114 (41%)</td>
<td>0.06 [0.006 - 0.66]</td>
<td>1.84 [0.63 - 5.40]</td>
</tr>
<tr>
<td></td>
<td>Hepaticoenterostomy: 89 (32%)</td>
<td>0.17 [0.08 - 3.11]</td>
<td>0.41 [0.19 - 0.87]</td>
</tr>
<tr>
<td></td>
<td>None: 3 (1%)</td>
<td>0.01 [0.001 - 0.06]</td>
<td>2.24 [0.11 - 46.31]</td>
</tr>
</tbody>
</table>

Adjusted for Gender, Stricture Type, Anatomy, Technique, Rendezvous, Stent Placement, Stent Type

Disclosure(s):
The following people have nothing to disclose: Manuel Perez-Miranda, Everson L. Artifon, Kapil Gupta, Do Hyun Park, Jong Ho Moon, Hyun Jong Choi, Carlos De la Serna, Juan Octavio Alonso-Larraga, Miguel A. Ramirez, Brian C. Brauer, Monica Gaidhane, Erwan Bories, Marc Giovannini
Mesalamine Improve Symptoms of Diarrhea-Predominant Irritable Bowel Syndrome
Su2044 | Mauro Bafutto¹, ¹, Alexandre A. Bafutto¹, ⁴, Enio C. Oliveira³, Joffre Rezende Filho²

Abstract:
Background: Studies demonstrated that some Irritable Bowell Syndrome (IBS) patients display persistent signs of minor mucosal inflammation with ativated T lymphocytes, mast cells and enhanced expression of proinflammatory cytoquines. Mesalazine has intestinal anti-inflammatory properties and has been indicated for inflammatory bowell disease. Preliminary reports showed benefits after Mesalamine treatment on diarrhea-predominant IBS(IBS-d) but stronger evidence with placebo controlled studies are lacking. Aims : Evaluate the effects of Mesalamine therapy on symptoms of IBS-d patients. Methods: Based on Rome III criteria, 21 IBS-d patients ( 18 year or more) were selected after sign an informed consent. To exclude organic diseases all patients underwent colonoscopy, stool culture, serum anti-endomisium antibody, lactose tolerance test and ova and parasite stool exam. Drugs that might have any effect on intestinal motility or secretion were not allowed. At baseline (pre-treatment) all patients answered a 4 likert scale protocol including: stool frequency, stool form and consistency (Bristol scale), abdominal pain and distension. Patients were divided in 3 groups: Groups 1 and 2 were randomized and Group 3 Open Label: 1 - Placebo Group (PG) - 7 patients received placebo t.i.d. for 90 days 2 - Mesalamine Group (MG) - 7 Patients received Mesalamine 800mg t.i.d. for 90 days. 3 - Mesalamine Open Label Group (MOLG) - 7 Patients received Mesalamine 800mg t.i.d. for 90 days. Monthly clinical visits were made and at the end of 90 days they answered again the symptom score protocol.( Max. score = 16, min score = 4). Paired t test was used for statistical analyses. Results: Compared to baseline, there were statistically significant reduction of symptom score at 90th day therapy in MG (M[SD] x M[SD]) 12,50[3,21]x4,33[0,52]p=0.001 and in MOLG 10,71[0,49] x 4,57[0,79]p=0.0001.No statistically significant results were seen in PG. Statistically significant results were seen when compared PG and MG 8,83[3,82]x4,33[0,52]p=0.04 and PG and MOLG p=0.01.There were no statistically significant differences between MG and MOLG p=0.51. Conclusion: Mesalamine improved the Key symptoms in IBS-d patients. These results warrant further larger studies.

Disclosure(s):
The following people have nothing to disclose: Mauro Bafutto, Alexandre A. Bafutto, Enio C. Oliveira, Joffre Rezende Filho
Inflammatory and Microscopic Enterocolitis

Enemas of Heparin From Marine Invertebrates Attenuate Experimental Diversion Colitis

Su1259 | Valter Alvarenga, Rodrigo G. Pacheco, Christiano C. Esposito, Fernanda Buongusto, Morgana T. Castelo-Branco, Kalil Madi, Celso R. Belmiro, Mauro Sergio G. Pavao, Heitor S. Souza, Alberto Schanaider

Affiliation

UFRJ – Federal University of Rio de Janeiro, Rio de Janeiro, Brazil

Abstract:

BACKGROUND AND AIMS: Diversion colitis constitutes a common complication involving the excluded colon’s segment following colostomy. A complex inflammatory process usually develops into a chronic disease, for which medical management is still unsatisfactory. Heparin, a polysaccharide of animal origin used as anticoagulant, has also been shown to have anti-inflammatory activity. However, the pharmacological effect of heparin following parenteral administration has a considerable risk of bleeding. In our laboratory, we isolated heparin-like glycans from marine invertebrates containing potent anti-inflammatory effect but low anticoagulant activity. In this work, we investigated whether mammalian or ascidian Styela plicata heparin could diminish inflammation in experimental diversion colitis through rectal administration.

METHODS: Wistar specific pathogen-free rats were submitted to a Hartmann’s end colostomy and treated with enemas containing mammalian or Styela plicata heparin, or saline. Enemas were administered three times a week in the excluded colon segment from 4 to 8 wks after surgery. The effect of treatment was evaluated using video-endoscopic and histologic scores, measuring cytokines interleukin-1β (IL-1β), interleukin-6 (IL-6), tumor necrosis factor-α (TNF-α), and transforming growth factor-β production in organ cultures by enzyme-linked immunosorbent assay, quantifying T-cells and macrophages, and investigating nuclear factor-kappa B (NFκB) and external mitogen activated protein kinase (pERK) activation.

RESULTS: Treatment with either mammalian or Styela plicata heparins significantly reduced colonoscopic and histological scores (P<0.02) and restored the densities of collagen fibers and the number of goblet cells (P<0.03) in the diverted colon. Both heparin treatments decreased the accumulation of T-cells and macrophages (P<0.03), and the activation of NFκB and pERK (P<0.04), in the diverted colon. The high levels of cytokines IL-1β, TNF-α, and IL-6 from the diversion colitis explants significantly decreased (P<0.05) to near normal values with heparin treatments.

CONCLUSION: The improvement of experimental diversion colitis with heparin treatments indicates the remarkable anti-inflammatory effect of these compounds, even following topical administration. In particular, Styela plicata heparin, with a lower risk of hemorrhage emerges as a potential new alternative for the treatment of human diversion colitis.

Disclosure(s):

The following people have nothing to disclose: Valter Alvarenga, Rodrigo G. Pacheco, Christiano C. Esposito, Fernanda Buongusto, Morgana T. Castelo-Branco, Kalil Madi, Celso R. Belmiro, Mauro Sergio G. Pavao, Heitor S. Souza, Alberto Schanaider
Is Calretinin Immunohistochemistry Able to Decrease the Rate of Inconclusive Results of Rectal Suction Biopsies in Hirschsprung’s Disease?

Pedro L. Lourenção, Erika P. Ortolan, Bonifácio K. Takegawa, Rozemeire G. Marques, Simone A. Terra, Maria Aparecida M. Rodrigues

Affiliation
Surgery, Botucatu Medical School, Botucatu, Brazil

Abstract:
Introduction: Hirschsprung’s disease (HD) is a developmental disorder of the enteric nervous system, characterized by absence of the ganglion cells along the distal rectum and contiguous bowel. The gold standard for diagnosis is the histopathological analysis obtained from rectal suction biopsies. However, many difficulties occur during this evaluation. Inadequate biopsy samples and interpretative details in the histopathological analysis are associated with high rates of inconclusive results. We decided to investigate whether the introduction of a new ancillary method, the calretinin immunohistochemistry, in the diagnostic panel composed by Hematoxylin & Eosin (H&E) and Acetylcholinesterase histochemistry (Ache) is able to decrease the rate of inconclusive results. Patients and Methods: We have analyzed data from patients undergoing rectal biopsies, before and after the introduction of calretinin immunohistochemistry in the diagnostic work up for HD. The rate of biopsies without a conclusive diagnosis was determined. Only patients with rectal suction biopsies performed using the apparatus and method described by Noblett (1969) were included in this study. The histopathological analysis was conducted by at least two experienced pathologists. The diagnostic criteria used for the diagnosis of HD were: absence of ganglion cells in H&E sections, positive reaction in parasympathetic nerve fibers of the lamina propria and muscularis mucosa in Ache histochemistry method and the absence of reactivity for Calretinin in the immunohistochemical evaluation. Results: Data from 82 patients were analyzed, 41 in each series. The failure rate obtained in the second series of cases, after the introduction of calretinin method was 11.9%, significantly lower than that observed in the first series of cases of 37.8%, using only H&E and Ache histochemistry (p=0.006, chi-squared test). HD was diagnosed in 7 of 41 patients (17%) in the first series of cases and in 11 of 41 patients (26.8%) in the second series of cases. Discussion: The introduction of calretinin immunohistochemistry in the diagnostic work up for the histopathological analysis proved to be able to decrease the rate of inconclusive diagnosis in rectal suction biopsies for HD. Calretinin immunohistochemistry is an excellent method to exclude HD, by showing the presence of immunohistochemical expression for calretinin in intrinsic nerve fibers in the lamina propria and muscularis mucosa (Figure 1), which allowed to rule out the diagnosis of HD, even in superficial samples. Conclusion: Calretinin immunohistochemistry is a useful ancillary method and its inclusion in the histopathological panel for HD biopsies is advisable to improve the diagnostic accuracy of this challenging disease.
Calretinin immunohistochemistry revealing the presence of intrinsic nerve fibers in the muscularis mucosa and lamina propria, thus allowing to exclude the diagnosis of Hirschsprung’s disease (400x)

**Disclosure(s):**
The following people have nothing to disclose: Pedro L. Lourenção, Erika P. Ortolan, Bonifácio K. Takegawa, Rozemeire G. Marques, Simone A. Terra, Maria Aparecida M. Rodrigues
Normal Values for Chemical Clearance of Acid Gastroesophageal Reflux in Infants and Children
Su1103 | Frederick W. Woodley1, 2, Rodrigo S. Machado4, Jolie Benner1, Marina Orsi3, Carlo Di Lorenzo1, 2, Hayat Mousa1, 2

Affiliation
1Gastroenterology, Hepatology, and Nutrition, Nationwide Children's Hospital, Columbus, OH; 2Pediatrics, Ohio State University College of Medicine, Columbus, OH; 3Pediatric Gastroenterology, Hospital Italiano, Buenos Aires, Argentina; 4Pediatrics, Federal University of São Paulo, São Paulo, Brazil

Abstract:
Background: Clearance of acid gastroesophageal reflux (AGER) is a two phase process that consists of a volume clearance (VC) phase and a trailing chemical clearance (CC) phase during which the acidified esophageal mucosa is neutralized by swallowed bicarbonate-rich saliva and/or secretions of bicarbonate from esophageal submucosal glands. Medical conditions that result in the delay of either of these processes can result in esophagitis, heartburn, sleep disturbances, and predisposition to the development of esophageal cancer. Using combined esophageal pH monitoring and multichannel intraluminal impedance (EPM/MII) to assess AGER, 4 classes of AGER can be detected; classic two-phase, single-phase, pH only events, and re-reflux events. Two-phase AGER episodes provide a metric with which to assess CC because VC and CC during these events are clearly delineated (see figure below). Specific Aim: To assess the two-phase AGER episodes from EPM/MII tracings for a population of normal infants and children in order to define the normal range of CC for these pediatric populations. Methods: We evaluated EPM/MII tracings for patients referred for GER assessment. We excluded tracings from patients who: 1) had AGER Indices greater than 50% of the upper end of normal (i.e. >3% for children >12 months and >6% for infants ≤12 months), 2) had a positive temporal association of GER with symptoms, 3) were on anti-reflux meds at the time of the study, 4) had a fundoplication prior to the study, and 5) had studies shorter than 20 hours. CC efficiency was evaluated by recording CC start-time and the stop times as well as the nadir pH at the beginning of CC. CC rate was calculated by subtracting the nadir pH from 4 (the pH of neutralization) and then dividing the difference by the duration of CC. The mean for both variables (duration and rate) was calculated for each subject. Normal range of CC was defined by the interval from the 5th to 95th percentiles. Results: A total of 31 infants (13F/18M, median age 5.2 months [range 3 wks-11months]) with a median AGER Index of 2.2% (range 0.2-5.9%) and 50 children (14F/36M, median age 7.0 yrs [range 2.8-11.0 yrs]) with a median AGER Index of 1.4% (range 1.3-3.0%). For infants, the normal range of CC duration and rate 25.0-131.5s and 0.009-0.216 pH units/sec, respectively. For the 50 children, the normal range of CC duration and rate was 6.5-116.2s and 0.045-0.581 pH units/sec, respectively. See table below. Conclusions: The results of this study provide a range of values for infants and children with normal AGER indices and no positive temporal associations of GER with symptoms. These normal values may be used to identify infants and/or children who may be at risk of developing serious clinical manifestations due to delayed CC.

<table>
<thead>
<tr>
<th>Percentiles</th>
<th>Duration (seconds)</th>
<th>Rate (pH units/sec)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infants</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.5h</td>
<td>24.0</td>
<td>0.008</td>
</tr>
<tr>
<td>5h</td>
<td>25.0</td>
<td>0.009</td>
</tr>
<tr>
<td>Median (IQR)</td>
<td>61.8 (44.4-68.3)</td>
<td>0.065 (0.039-0.095)</td>
</tr>
<tr>
<td>95th</td>
<td>131.5</td>
<td>0.216</td>
</tr>
<tr>
<td>97.5h</td>
<td>153.3</td>
<td>0.25</td>
</tr>
<tr>
<td>96h</td>
<td>23</td>
<td>6.02</td>
</tr>
<tr>
<td>Median (IQR)</td>
<td>37.8 (29.2-52.6)</td>
<td>0.15 (0.065-0.178)</td>
</tr>
<tr>
<td>95th</td>
<td>116.2</td>
<td>0.581</td>
</tr>
<tr>
<td>97.5h</td>
<td>226.8</td>
<td>1.172</td>
</tr>
</tbody>
</table>

IQR, interquartile range (25th-75th percentiles)
Disclosure(s):
Hayat Mousa – Grant/Research Support: MMS
The following people have nothing to disclose: Frederick W. Woodley, Rodrigo S. Machado, Jolie Benner, Marina Orsi
Gastroesophageal Reflux Assessed by Impedance-pH Monitoring in Critically Ill Mechanically Ventilated Children

Su1105 | Cristiane Hallal1, 2, Veridiana S. Chaves1, Gilberto C. Borges1, Eliana A. Trotta1, Paulo R. Carvalho1, Jeferson P. Piva1, Denise Manica1, Paulo Marostica1, Sergio G. Barros1, 2, Helena A. Goldani1, 2

Affiliation
1Hospital de clinicas de Porto Alegre, Porto Alegre, Brazil; 2Post-Graduate Program Sciences in Gastroenterology and Hepatology, Universidade Federal do Rio Grande do Sul, Porto Alegre, Brazil

Abstract:
Background and Aims: Critically ill patients have esophageal motor abnormalities and high risk of gastroesophageal reflux (GER). We aimed to evaluate the acid and non acid GER by multichannel intrasophageal impedance-pH (MII-pH) monitoring in critically ill children undergoing mechanical ventilation. Patients and Methods: Thirty-three critically ill children undergoing mechanical ventilation were enrolled. All were sedated, on full enteral nutrition and underwent MII-pH study by using equipment Sleuth-Sandhill Scientific, USA. Data were manually analyzed by using software BioVIEW Analysis version 5.6 (Sandhill Scientific). MII-pH parameters analyzed were: number of total episodes of GER (NGER); height of refluxate [proximal (PGER) or distal (DGER)]; reflux content [acid, when ph<4 (AGER) or non acid, when pH>4 (NAGER)]; and acid reflux index [(ARI) percentage of time when pH<4, considered altered when ARI was >10% in children under 1 year age and >5% in older than 1 year]. The following variables were also considered for analysis: use of antacid medicines (yes or no) and placement of enteral feeding tube (gastric or post-pyloric). Wilcoxon test was used to compare AGER vs NAGER, and PGER vs DGER. Mann-Whitney test was used to compare the number of reflux episodes of patients on and off antacid medicines or patients with gastric or post-pyloric feeding. Results: Median (range) age was 4 months (1-174m), 23 were males. Eighteen (54.5%) were on antacid secretory medicines (9 ranitidine, 9 omeprazol), and all of them did not have increased ARI. From 15 patients who were off antacid medication, 3 had increased ARI. A total of 1931 GER episodes were analyzed. Median (25th-75th percentile) NGER/patient was 59 (19.5-84.5) episodes. There was significant difference between NAGER and AGER [40.0 (19.5-66.5) vs 1.0 (0.0-12.0), respectively, p<0.001], and PGER and DGER [38.8 (11.0-58.0) vs 12.0 (4.0-23.5), respectively, p<0.001]. In distal and proximal reflux, there was a significantly increased number of non-acid reflux than acid reflux [distal reflux: AGER 0.0 (0.0-1.5) vs NAGER 10.0 (4.0-19.0), p<0.001; and proximal reflux: AGER 0.0 (0.0-10.0) vs NAGER 34.0 (11.0-47.5), p<0.001]. These results remained significant after controlling the use of antacids and placement of enteral tube feeding to all parameters: NGER (p=0.421 and p=0.129), AGER (p=0.509 and p=0.478), NAGER (p=0.117 and p=0.116), PGER (p=0.486 and p=0.104) and DGER (p=0.682 and p=0.157).

Conclusion: Critically ill mechanically ventilated children had more proximal and nonacid GER. This may be due to the esophageal motility abnormalities found in this group of patients and reinforces the risk of pulmonary aspiration.

Disclosure(s):
The following people have nothing to disclose: Cristiane Hallal, Veridiana S. Chaves, Gilberto C. Borges, Eliana A. Trotta, Paulo R. Carvalho, Jeferson P. Piva, Denise Manica, Paulo Marostica, Sergio G. Barros, Helena A. Goldani
Normal Impedance Values for Non-Acid Gastroesophageal Reflux in Infants and Children
Su1109 | Hayat Mousa¹, ², Marina Orsi³, Frederick W. Woodley¹, ², Rodrigo S. Machado³, Jolie Benner¹, Mark Alhajj¹, Tala Alhajj¹, Carlo Di Lorenzo¹, ²

Affiliation
¹Gastroenterology, Nationwide Children’s Hospital, Columbus, OH; ²Pediatrics, Ohio State University College of Medicine, Columbus, OH; ³Pediatrics, Federal University of São Paulo, São Paulo, Brazil; ⁴Pediatric Gastroenterology, Hospital Italiano, Buenos Aires, Argentina

Abstract:
Background: Although combined multichannel intraluminal impedance/esophageal pH monitoring (MII-pH) has replaced prolonged pH monitoring alone for assessing gastroesophageal reflux (GER) in the pediatric population, it does so in the absence of reference values for non-acid GER (NAGER). Specific Aim: To identify a normal range of NAGER impedance values for infants and children. Methods: We evaluated EPM/MII tracings for patients referred for GER assessment. We excluded tracings from patients who had AGER Indices greater than 50% of the upper end of normal (i.e. >3% for children >12 months and >6% for infants ≤12 months), had a positive temporal association of GER with symptoms, were on anti-reflux medications at the time of the study and/or had a fundoplication prior to the study. We also excluded studies with durations shorter than 20 hours. Values for NAGER percent time, NAGER episode frequency, frequency of NAGER episodes reaching the proximal esophagus and mean NAGER duration, were calculated for upright position, recumbent and total. Normal range of CC was defined by the interval ≤ 95th percentile. Results: Study population consisted of 32 infants (14F/18M, median age 4.3 months [range 3 wks-11months]) with a median AGER Index of 2.2% (range 0.2-5.9) and 60 children (18F/42M, median age 6.7 yrs [range 1.4-14.8yrs]) with a median AGER Index of 1.1% (range 0-3.0%). Data are presented in the table below. Conclusions: The results of this study provide a range of values characteristic of infants and children with normal AGER Indices and no positive temporal associations of GER with symptoms. These values may be used as references for comparison to identify infants and/or children who may be at risk of developing serious clinical manifestations due to abnormal patterns of NAGER.

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<th>Infant% Time</th>
<th>Upright</th>
<th>Recumbent</th>
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<tr>
<td>Median (IQR)</td>
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<td>0 (0-0)</td>
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<tr>
<td>95th</td>
<td>51 (47-2)</td>
<td>32 (15-49)</td>
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<td>95th</td>
<td>2.7 (1.5-5)</td>
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<td>95th</td>
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<td>Median (IQR)</td>
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<td>1 (0-2.3)</td>
<td>4 (2-6.5)</td>
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<td>Median (IQR)</td>
<td>14 (12-20.5)</td>
<td>14 (12-18.5)</td>
<td>15 (12-19.8)</td>
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<tr>
<td>95th</td>
<td>40.2 (36.5-45.3)</td>
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IQR, interquartile range; BCT, bolus contact time in seconds

Disclosure(s):
Hayat Mousa – Grant/Research Support: MMS
The following people have nothing to disclose: Marina Orsi, Frederick W. Woodley, Rodrigo S. Machado, Jolie Benner, Mark Alhajj, Tala Alhajj
Clinical Chronic Pancreatitis

Fecal Parameters and Gastrointestinal Transit in Patients With Alcohol Related Chronic Pancreatitis With and Without Chronic Diarrhea. Factors Associated With This Symptom

Su1320 | Luciline Rosa-e-Silva¹, Luiz E. Troncon², Ricardo B. Oliveira², Lourenço Gallo², Milton C. Foss²

Affiliation
¹Medicine, Londrina State University, Londrina, Brazil; ²Medicine, University of São Paulo, Ribeirão Preto, Brazil

Abstract:
Background: Patients with alcohol-related chronic pancreatitis (ARCP) may have chronic diarrhea (CD), which is not well characterized. Nutritional malabsorption has been related to this symptom. Other fecal parameters such as daily stool frequency and stool weight have not been studied much. We have previously demonstrated rapid gastrointestinal transit (GIT) related to diabetes mellitus and autonomic neuropathy in ARCP patients. Whether the rapid GIT plays a role in the CD is not known. ARCP patients may also have malnutrition, which has not been studied much as a cause of their CD. Aim: To compare fecal parameters (fecal fat concentration, daily stool frequency, stool weight) as well as GIT in ARCP patients with and without CD and to determine the correlation between CD and malabsorption, diabetes mellitus, autonomic neuropathy, malnutrition.

Method: Forty male ARCP patients were studied, including 17 with diabetes mellitus and malabsorption, 10 with diabetes only, 3 with malabsorption only and 10 without diabetes or malabsorption. Twenty-four out of the 40 patients had CD. All patients had their stool collected for 3 consecutive days. Material was assessed for fecal fat concentration (van de Kamer method) and stool weight (average over 3 days). During the 3 days, patients also kept a daily diary recording each bowel movement (daily stool frequency-average over 3 days). GIT was assessed with scintigraphy after ingestion of a liquid meal labeled with 99mTechnetium-phytate and defined as the time of meal arrival to the cecum. Autonomic neuropathy was detected in 20 patients by standardized cardiovascular tests. Malnutrition was defined as patients with a low Body Mass Index. Mann-Whitney test was used to compare fecal parameters and GIT between ARCP patients with and without CD. Fisher exact test was used for correlation analysis.

Results: All fecal parameters were higher (p<0.0001) in ARCP patients with CD: 1) fecal fat concentration (median, range: 19.1 g/24h, 0.5-75.0 vs. 3.0 g/24h, 1.3-6.6); 2) daily stool frequency (7.5 times/day, 4.0-5.0 vs. 1.5 times/day, 0.3-2.0); 3) stool weight (525 g/day, 194-1020 vs. 135 g/day, 84-330). GIT was significantly shorter (p=0.01) in ARCP patients with CD (69 min, 10->180 vs. 96.5 min, 50->180). The correlation analysis showed that CD was significantly related to malabsorption (p<0.0001), diabetes mellitus (p=0.01) and autonomic neuropathy (p=0.05). There was no correlation between CD and malnutrition (p=0.2).

Conclusion: ARCP patients with CD had a higher fecal fat concentration, higher daily stool frequency, higher stool weight and a more rapid GIT. The CD in these patients was related to malabsorption, diabetes mellitus and autonomic neuropathy. A combination of these 3 factors can cause the abnormalities observed in the fecal parameters and GIT, which must be considered in the treatment of this symptom.

Disclosure(s):
The following people have nothing to disclose: Luciline Rosa-e-Silva, Luiz E. Troncon, Ricardo B. Oliveira, Lourenço Gallo, Milton C. Foss
Esophageal motility disorders

**Determination of Normal Esophageal Pressure Responses to a Rapid Multiple Swallow Challenge Test. Results of a Multicenter Study in Healthy Volunteers**

Su1876 | Ingrid Marin1, Daniel Cisternas2, Luiz Abrahao3, Claudio R. Bilder4, Ramiro Coello Jaramillo5, Andres Ditaranto6, Albis Hani6, Ana Maria Leguizamo6, Eponina Maria de Oliveira Lemme3, Arturo Meixueiro7, Jose Remes-Troche7, Miguel Angel Zava1a, Jordi Serra1

**Affiliation**

1Motility and Functional Gut Disorders Unit, University Hospital Germans Trias i Pujol, Badalona, Spain; 2Gastroenterology, Pontificia Universidad Catolica de Chile, Santiago de Chile, Chile; 3Laboratorio de Motilidade Esofagica, Hospital Universitario Clementino Fraga Filho, Rio de Janeiro, Brazil; 4Neurogastroenterology laboratory, Hospital Universitario Fundacion Favaloro, Buenos Aires, Argentina; 5Gastroenterology, Axxis Hospital, Quito, Ecuador; 6Gastroenterology, Hospital San Ignacio- Pontificia Universidad Javeriana, Bogotá, Colombia; 7Laboratorio de Motilidad Gastrointestinal y Fisiologia Digestiva, Universidad Veracruzana, Veracruz, Mexico

**Abstract:** Recent studies have suggested that a rapid multiple swallow challenge test can detect motor abnormalities not detected during conventional high resolution esophageal manometry (Marin et al. Gut 2012;61:A424). However, data of normal manometric values using this test is scarce.

**AIM:** To determine normal values of a rapid multiple swallow challenge test performed in sitting position in healthy volunteers using high-resolution esophageal manometry.

**METHODS:** 57 healthy volunteers (28 female, 29 male, age range 18-68 yrs) were recruited from seven centers from Europe and America. In each subject we evaluated the responses to rapid drink of 200 ml of water with a straw in sitting position, performed immediately after the standard protocol of high resolution esophageal manometry. In each subject we evaluated the time and the number of pharyngeal swallows required to drink 200 ml of water, lower esophageal sphincter (LES) pressure and esophageal body pressure during and after swallow, and esophagogastric pressure gradient during swallow. Perception of esophageal symptoms was assessed by a 1-4 questionnaire. Results are expressed as mean±SD.

**RESULTS:** Subjects needed 14.0±5.5 pharyngeal swallows during 25.4±10.8 seconds to drink 200 ml of water. During that period, there was a general inhibition of esophageal pressures, both LES (mean IRP -1.4±3.0 mmHg) and esophageal body pressures (Only 5 % of healthy subjects had two or more brief pressure episodes >20 mmHg, longer than 3 cm, duration 1.3±0.7 sec ) resulting in a low esophagogastric pressure gradient (-2.07±3.22 mmHg). 2.0±3.4 sec after the last swallow 23 % of subjects had a normal peristaltic contraction, whereas 75 % had no contraction and 2 % had a simultaneous contraction LES pressure returned to pre-swallow levels (-1.0±12.0 mmHg greater than pre-swallow; p=0.535) immediately after swallow cessation. Only 13 % of subjects reported mild symptoms (score 1.8±1.5), mainly dysphagia 25% and chest pain 75%.

**CONCLUSION:** Rapid multiple swallow of 200 ml of water in sitting position may be a well tolerated, easy to perform challenge test of esophageal function. It is characterized by inhibition of esophageal LES and body pressures during swallow, and either no contractile post-swallow activity, or a normal post-swallow peristaltic contraction.

**Disclosure(s):**

Jose Remes-Troche - Advisory Committees or Review Panels: Takeda Pharmaceutical Company Ltd ; Grant/Research Support: Nykomed; Speaking and Teaching: Nykomed, AstraZeneca, Bristol-Myers Squibb Co. Jordi Serra – Advisory Committees or Review Panels: Almirall, Heel, shire; Consulting: Reckit Benckiser
The following people have nothing to disclose: Ingrid Marin, Daniel Cisternas, Luiz Abrahao, Claudio R. Bilder, Ramiro Coello Jaramillo, Andres Ditaranto, Albis Hani, Ana Maria Leguizamo, Eponina Maria de Oliveira Lemme, Arturo Meixueiro, Miguel Angel Zavala
Normal Values Determination for High Resolution Esophageal Manometry Using Sitting Viscous Solution Swallows. Results of a Multicenter Study in Healthy Volunteers

Su1878 | Daniel Cisternas¹, Ingrid Marin², Jordi Serra³, Ramiro Coello Jaramillo⁴, Jose Remes-Troche⁵, Miguel Angel Zavala⁶, Arturo Meixueiro⁷, Albis Hani⁵, Alberto Rodriguez⁵, Ana Maria Leguizamo⁵, Luiz Abrahao⁶, Eponina Maria de Oliveira Lemme⁶, Claudio R. Bilder⁷, Andres Ditaranto⁷

Affiliation
¹Gastroenterology, Pontificia Universidad Catolica de Chile, Santiago de Chile, Chile; ²Gastroenterology, Hospital Universitari Germans Trias i Pujol de Badalona, Badalona, Spain; ³Gastroenterology, AXXIS HOSPITAL, Quito, Ecuador; ⁴Laboratorio de Motilidad Gastrointestinal y Fisiologia Digestiva., Universidad Veracruzana, Veracruz, Mexico; ⁵Gastroenterology, Hospital San Ignacio- Pontificia Universidad Javeriana, Bogota, Colombia; ⁶Laboratório de Motilidade Esofágica, Hospital Universitário Clementino Fraga Filho, Rio de Janeiro, Brazil; ⁷Neurogastroenterology laboratory, Hospital Universitario Fundación Favaloro, Buenos Aires, Argentina

Abstract:
Introduction: It has been suggested that a more physiologic esophageal manometry study protocol, including non-liquid solutions and a sitting position, could improve the test performance. For the specificity determination of putative findings it is necessary to determine normal values
Aim: To determine normal values for sitting viscous solution swallows in healthy volunteers using high-resolution esophageal manometry (HREM)
Methods: Healthy volunteers were recruited from seven centers in Spain and America. Sitting swallows with an apple sauce-like standardized solution were analyzed using HREM. Analysis was performed as recommended by Bredenoord et al in the last Chicago classification revision (Neurogastroenetrology and Motility 2012;24 (Suppl 1):57).
Results: 59 volunteers (29 females (48.1%)) with a total of 468 swallows were analyzed. 132 of this swallows (in 18 volunteers) were analyzed using impedance and HREM. 47 volunteers had at least 7 evaluable swallows, so that the whole study could be diagnosed using the Chicago classification. Mean age was 34 years (18-68 years). Table 1 shows results for significant variables. None of them demonstrated any gender-related difference. Using the aforementioned Chicago classification for whole study, 26/47 (55.3%) were classified as normal, 7/47 (14.9%) as weak peristalsis with small defect, 7/47 (14.9%) as weak peristalsis with large defects, 5/47 (10.6%) as frequent failed peristalsis, 1/47 (2.1%) as EGJ outflow obstruction and 1/47 (2.1%) as rapid contractions with normal latency. 88/132 (66.6%) of swallows evaluated with impedance showed complete bolus transit. 13/18 (72.2%) volunteers showed at least one swallow with incomplete bolus transit. Using Chicago single swallow classification, 78/83 (93.9%) of normal, 4/11 (36.4%) of small break, 6/19 (31.6%) of large break and 0/19 of failed peristalsis showed complete bolus transit, respectively. There was a significant difference in bolus transit when comparing normal to non-normal swallows (p<0.001), but not when comparing small to large breaks (p=1).
Conclusion: Normal values have been determined. Remarkably, upper limit of CVF and lower limit of DL are higher than normal values previously described for supine-water swallows. On the other hand, upper limit for DCI seems much lower. Impedance information suggests that even in a sitting position, normal peristalsis is still a significant predictor of bolus transit. Any functional relevance of the small and large breaks distinction could not be demonstrated.
Disclosure(s):
Jordi Serra - Advisory Committees or Review Panels: Almirall, Heel, Shire; Consulting: Reckit Benckiser
Jose Remes-Troche - Advisory Committees or Review Panels: Takeda Pharmaceutical Company Ltd; Grant/Research Support: Nykomed; Speaking and Teaching: Nykomed, AstraZeneca, Bristol-Myers Squibb Co.
The following people have nothing to disclose: Daniel Cisternas, Ingrid Marin, Ramiro Coello Jaramillo, Miguel Angel Zavala, Arturo Meixueiro, Albis Hani, Alberto Rodriguez, Ana Maria Leguizano, Luiz Abrahao, Eponina Maria de Oliveira Lemme, Claudio R. Bilder, Andres Ditaranto

<table>
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</tr>
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<tr>
<td>EGIS basal pressure (mean)</td>
<td>20.16 ± 11.79 mmHg</td>
<td>4.93 mmHg</td>
<td>44.5 mmHg</td>
</tr>
<tr>
<td>EGIS pressure (respiratory minimum)</td>
<td>12.07 ± 10.76 mmHg</td>
<td>-0.67 mmHg</td>
<td>36.34 mmHg</td>
</tr>
<tr>
<td>Integrated relaxation period 4 seconds (IRF 4s)</td>
<td>4.78 ± 6.28 mmHg</td>
<td>-0.8 mmHg</td>
<td>12.73 mmHg</td>
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<tr>
<td>Glut number</td>
<td>0.39 ± 0.47</td>
<td>0</td>
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<tr>
<td>Contractile velocity front (CVP)</td>
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<td>2.35 cm/s</td>
<td>11.67 cm/s</td>
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<td>Distal latency (DL)</td>
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<tr>
<td>Distal Contractile Integral (DCI)</td>
<td>1082.32 ± 804.38 mmHg/cm/s</td>
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<td>2948.55 mmHg/cm/s</td>
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Esophageal Neoplasms: Precursors, Biology, Diagnosis and Therapy

HPV-DNA in Esophageal Squamous Cell Carcinoma and in Esophageal Mucosa: No Evidence in Patients From Southern Brazil

Su1946 | Antonio B. Lopes¹, ³, Luis M. Antunes¹, ², João C. Prolla¹, Marta P. Rocha², Renato B. Fagundes¹, ²

Affiliation
¹Programa de Pos-graduação: Ciências em Gastroenterologia e Hepatologia, Universidade Federal do Rio Grande do Sul, Porto Alegre, Brazil; ²Departamento de Clínica Médica, Universidade Federal de Santa Maria, Santa Maria, Brazil; ³Hospital de Clínicas de Porto Alegre, Porto Alegre, Brazil

Abstract:
Aims: To investigate the association between human papillomavirus (HPV) and esophageal squamous cell carcinoma in southern Brazil.

Methods: We studied 189 esophageal samples from 125 patients from three different groups: a) 102 biopsies from 51 patients with esophageal squamous cell carcinoma (ESCC). One sample from the tumor and another from normal esophageal mucosa distant from the tumor; b) 50 esophageal biopsies from 37 patients with previous diagnosis of head and neck squamous cell carcinoma (HNSCC); c) 37 biopsies from esophageal mucosa with normal appearance from 37 dyspeptic patients, not exposed to smoking or alcohol consumption. Nested-PCR with MY09/11 and GP5/6 L1 primers was used to detect HPV L1 in samples fixed in formalin and stored in paraffin blocks.

Results: The biopsies histological diagnosis confirmed ESCC in 52 samples (51 from ESCC group and 1 from HNSCC group). Of the total of 189 biopsies, 183 (96.8%) samples amplified GAPDH, G3PDH or B-globin indicating DNA adequacy in those specimens. HPV DNA was negative in all the 183 samples tested.

Conclusion: There is no evidence that HPV is involved in carcinogenesis of the esophageal squamous cell carcinoma in Southern Brazil.

Disclosure(s):
The following people have nothing to disclose: Antonio B. Lopes, Luis M. Antunes, João C. Prolla, Marta P. Rocha, Renato B. Fagundes
Prevalence of Gastroesophageal Reflux in Chronic Obstructive Pulmonary Disease Patients

Su1621 | Henrique Abrahao¹, Fernando A. Herbella¹, Amilcar M. Bigatao², Jose R. Jardim², Luciana C. Silva¹, Fernando P. Vicentine¹, Marco G. Patti³

Affiliation
¹Department of Surgery, Federal University of Sao Paulo, Sao Paulo, Brazil; ²Department of Medicine, Division of Pneumology, Federal University of Sao Paulo, Sao Paulo, Brazil; ³Department of Surgery, university of Chicago, Chicago, IL

Abstract:
Background: The association of gastroesophageal reflux disease (GERD) and chronic pulmonary disorders has been a topic of great interest recently. However, little is known about GERD in the setting of chronic obstructive pulmonary disease (COPD). This study aims to evaluate in patients with COPD: (a) the prevalence and the sensitivity of symptoms to diagnose GERD; (b) the pattern of esophageal motility; and (c) the prevalence of distal and proximal GERD.

Methods: A total of 50 patients with DPOC (as defined by age > 40 years with a FEV1/FVC below 88% of the predicted value after bronchodilator use, and no prior history of asthma) underwent symptomatic assessment, high-resolution manometry and dual probe esophageal pH monitoring. GERD was defined by a DeMeester score >14.7. Proximal reflux was defined by >=1 episode of proximal reflux.

Results: GERD was present in 21 (42%) of the total patients. GERD symptoms were referred by 20 (40%) patients more than once a month. Symptoms were not predictive of the presence of GERD (sensitivity 71%; specificity 83%). GERD symptoms presence, esophageal manometry and pH monitoring according to the presence of distal GERD by pH monitoring results are depicted in table 1.

Conclusions: These data show that in patients with DPOC: 1) GERD is present in almost half of the patients; 2) symptoms were insensitive and nonspecific for diagnosing GERD; 3) a defective LES is not more common in patients with GERD leading to the hypothesis that the physiopathology for GERD may be linked to the transthoracic pressure gradient in this population; 4) in 95% of the patients with GERD, acid refluxed into the proximal esophagus. We conclude that patients with DPOC should be screened with pH monitoring for GERD.

![Table 1](image)

<table>
<thead>
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<th>GERD: gastroesophageal reflux disease</th>
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<tbody>
<tr>
<td>LES: lower esophageal sphincter</td>
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Disclosure(s):
The following people have nothing to disclose: Henrique Abrahao, Fernando A. Herbella, Amilcar M. Bigatao, Jose R. Jardim, Luciana C. Silva, Fernando P. Vicentine, Marco G. Patti
SSAT Colon-Rectal: Translational Science (I)

Wild Homozygous VEGF-A and COX-2 Gene Polymorphisms Are Associated to Worst Prognosis in Patients With Colorectal Cancer (CRC)

Su2127 | Michele T. Tomitão¹, Guilherme C. Cotti¹, Marcia S. Kubrusly¹, Evelise Pelegrinelli-Zaidan¹, Adriana V. Safatle-Ribeiro¹, Rosely A. Patzina², José Eluf-Neto¹, Ivan Cecconello¹, Sergio C. Nahas³, Ulysses Ribeiro¹

Affiliation
¹Gastroenterology, University of São Paulo, "Sao Paulo, SP", Brazil; ²Pathology, University of São Paulo, São Paulo, Brazil; ³Preventive Medicine, University of São Paulo, São Paulo, Brazil

Abstract:
Background: The vascular endothelial growth factor-A (VEGF-A) and Cyclooxygenase-2 (Cox-2) polymorphisms have been implicated in colorectal cancer (CRC). VEGF-A and Cox-2 polymorphisms might modify the levels of protein expression and may have a considerable influence on disease phenotype, which may have important clinical/genomic implications.

Aims: To evaluate single nucleotide polymorphisms (SNPs) in the VEGF-A, and Cox-2 genes and their prognostic values for patients operated on for CRC; and to investigate possible interactions between these genetic variations and clinicopathologic characteristics in CRC.

Methods: VEGF-A and Cox-2 SNPs have been analyzed in 230 prospective patients who underwent surgical resection, and had a minimum of 5 years follow-up. DNA was isolated from leukocyte using extraction and purification kit, followed by amplification by polymerase chain reaction (PCR). Real-time analysis was used for genotyping VEGF-A and Cox-2 SNPs through the TaqMan ® SNP Genotyping Assay. Results: We determined frequencies of four VEGF-A biallelic SNPs with twelve haplotypes: (-2578C>A: CC = 36.1%; CA = 46.1%; AA = 17.8%; -460T>C: TT = 34.3%; TC = 45.7%; CC = 20%; -634G>C: GG = 48.7%; GC = 40.4%; CC = 10.9%; +936 C>T: CC = 74.3%; CT = 23.5%; TT = 2.2%), and three COX-2 SNPs with nine haplotypes (-1195A>G: AA = 63.5%; AG = 31.3%; GG = 5.2%; 8437T>C: TT = 44.3%; TC = 43.9%; CC = 11.7%; -765G>C: GG = 58.3%; GC = 31.7%; CC = 1.3%). A high frequency of the wild genotype Cox-2 -765GG and polymorphic genotype Cox-2 -1195GG and VEGF-A -634CC was found in an Asiatic (mostly Japanese) population. VEGF-A -2578C>A, and -460T>C were associated to familial history of cancer. There were associations between wild homozygous VEGF-A (-2578CC; -460TT; -634GG; +936CC), and wild homozygous Cox-2 (-1195AA; 8437TT; 765GG) SNPs with pre-operative CEA, histological type, peritumoral deposits, perineural and angiolymphatics invasion, lymph node metastases or pN, and stage IV disease, p < 0.04. Wild homozygous genotype of VEGF-A and Cox-2 were significantly correlated with a worst progression-free survival and overall survival when compared to the combined heterozygous or recessive genotypes in a multivariate analysis. Conclusions: 1. Wild homozygous VEGF-A and Cox-2 SNPs were associated to disease progression and survival in patients with advanced colorectal cancer; 2. VEGF-A and Cox-2 SNPs may be useful markers of aggressiveness in these patients; 3. Molecular data may orientate the appropriate target therapy in novel clinical trials.

Disclosure(s):
The following people have nothing to disclose: Michele T. Tomitão, Guilherme C. Cotti, Marcia S. Kubrusly, Evelise Pelegrinelli-Zaidan, Adriana V. Safatle-Ribeiro, Rosely A. Patzina, José Eluf-Neto, Ivan Cecconello, Sergio C. Nahas, Ulysses Ribeiro
Phase III Randomized Controlled Trial of Fully Covered Metal Stent Versus Multiple Plastic Stents in Anastomotic Biliary Strictures Following Orthotopic Liver Transplantation: Midterm Evaluation

Su1422  |  Fernanda P. Martins¹, Veruska O. Di Sena², Gustavo A. de Paulo¹, Monica Contini¹, Angelo P. Ferrari¹

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Abstract:
Introduction: Biliary anastomotic stricture occurs in 15-20% of patients following orthotopic liver transplantation (OLT). They are usually endoscopically managed with plastic stenting. There is available data on treating benign biliary stenosis with fully covered self-expandable metal stent (cSEMS). The aim of this study is to compare the efficacy and safety of cSEMS versus multiple plastic stenting (MPS) in biliary anastomotic stricture (BAS) after OLT. Method: This is an open-label, phase III, randomized controlled trial comparing endoscopic therapy with cSEMS or MPS for the treatment of BAS after OLT. The study is currently ongoing and is being conducted in a tertiary care center in Brazil. Patients randomized to cSEMS (Wallflex, Boston Scientific) had a single covered metal stent placed for 6 months without prior sphincterotomy or balloon dilation. All patients randomized to receive MPS had sphincterotomy followed by stricture dilation and placement of the maximum possible number of plastic stents. In this group, ERCP was repeated every 3 months up to 1 year with progressive dilation and stenting. The primary endpoint was stricture resolution at final ERCP, defined as waist disappearance during cholangiography and/or easy passage of an 11 mm extraction balloon. Crossover was considered for treatment failure or stricture recurrence. Results: Between August 2009 and August 2012, a total of 118 patients with post-OLT biliary complications were assessed for eligibility. Forty-six were prospectively randomized [1:1] for therapy with cSEMS (24) or MPS (22). Procedures were successfully performed in all patients. Baseline characteristics were comparable between treatment groups. Three patients in the cSEMS group and 7 in the MPS group still have the stents in place. So far, with median follow-up of 339 and 128 days for cSEMS and MPS groups, stricture resolution was achieved in 72.8% and 57.9% respectively. Mean treatment duration and number of procedures required were statistically lower in the cSEMS group (p < 0.001 for both comparisons). In a best-case scenario, the success rate reaches 86.4% and 94.7% in cSEMS and MPS group, respectively. Among the 3 patients in cSEMS group who failed initial therapy, 1 had early stent removal due to acute pancreatitis and 2 presented distal stent migration. Another 3 patients in the cSEMS group presented recurrent stricture. Acute pancreatitis was the most common procedure complication, occurring in 37.5% in the cSEMS and 13.6% in the MPS group. There were no deaths related to treatment (Table 1).
Conclusion: Fully covered metal stent may be a valid alternative for treating BAS after OLT with the added benefit of requiring a lower number of repeated procedures as compared to MPS. Further studies are necessary to assess long-term outcomes.

Summary of results
Disclosure(s):
The following people have nothing to disclose: Fernanda P. Martins, Veruska O. Di Sena, Gustavo A. de Paulo, Monica Contini, Angelo P. Ferrari

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<tr>
<th></th>
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<tr>
<td>N</td>
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<td>22</td>
</tr>
<tr>
<td>Male : Female</td>
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<td>13:9</td>
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<tr>
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<tr>
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<td>Unrelated death</td>
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<td>1/22 (4.3%)</td>
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<td>13.6% (3/22)</td>
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<tr>
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<td>5.2% (1/19)</td>
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<td>94.7% (11/11)</td>
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Diagnostic Yield of EUS-FNA for Upper GI Tract Subepithelial Lesions - Results of a Multicenter Study


Affiliation
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Abstract:
Background: Subepithelial lesions of the GI tract are commonly found during upper endoscopy. Despite the use of EUS, the exact diagnosis of subepithelial lesions remains a challenge. EUS-FNA has the ability of obtaining a tissue sample to determine the exact nature of the lesion. Prior studies have shown a diagnostic yield ranging from 43 to 82%.

Aim: To determine the yield of EUS-FNA for diagnosing subepithelial lesions of the upper GI tract and determine its performance characteristics.

Methods: This is a multicenter study of all prospective, consecutive EUS cases performed to evaluate subepithelial lesions in 4 centers located in Puerto Rico, Brazil, and Venezuela from 2006 onward. The yield of EUS-FNA was determined in the overall cohort. Subgroup analysis was performed using Student t-test, contingency analysis, and ANOVA. Multivariate analysis was performed to determine factors predictive of a diagnostic EUS-FNA.

Results: A total of 170 patients (median age of 61 y/o; range 11-91) were analyzed. Majority of upper GI tract subepithelial lesions were gastric (86.5%), followed by esophagus (8.2%) and duodenum (5.3%). There was no difference in age distribution between lesion location in the upper GI tract (p=0.31). Mean lesion size was 27.1 mm (range 7-100). EUS-FNA was diagnostic in 140 patients (82.4%) and inconclusive in 30 (17.6%), including 3 patients with spindle cells identified on cytology but insufficient material for immunohistochemistry. Diagnostic yield in 147 gastric lesions was 83.0%, compared to 78.3% in other locations (p=ns). Lesion size <20 mm was significantly associated with younger age (mean 55.3 y/o). GISTs were significantly larger in size (>40 mm) and occurred in patients of older age (mean 65.3), independent of location. Diagnostic yield for lesions < 20 mm was 78.1%, for 20-40 mm 80.5%, and for >40 mm 96.6%, a statistically significant difference (p=0.0376). EUS-FNA using a 22 g needle (n=125) was diagnostic in 80.0%, compared to 88.2% with a 19 g needle (n=34). 25 g, 19 g Procore, and 22 g Procore needles were diagnostic in all cases used (4, 1, and 3, respectively). Patient's age, location or size of lesion, FNA needle size, or number of FNA passes were not independent predictors of a diagnostic EUS-FNA by multivariate analysis.

Conclusions: EUS-FNA has a high diagnostic yield in upper GI tract subepithelial lesions, able to identify the exact nature in over 80% of cases. Older age and larger lesion size were associated with higher frequency of GISTs and improved diagnostic yield, respectively.

Disclosure(s):
Keyur Patel - Advisory Committees or Review Panels: Vertex; Consulting: Gilead Sciences Inc; Grant/Research Support: Merck
The following people have nothing to disclose: Pamela Reyes, Fauze Maluf-Filho, Ricardo T. Schulz, Livia M. Rodriguez Jimenez, Leonardo Sosa, Wallia J. Wever, Carlos Micames
Usefulness of Radial EUS Scanning to Assess Adequacy of Endoscopic Resection of Gastroduodenal Carcinoid Tumors (Gdct)

Su1553 | José C. Ardengh¹, Todd H. Baron², Rafael Kemp¹, Gustavo A. Mota¹, Eloy Taglieri¹, Otávio Micelli-Neto¹, Eliane T. Orsini¹, José Sebastião S. dos Santos¹

Abstract:
Background: Gastroduodenal carcinoid tumors are rare neuroendocrine tumors, usually present as foregut submucosal tumor or polypoid lesions. Accurate diagnosis and endoscopic resection remain a challenge. Aim: To evaluate the accuracy, diagnostic features, and role of EUS radial scanning in the therapeutic decision making in patients with gastroduodenal carcinoid tumors.

Methods: From September 2006 to January 2012, 52 patients were identified as having suspected gastric or duodenal carcinoids by our endoscopic services. After excluding obvious subepithelial tumors, ampullary location, and inconclusive pathology a total of 27 patients remained and were analyzed based upon EUS images/video by endoscopists blinded to final clinical and pathological outcomes.

Results: 27 patients with 44 GDCT (30 GCT and 14 DCT) were analyzed. EUS showed GDCT in the second layer in 100% and were homogeneous and hypoechoic in 93%. The median size of GCT was 11 mm (5-18 mm) and DCT was 7mm (6-16 mm). Based on EUS staging; 23 uT1 (85%) underwent ER and 4 uT2 (15%) underwent surgery. We performed 29 ER (16 GCT and 13 DCT) using polypectomy snare in 19 after submucosal injection in 7 and the by band ligation / snare resection (3). ER was complete in 23/29 (79.3%). Accuracy of EUS to determine the correct indication surgery (uT2) or ER (uT1) was 79.3%. Early adverse events (AEs) occurred in 2 patients (6.8%): pain [1] and perforation [1], the latter treated surgically. The mortality rate was 3.4%. Recurrence occurred in 3/23 (13%).

Conclusions: Most GDCT are less than 10mm in size, with well-defined margins and hypoechoic nature present in deep mucosal and submucosal layers. Tumor locations (eg. proximal stomach and duodenal bulb) and EUS features are factors predictive of GDCT. EUS provides information to assist ER. GCT located in the middle and distal portion and DCT in the second portion are difficult to be precisely evaluated by EUS.

Disclosure(s):
The following people have nothing to disclose: José C. Ardengh, Rafael Kemp, Gustavo A. Mota, Eloy Taglieri, Otávio Micelli-Neto, Eliane T. Orsini, José Sebastião S. dos Santos
EUS-Guided Choledochoduodenostomy or Hepaticogastrostomy to Malignant Distal Biliary Obstruction: a Prospective Comparative Trial
Su1565 | Fernando Marson¹, Paulo Sakai¹, Kiyoshi Hashiba¹,², Everson L. Artifon¹

Affiliation
¹Department of Gastroenterology, University of São Paulo Medical School, São Paulo, Brazil; ²Serviço de endoscopia Digestiva, hospital Sirio Libanês, São Paulo, Brazil

Abstract:
INTRODUCTION: EUS-guided access to the bile duct is a novel technique that allows biliary drainage when standard ERCP is not feasible. When rendezvous procedure and/or anterograde interventions cannot be done as primary options, the alternative of creating a new fistula, a choledochoduodenostomy or hepaticogastrostomy can still be performed in selected patients.
AIM: To compare the outcomes of two different drainage routes: choledochoduodenostomy and hepaticogastrostomy in selected patients that failed ERCP, rendezvous and anterograde intervention with distal malignant obstruction.
PATIENTS AND METHODS: Between April 2010 and July 2012 32 consecutive patients were elected to receive either a EUS-guided choledochoduodenostomy or EUS-guided hepaticogastrostomy. All patients had distal unresectable malignant biliary obstruction and had failed standard ERCP and EUS-guided rendezvous or anterograde intervention. Data including indications, success rate, technique, complications with a 3 month follow-up were prospectively collected in a database. All procedures were performed in a tertiary Endoscopic Unit. A partially covered SEMS (Boston Scientific, Wallflex, 10 mm, 6 cm) was used in all procedures. After a EUS-guided bile duct puncture (choledochoduodenostomy) or a EUS-guided left hepatic duct puncture (hepaticogastrostomy) a cholangiogram was obtained followed by advancement of a 0.035 inch guide wire. Track dilation to allow passage of the stent delivery system was performed using a wire-guided needle-knife and bougies.
RESULTS: Thirty-two cases (15 hepaticojejunostomies and 17 choledochoduodenostomies) were performed. Indications for the procedure were pancreatic cancer (20 pts), extrinsic compression from metastasis (06) papillary tumor (02), neuroendocrine tumor (02), gallbladder cancer (01) and duodenal cancer (01). All patients were jaundiced and had both intra and extra-hepatic biliary dilation with elevated LFT’s. Mean procedure time was 47 min. Three patients (2 choledochoduodenostomies and 1 hepaticojejunostomy) failed biliary drainage due to inability to advance the stent and were referred to surgery. Procedure success rate were similar in both groups: 93% for hepaticojejunostomy and 88% for choledochoduodenostomy. Immediate post-procedure complications occurred in 13% of the hepaticojejunostomy group (1 bleeding and 1 bacteremia) and 17% in the choledochoduodenostomy group (1 biloma, 1 bleeding and 1 stent migration). All immediate complications were successfully managed non-surgically except the stent migration. No late procedure related complications were found in both groups during the follow-up time.
CONCLUSION: Statistical analysis revealed no difference in the procedure time (p=0.24), success and complication rate (p=0.766) in this series. More studies are warranted to clarify the role of each drainage route.

Disclosure(s):
Kiyoshi Hashiba – Consulting: Cook endoscopy
The following people have nothing to disclose: Fernando Marson, Paulo Sakai, Everson L. Artifon
Programmed EUS-Guided Necrosectomy for Infected Walled-off Pancreatic Necrosis After Severe Acute Pancreatitis

Su1570 | José C. Ardengh¹, Todd H. Baron², Rafael Kemp¹, Gustavo A. Mota¹, Eloy Taglieri¹, Otávio Micelli-Neto³, Eliane T. Orsini¹, José Sebastião S. dos Santos¹

Affiliation

Abstract:
Background: Acute severe pancreatitis may progress to the development of walled-off pancreatic necrosis (WOPN) characterized by a mixture of solid and liquid components. Infected WOPN often leads to severe clinical deterioration necessitating open debridement or endoscopic necrosectomy. Programmed EUS-guided necrosectomy allows creation of multiple transluminal gateways to improve transmural removal of necrosis. The aim of this study is evaluate the efficacy of a EUS-guided necrosectomy.

Method: Patients with severe acute pancreatitis complicated by infected WOPN were treated by programmed EUS-guided necrosectomy every 7 days. One or more sites of transmural entry via EUS designated as EUS-N 1, 2 or 3 were performed. Direct necrosectomy was performed and after debridement and irrigation plastic pigtail stents were placed. Results: 15 patients with infected WOPN were treated by programmed EUS-N. The average sessions per patient was 2.7 (1-6). Successful resolution of WOPN was achieved in 13/15 (86.6%) patients. Plastic pigtail stents were placed in 10 and self expandable metallic stents (SEMS) in 3; In 2 patients no stents were placed. Four patients experienced bleeding (entry side (3), inside cavity (1)) and worsening of infection (33.3%) after EUS-N, all of which were successfully treated endoscopically by another session of EUS-N. The mortality rate was (13.3%). One patient underwent surgery (6.6%) and one patient died due to poor medical conditions. The mean duration of hospital stay was 20 days (6-48 d).

Conclusion: Programmed EUS-N is an effective option for the treatment of infected WOPN because it eliminates the need for surgery and can be performed in the absence of a visible bulging. Prospective studies are needed to confirm these preliminary and promising results.

Disclosure(s):
The following people have nothing to disclose: José C. Ardengh, Rafael Kemp, Gustavo A. Mota, Eloy Taglieri, Otávio Micelli-Neto, Eliane T. Orsini, José Sebastião S. dos Santos
Impact of Technical Modification of EUS-Guided Endoscopic Papillectomy for Ampullary Neoplasm on the Rate of Post-Resection Acute Pancreatitis

Su1579 | José C. Ardenghi1,2, Todd H. Baron4,1, Rafael Kemp1,2, Gustavo A. Mota1,2, Eloy Taglieri2,3, Otávio Micelli-Neto2,3, Eliane T. Orsini2,3, José Sebastião S. dos Santos1,2

Affiliation
1Anatomy and Surgery, Hosp. Clin. Fac. Med. Ribeirão Preto - Universidade de São Paulo, São Paulo, Brazil; 2Endoscopic Digestive Service, Hospital 9 de Julho, São Paulo, Brazil; 3Endoscopic Digestive Service, Hospital Ipiranga, São Paulo, Brazil; 4Gastroenterology and Hepatology, Mayo Clinic, Rochester, MN

Abstract:
Background: The insertion of a temporary pancreatic duct (PD) stent seems to prevent acute pancreatitis (AP) after endoscopic papillectomy (EP). The aim of this study was evaluated the usefulness of a modified technique of endoscopic papillectomy (EP) is decreasing the rate of AP.

Methods: Indications for EP: tumor confined to the papilla (T1) without tumor spread into the bile/pancreatic duct. EUS tumor staging was done to determine main PD (MPD) diameter before EP in all patients. After staging 10/26 patients underwent endoscopic snare papillectomy with the echoendoscope. A PD stent was placed in patients without MPD dilatation (30 and 35 mm). 14 (group A [GA]) underwent EP without insertion of a PD stent. 12 (B-Control [GB]) underwent EP with insertion of a PD stent. The occurrence of adverse events (AEs) was compared between the groups in relation to the MPD diameter as determined by EUS.

Results: 17 patients had adenomas, 6 adenocarcinomas, 2 neuroendocrine tumor and one hamartoma. AEs occurred in 42.3% (AP (5), bleeding (4), cholangitis (1) and cholecystitis (1)). There was a difference between groups A and B (35.7% vs. 50%, odds ratio [OR] 0.56, 95% [CI], 0.12 to 2.68). The frequency of early AEs in GA was lower than in GB (28.5% vs. 41.6% [OR] 0.56, 95% [CI], 0.11 - 2.8). AP occurred in 19.2%. There was significant difference between GA and GB (0% vs 41.6%). The average MPD diameter in GA was 44 ± sd (0.09) and GB 33 mm ± sd (0.1) with p = 0.006. Late AEs occurred in 7.6%. There was no significant difference between groups (7.1% vs 8.3% [OR] 0.85, 95% [CI] 0.05 to 15.1). Local recurrence occurred in 7.6%.

Conclusions: The use of EUS before endoscopic papillectomy allows proper staging (T1) and MPD measurement. With a MPD > 33 mm and wide excision during EP obviate the need for MPD stent placement. Further studies are needed to confirm these findings.

Disclosure(s):
The following people have nothing to disclose: José C. Ardenghi, Rafael Kemp, Gustavo A. Mota, Eloy Taglieri, Otávio Micelli-Neto, Eliane T. Orsini, José Sebastião S. dos Santos
Azygos Vein Blood Flow by Color Doppler Endoscopic Ultrasound (CD-EUS) Correlates to the Hepatic Venous Pressure Gradient in Cirrhotic Patients

Su1584 | Priscila P. Flores¹, Ubiratan C. Santos¹, Denise Matos¹, Guilherme Rezende¹, Mônica Soldan²

Affiliation
¹Liver Unit, Hospital Universitário Clementino Fraga Filho - Federal University of Rio de Janeiro, Rio de Janeiro, Brazil; ²Gastroenterology Unit - Hospital Universitário Clementino Fraga Filho, Federal University of Rio de Janeiro, Rio de Janeiro, Brazil

Abstract:
Introduction - The azygos vein is one of the blood outflow routes in portal hypertension and its diameter and flow increase in portal hypertension. HVPG measurement is the gold standard for esophageal variceal bleeding risk stratification in cirrhotic patients, but the method has the disadvantages of being invasive and is not widely available.

Aim - To analyze the association between the azygos vein blood flow by CD-EUS and the HVPG in patients with cirrhotic portal hypertension.

Patients and Methods - Patients presenting esophageal varices due to portal hypertension and included in a clinical trial were submitted to the HVPG measurement and the azygos vein blood flow measurement by CD-EUS, both methods performed at the same day. Azigos flow in mL/min was calculated taking vein diameter in millimeters (B mode) and the peak velocity in cm/sec (Doppler mode) with Doppler angle correction of 60°. The CD-EUS setting was composed of a Curved Linear Array Probe EG-387OUTK (Pentax Corporation - Tokyo, Japan) and a Ultrasound Diagnostic Scanner EUB-5500 (Hitachi Medical Corporation - Tokyo, Japan). The HVPG measure was performed according to the standard protocol of the Hepatic Hemodynamic Laboratory and all hemodynamic and EUS measurements were done in triplicate. Seven of the 13 patients repeated the methods after 3 months, resulting in 20 combined measurements. The association between the methods was analyzed by Pearson correlation test.

Results - Mean values for azygos vein blood flow, azygos vein diameter and HVPG was respectively 517 ± 317 mL/min, 6.7 ± 1.5 mm and 11 ± 5 mmHg, HVPG was positively correlated to both azygos vein flow and caliber, but the correlation was stronger between the HVPG and azygos flow (Table 1, Graph 1).

Conclusion - The azygos vein blood flow measured by color Doppler endoscopic ultrasound correlates to the hepatic venous pressure gradient and its role in the clinical management of cirrhotic patients should be more extensively investigated.
Correlations

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* Correlation is significant at the 0.05 level (2-tailed).
** Correlation is significant at the 0.01 level (2-tailed).

Disclosure(s):
The following people have nothing to disclose: Priscila P. Flores, Ubiratan C. Santos, Denise Matos, Guilherme Rezende, Mônica Soldan
A Multicenter Study on EUS-Guided Expandable Biliary Metal Stent Placement: Choice of Access Route, Direction of Stent Insertion, and Drainage Route

Su1587 | Vinay K. Dhir¹, Everson L. Artifon³, Kapil Gupta², Juan J. Vila⁴, Mariana S. Frazao³, Amit P. Maydeo¹

Affiliation
¹Endoscopy, Baldota Institute of digestive sciences, Mumbai, India; ²Pancreatic and biliary diseases, Cedars-Sinai Medical Centre, Los Angeles, CA; ³Gastrointestinal endoscopy unir, University of Sao Paulo, Sao Paulo, Brazil; ⁴Gastroenterology, Complejo Hospitalario de Navarra, Pamplona, Spain

Abstract:
Background: EUS-guided expandable biliary metal stent placement (EUS-BD) has emerged as an acceptable alternative in patients with failed ERCP. However, there is no consensus over the preferred access route (point of initial needle puncture; trans-hepatic or extra-hepatic), direction of stent insertion (antegrade or retrograde) or drainage route (the route by which the stent drains to the enteral system; trans-luminal or trans-papillary).

Aims: To compare success and complication rate in patients undergoing EUS-BD via different access routes, direction of stent insertion, and drainage routes.

Study design: Multicentre retrospective study

Patients: Patients who underwent EUS-BD for malignant obstructive jaundice were included.

Methods: Data from four centres was entered in a SPSS data sheet. Details were recorded of the access route, direction of stent insertion (antegrade being the direction from liver to bile duct and vice versa), and drainage route (transluminal being cholecdocho-duodenostomy or hepatico-gastrostomy while transpapillary being antegrade and retrograde (rendezvous) transpapillary stenting procedures. Details of success and complications were noted. Comparisons were done using Chi square test, Student T test, and stepwise logistic regression.

Outcome measures: Success and complication rate with various techniques.

Results: 68 patients (34 males) were analyzed. Median age of the cohort was 66 years (34-95 years). Fifty five patients (81%) had a distal block. Sixty four patients (94%) had previously failed ERCP. EUS-BD was successful in 65 patients (95.6%). Complications were seen in 14 patients (20.6%, cholangitis 5, bile leak 4, perforations 2, pneumobilia 2, and bleed 1) and mortality in 3 patients (4.4%, cholangitis 2, perforation 1). The results of various techniques are summarized in the table. Logistic regression analysis showed trans-hepatic access to be the only independent risk factor for complications (p=0.031, t=2.2).

Conclusions: EUS-BD can be performed with high success rate regardless of the choice of access route, stent direction or drainage route. However, the complications appear to be higher in patients following trans-hepatic access, antegrade stent insertion, and in those with proximal block. Extra-hepatic route should be preferred for EUS-guided direct and rendezvous stent placements. Patients with proximal blocks need careful evaluation before EUS-BD.

<table>
<thead>
<tr>
<th>Access route</th>
<th>Technique (%)</th>
<th>Success (%)</th>
<th>p-value</th>
<th>Complications (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trans-hepatic (36)</td>
<td>34(94.4)</td>
<td>0.345</td>
<td>11(30.5)</td>
<td></td>
</tr>
<tr>
<td>Extra-hepatic (32)</td>
<td>31(96.8)</td>
<td>3(9.3)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stent insertion</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Antegrade (26)</td>
<td>23(92)</td>
<td>0.303</td>
<td>8(33)</td>
<td></td>
</tr>
<tr>
<td>Retrograde (45)</td>
<td>42(97.6)</td>
<td>6(13.9)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drainage route</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trans-luminal (32)</td>
<td>20(92.3)</td>
<td>0.455</td>
<td>6(26)</td>
<td></td>
</tr>
<tr>
<td>Trans-papillary (36)</td>
<td>36(97.3)</td>
<td>8(22.8)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Level of block</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Distal (55)</td>
<td>52(94.5)</td>
<td>0.523</td>
<td>9(16.3)</td>
<td></td>
</tr>
<tr>
<td>Proximal (13)</td>
<td>13(100)</td>
<td></td>
<td>5(38.4)</td>
<td></td>
</tr>
<tr>
<td>Direct or Rendezvous</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Direct (88)</td>
<td>55(98.2)</td>
<td>13(12.2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rendezvous (20)</td>
<td>20(100)</td>
<td>0.345</td>
<td>3(15)</td>
<td></td>
</tr>
</tbody>
</table>
Disclosure(s):
The following people have nothing to disclose: Vinay K. Dhir, Everson L. Artifon, Kapil Gupta, Juan J. Vila, Mariana S. Frazão, Amit P. Maydeo
EUS-Guided Cancer Therapies: To Infinity and Beyond

EUS-Guided or Interventional Radiology to Hepatic Intra-Arterial Chemotherapy: a Prospective Trial
10:30 | 349 | Everson L. Artifon¹ ², Marco Antonio B. Cunha², Eduardo B. da Silveira², Kapil Gupta³, Carlos K. Furuya¹ ², Dayse P. Aparicio², José Paione²

Affiliation
¹São Paulo University Medical School, São Paulo, Brazil; ²Ana Costa Hospital, Santos, Brazil; ³Cedars-Sinai Medical Center, Los Angeles, CA

Abstract:
Background: Intra-arterial chemotherapy is an effective modality to treat unresectable hepatic metastasis from colorectal primaries if systemic chemotherapy has failed.
Aim: To evaluate efficacy and safety of a new technique, EUS-guided fine-needle intra-arterial injection of chemotherapy.
Method: Between 2007 and 2012, a total of 25 patients with colorectal cancer and liver metastasis were randomized to receive intra-arterial chemotherapy with EUS-FNI (12 [48%]) and conventional technique (13 [52%]). Exclusion criteria: Lesions up to 5cm of length, maximum 3 metastasis and localized in segments I, VI, VII and VIII. Chemotherapy regimen and dose were similar in both groups and consisted of 5-Fluoracil or 5-Fluorodeoxymidina. EUS-FNI was performed through the stomach or duodenum using a 22-G needle and searching the intra-hepatic artery by using color and power doppler. The conventional group received intra-arterial chemotherapy with an implanted infusion pump. The main outcomes of the study was success and complication rates.
Results: Table 1
Conclusion: EUS-guided intra-arterial chemotherapy appears to be safe feasible in a subset of patients with metastatic liver disease. Further studies are necessary before a formal recommendation is made.

Table 1
### Disclosure(s):
The following people have nothing to disclose: Everson L. Artifon, Marco Antonio B. Cunha, Eduardo B. da Silveira, Kapil Gupta, Carlos K. Furuya, Dayse P. Aparicio, José Paione

<table>
<thead>
<tr>
<th></th>
<th>EUS-PNL</th>
<th>Conventional</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>N (%)</td>
<td>12 (100%)</td>
<td>13(100%)</td>
<td>-</td>
</tr>
<tr>
<td>Age</td>
<td>65.2 ± 18.7</td>
<td>59.7 ± 21.3</td>
<td>NS</td>
</tr>
<tr>
<td>Sex (M/F)</td>
<td>6/5</td>
<td>8/4</td>
<td>NS</td>
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<tr>
<td>Lesion size median (mm)</td>
<td>3.9 (1.4-40mm)</td>
<td>3.5 (9.4-44mm)</td>
<td>0.14</td>
</tr>
<tr>
<td>Liver Segments</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>II</td>
<td>5</td>
<td>6</td>
<td>NS</td>
</tr>
<tr>
<td>III</td>
<td>4</td>
<td>5</td>
<td>NS</td>
</tr>
<tr>
<td>V</td>
<td>3</td>
<td>1</td>
<td>NS</td>
</tr>
<tr>
<td>Decreased size after 10 sessions</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>70-100%</td>
<td>4 (33.3%)</td>
<td>3 (38.4%)</td>
<td>NS</td>
</tr>
<tr>
<td>50-70%</td>
<td>5 (41.7%)</td>
<td>6 (46.3%)</td>
<td>NS</td>
</tr>
<tr>
<td>&lt;50%</td>
<td>3 (25.0%)</td>
<td>2 (15.3%)</td>
<td>NS</td>
</tr>
<tr>
<td>Response rate</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(reduction of lesional contrast enhancement)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>85%</td>
<td>90%</td>
<td>0.097</td>
</tr>
<tr>
<td>Median duration of hospitalization (days; range)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>3 (1-10)</td>
<td>5 (2-13)</td>
<td>0.016</td>
</tr>
<tr>
<td>Complications</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Hemorrhage: 1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Abdominal pain: 3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pneumonia: 2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Abdominal pain: 6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Embolism: 1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Artery thrombosis: 1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total: 10</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Median survival (months)</td>
<td>0.19</td>
<td>12.17</td>
<td>0.063</td>
</tr>
<tr>
<td>Median complication-free survival (months)</td>
<td>7.2</td>
<td>8.1</td>
<td>0.071</td>
</tr>
<tr>
<td>SF 30</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre</td>
<td>67</td>
<td>64</td>
<td>NS</td>
</tr>
<tr>
<td>Post</td>
<td>73</td>
<td>75</td>
<td>NS</td>
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</table>
In Vivo Models of Intestinal Disorders

Experimental Model of Intestinal Endometriosis: Initial Evaluation
Mo2011 | Rodrigo R. Zago1, Marcelo Averbach1, Sheila S. Filippi1, Rogerio Saad-Hossne2, Tabatha D. Kalenski3, Lucio G. Rossini1

Affiliation
1Endoscopy Unit, Hospital Sírio-Libanês, São Paulo, Brazil; 2Departamento de Cirurgia e Ortopedia, Faculdade de Medicina de Botucatu - Universidade Estadual Paulista - UNESP, Botucatu, Brazil; 3Hospital Sírio-Libanês, São Paulo, Brazil

Abstract:
Introduction:
Endometriosis is a gynecological benign disease characterized by the presence of endometrial tissue outside the uterine cavity and can affect surrounding organs, such as the sigmoid, rectum and rectovaginal septum. Experimental models of endometriosis use autologous tissue transplantation, with the animal’s topic endometrium resected and usually implanted in the peritoneum. To our knowledge, there is no animal experimental model of intestinal endometriosis. Our objective is to create an experimental model of intestinal endometriosis in pigs.

Methods:
We used four sexually mature female minipigBR pigs. We performed two laparotomies in each animal. The first one to create the endometriosis implants. The second one was performed thirty days latter to visualize, measure the implants and obtain tissue for histopathology study. A transrectal ultrasonography study was performed prior to the second surgery to evaluate the endometrial implant. This study was approved by the Institution Ethical Commission for Animal Use and complied with 2010 revision of Guiding Principles in the Care and Use of Animals.

Results: In the first laparotomy a 5-cm segment of right uterine horn was resected. The endometrium was separated from the myometrium through subendometrial saline injection. Two 1.0 x 2.0 cm fragments were delimited and sutured in rectum of the animals. The remaining of the endometrium was sent to histopathology analysis. In the first animal, we sutured one fragment in the peritoneal surface of the rectum; in the other animals we created subserous implants. The histopathology analysis demonstrated inactive endometrium in all animals.

“En-bloc” resection of the intestinal segment and the endometriosis implants was performed in the second surgery. The material was sent to the histopathology study. We identified all implants during transrectal ultrasonography in all animals. The histopathology analysis of the specimen resected in the second surgery is showed in table 1.

Discussion: In our sample, we identified the implants during the second laparotomy in all animals, but only two invaded the muscular layer in the histopathology analysis. This may be explained by the relative short period between the implant creation and the final evaluation. We used sexually mature animals but did evaluate or manipulate the animals’ estrus phase. It must have to been taken in account that the hormonal status is fundamental for the development of endometriosis and that the suture of small fragments of endometrium into the intestinal wall may be not sufficient to simulate the microenvironment seen in humans.

Conclusion: We demonstrated that the creation of an animal model of deep infiltrating endometriosis with intestinal involvement is feasible through a simple surgical technique.

Characteristics and results of the animals used in the experimental model
### Disclosure(s):

The following people have nothing to disclose: Rodrigo R. Zago, Marcelo Averbach, Sheila S. Filippi, Rogerio Saad-Hossne, Tabatha D. Kalenski, Lucio G. Rossini

<table>
<thead>
<tr>
<th>Animal</th>
<th>Number of implants</th>
<th>Macroscopic appearance of the endometrium (1st surgery)</th>
<th>Implant technique</th>
<th>Histopathology of the implant</th>
<th>Implant size after surgery (in cm)</th>
<th>Histopathology after 2nd surgery</th>
<th>Muscle invasion</th>
<th>Lymph node status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>Whitish</td>
<td>Serous</td>
<td>Inactive endometrium</td>
<td>2.2 x 1.0 x 0.6</td>
<td>Mixed pattern</td>
<td>No</td>
<td>N/A</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>Bluish-purple</td>
<td>Sub-serous</td>
<td>Inactive endometrium</td>
<td>0.6 x 0.6 x 0.6</td>
<td>Poor differentiated mixed pattern</td>
<td>Yes, both implants</td>
<td>2/4 positive</td>
</tr>
<tr>
<td>3</td>
<td>2</td>
<td>Whitish</td>
<td>Sub-serous</td>
<td>Inactive endometrium</td>
<td>2.1 x 1.5 x 1.2</td>
<td>Mixed pattern</td>
<td>No</td>
<td>N/A</td>
</tr>
<tr>
<td>4</td>
<td>2</td>
<td>Bluish-purple</td>
<td>Sub-serous</td>
<td>Inactive endometrium</td>
<td>1.5 x 1.0 x 1.0</td>
<td>Mixed pattern</td>
<td>Yes, only the biggest implant</td>
<td>3/2 positive</td>
</tr>
</tbody>
</table>
Functional Dyspepsia around the globe - recent insights

Analysis of C825T Polymorphism of the G-Protein Beta-3 Subunit Gene and Its Association With Dyspeptic Symptoms in Brazilian Patients With Functional Dyspepsia

Mo1879 | Andre C. Wortmann¹, Daniel Simon², Luiz E. Mazzoleni³, Vanessa C. Jacovas², Guilherme B. Sander¹,³, Tobias C. Milbradt³, Laura R. De Bona³, Carlos F. Francesconi¹,³, Vagner R. Lunge², Themis R. Silveira¹,²

Affiliation
¹Programa de Pós-Graduação Ciências em Gastroenterologia e Hepatologia, Universidade Federal do Rio Grande do Sul, Porto Alegre, Brazil; ²Programa de Pós-Graduação em Biologia Celular e Molecular Aplicada à Saúde, Universidade Luterana do Brasil, Canoas, Brazil; ³Hospital de Clínicas de Porto Alegre, Porto alegre, Brazil

Abstract:
Background: Functional dyspepsia (FD) is characterized by upper gastrointestinal symptoms in the absence of any know specific structural cause. According to Rome III consensus, dyspeptic patients may be classified in two categories: postprandial distress syndrome (PDS) and epigastric pain syndrome (EPS). The role of genetic factors in the susceptibility to the disease is not well established. Nevertheless, recent findings suggest a possible association between C825T polymorphism of the G-protein beta-3 subunit gene (GNB3) and FD. Significant association between homozygous 825C allele of GNB3 protein and dyspepsia was reported from Germany, Japan and the USA. The aim of the present study was to evaluate the association of C825T polymorphism with dyspeptic symptoms in Brazilian patients.

Methods: Study sample was comprised by 303 functional dyspeptics (Rome III criteria) infected by Helicobacter pylori. Informed consent was obtained from all subjects, and the study protocol was approved by the institution’s human research committee. Peripheral blood samples were used for DNA extraction, followed by PCR amplification. C825T polymorphism of GNB3 gene was analyzed by restriction fragment length polymorphism with the enzyme BsaJI; the digested PCR products were analyzed by polyacrylamide gel electrophoresis. Dyspeptic symptoms (upper abdominal pain, nausea/vomiting, abdominal bloating and early satiety) were scored according to a previously structured and validated questionnaire (PADYQ; Sander et al. Dig Dis Sci 2004, 49:1822-9). RESULTS: According to the predominant symptoms, patients were classified into categories of FD: 152 (50.2%) as DPS, and 151 (49.8%) as EPS. GNB3 genotype frequencies were: 128 (42.2%) CC, 130 (42.9%) CT, and 45 (14.9%) TT. There were no statistically significant differences in genotype or allele frequencies between FD categories. Higher PADYQ scores on abdominal bloating/early satiety were observed in patients with CC GNB3 genotype (128 patients, mean score 11.0 ± 3.8), compared to non-CC genotypes (175 patients; mean score 10.4 ± 3.3; p=0.007). There was no association of other dyspeptic symptoms with GNB3 genotypes.

Conclusion: These results suggest a possible influence of genetic factors on the clinical presentation of FD in Brazilian patients. GNB3 genotyping may help to identify a subset of patients with specific dyspeptic symptoms.

Disclosure(s):
Carlos F. Francesconi – Consulting: Abbott Brazil, Janssen, Takeda
The following people have nothing to disclose: Andre C. Wortmann, Daniel Simon, Luiz E. Mazzoleni, Vanessa C. Jacovas, Guilherme B. Sander, Tobias C. Milbradt, Laura R. De Bona, Vagner R. Lunge, Themis R. Silveira
Molecular Analysis of Adult Type Hypolactasia in Patients With Funcional Dyspepsia: Evaluation of Five Associated Single Nucleotide Polymorphisms

Mo1886 | Andre C. Wortmann¹, Daniel Simon², Luiz E. Mazzoleni³, Guilherme B. Sander¹³, Vagner R. Lunge², Débora D. Nabinger², Camila S. Grott², Tobias C. Milbradt³, Laura R. De Bona³, Carlos F. Francesconi¹³, Themis R. Silveira¹²

Affiliation
¹²Programa de Pós-Graduação Ciências em Gastroenterologia e Hepatologia, Universidade Federal do Rio Grande do Sul, Porto Alegre, Brazil; ²Programa de Pós-Graduação em Biologia Celular e Molecular Aplicada à Saúde, Universidade Luterana do Brasil, Canoas, Brazil; ³Hospital de Clínicas de Porto Alegre, Porto Alegre, Brazil

Abstract:
Background: Funcional dyspepsia (FD) and lactose intolerance are both very prevalent worldwide. Adult type hypolactasia (ATH) is the main cause of lactose intolerance, and genetic testing is currently used in the diagnosis of this condition. According to the genotype of single nucleotide polymorphisms (SNPs) associated with ATH, individuals are classified either as lactase persistent or lactase non-persistent (which is consistent with the diagnosis of ATH). There may be some overlap between dyspeptic symptoms and clinical manifestations of lactose intolerance, particularly bloating. Unlike irritable bowel syndrome and ATH, studies about overlap between FD and ATH are scarce. Southern Brazil’s population has important ethnic influence from European immigration, highlighting the importance of a thorough evaluation of genetic factors in conditions such as ATH. The aim of this study was to investigate an association between lactase genotypes and dyspeptic symptoms in patients with a diagnosis of FD (Rome III criteria) in an urban center of Southern Brazil. Our hypothesis was that dyspeptics with genotypes compatible with ATH would have higher bloating scores than those with genotypes associated with lactase persistence.

Methods: Five SNPs located upstream of the lactase gene (LCT) locus (-13907C/G, -13910C/T, -13915T/G, -14010G/C and -22018G/A) were studied. DNA was extracted from stored blood samples followed by PCR amplification, and then different techniques were employed: -22018G/A was analysed by restriction fragment length polymorphism with the enzyme HhaI and the digested PCR products were visualized by polyacrylamide gel electrophoresis; the other four SNPs were analysed by DNA sequencing. Dyspeptic symptoms (upper abdominal pain, nausea/vomiting, abdominal bloating and early satiety) were scored according to a previously structured and validated questionnaire (PADIQ; Sander et al. Dig Dis Sci 2004, 49:1822-9). Informed consent was obtained from all subjects, and the study protocol was approved by the institution's human research committee. Statistical analysis was performed by Mann-Whitney U test, and a p value < 0.05 was considered significant. RESULTS: Study sample included 197 patients from both gender, with mean age of 47.7 ± 11.9. Considering the most important ATH-associated SNP (-13910C/T), there was no correlation between CC genotype (diagnosis of ATH) with PADIQ score on abdominal bloating (88 patients with CC genotype, mean score 9.0 ± 2.3; 109 non-CC genotypes, mean score 8.6 ± 3.0). The other SNPs did not correlate either with PADIQ bloating score. Likewise, we did not find any statistically significant difference between lactase genotypes and other dyspeptic symptoms.

Conclusion: There is no association between the five SNPs studied and symptoms of FD in patients from Southern Brazil.

Disclosure(s):
Carlos F. Francesconi – Consulting: Abbott Brail, Janssen, Takeda
The following people have nothing to disclose: Andre C. Wortmann, Daniel Simon, Luiz E. Mazzoleni, Guilherme B. Sander, Vagner R. Lunge, Débora D. Nabinger, Camila S. Grott, Tobias C. Milbradt, Laura R. De Bona, Themis R. Silveira
Evaluation of Cytomegalovirus Infection in Patients With Inflammatory Bowel Disease

Mo1289 | Alexandre M. Carmo, Fabiana M. Santos, Carmen Lucia Ortiz-Agostinho, Iêda Nishitokukado, Cintia S. Frota, Flavia U. Gomes, André Z. Leite, Claudio S. Pannuti, Magaly G. Teixeira, Aytan M. Sipahi

Affiliation
1Gastroenterology Department, Clinical Hospital of University of São Paulo Medicine School, São Paulo, Brazil; 2Department of infectious and parasitic diseases, Tropical Medicine Institute, São Paulo, Brazil

Abstract:
Background: Cytomegalovirus is a DNA virus that is highly prevalent, and has a peculiar ability to infect the host and keeping integrated to the DNA of the patients in the form of latent infection. The virus can also appear in the form of disease, which most commonly occurs in immunocompromised patients, increasing the morbidity and mortality. Inflammatory bowel diseases, Crohn's disease and ulcerative colitis are chronic diseases that affect the gastrointestinal tract. The pathophysiology and treatment of these diseases often induce a state of immunosuppression, hence the assumption that patients with inflammatory bowel disease may be at greater risk for cytomegalovirus disease. However, there are still doubts and controversies about the relationship between inflammatory bowel disease and cytomegalovirus. Aim: Evaluate the frequency of cytomegalovirus infection and disease in patients with inflammatory bowel disease correlated with clinical and laboratorial activity indices of inflammatory bowel disease.

Methods: Patients with inflammatory bowel disease previously diagnosed underwent interview and review of records, samples of blood and feces were collected. The search of cytomegalovirus was performed by IgG and IgM blood serology, real-time PCR in blood and qualitative PCR in feces. These results were correlated with red blood cell levels, C-reactive protein, erythrocyte sedimentation rate, fecal calprotectin for each patient. Patients with Crohn's disease were evaluated by Crohn's disease activity index and ulcerative colitis patients with Truelove & Witts index. Results: Four hundred patients were eligible, 249 patients with Crohn's disease and 151 with ulcerative colitis. In the group of Crohn's disease, 67 patients had moderate or severe disease, but 126 patients presented with active disease by evaluating fecal calprotectin. The location of the ileocolic disease was the most common (108 patients); of the total, 100 patients were operated on inflammatory bowel disease and 143 patients used azathioprine. In patients with ulcerative colitis, only 21 patients had moderate disease, but 76 patients presented with active disease by evaluating fecal calprotectin. Pancolonic disease was more frequent (60 patients) and 15 patients were operated and 41 patients uses azathioprine. The great majority of patients has positive CMV IgG, but we did not find cytomegalovirus disease in any case, ie, in all 400 patients quantitative detection of CMV DNA by real-time PCR in blood was negative.

Conclusion: The latent cytomegalovirus infection is extremely frequent in inflammatory bowel disease population, but the cytomegalovirus disease is extremely rare, we did not find association of inflammatory bowel disease with an increased risk for cytomegalovirus disease.

Disclosure(s):
The following people have nothing to disclose: Alexandre M. Carmo, Fabiana M. Santos, Carmen Lucia Ortiz-Agostinho, Iêda Nishitokukado, Cintia S. Frota, Flavia U. Gomes, André Z. Leite, Claudio S. Pannuti, Magaly G. Teixeira, Aytan M. Sipahi
**Abstract:**
Introduction: Inflammatory bowel disease (IBD) frequently affects young people of working age, compromising their quality of life (QoL) in their physical, psychological, familial and social domains. The influence of disease activity on the association between mood disorders and IBD is unclear. Few studies have evaluated the impact of IBD on QoL, anxiety and depression in Brazilian patients.

Aim: to evaluate quality of life and its correlation with psychological aspects of patients with IBD through the Inflammatory Bowel Disease Questionnaire (IBDQ), SF-36 SF and Hospital Anxiety and Depression Scale (HADS).

Methods: Cross-sectional study; IBDQ, SF-36 and HADS were applied to consecutive outpatients in a tertiary referral center for IBD. Harvey-Bradshaw Index (HBI) and Truelove scores (TS) were used to evaluate Crohn’s Disease (CD) and Ulcerative Colitis (UC) activity. Sample calculation: 113 patients for a significance level of 5%, power of 90% and a correlation coefficient of at least 0.3 between the scales. Statistical analysis: Student-t test, Pearson and Spearman correlations. Study approved by the local IRB.

Results: 120 patients participated in the study; mean age: 41.7 yrs; female: 58.3%; CD: 69 patients. No low scores for QoL were found across the 4 IBDQ domains; the SF-36 showed low scores in relation to physical limitations (47.2 ± 42.4) and emotional aspects (49.8 ± 43.4); HADS score presented a mean of 9.5 ± 2.7 for anxiety and 8.7 ± 2.0 for depression. QoL was decreased in both diseases only when they were clinically active (Table 1). The evaluation in UC population did not detect statistically significant manifestations of anxiety and depression. Indeed, we observe higher levels of depression only in patients with active Crohn’s disease. HADS scale demonstrated increased indices of anxiety and depression only when the disease was active (Table 2).

Conclusions: IBDQ and HADS did show a different QoL pattern in outpatients of a referral center for IBD in Brazil. There was no relevant impairment on the quality of life in these patients unless the disease is clinically active.

**Table 1- Associations: quality of life, anxiety and depression with Disease activity**

<table>
<thead>
<tr>
<th>Variables</th>
<th>Remission</th>
<th>Activity</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>IBDQ</td>
<td>n=83</td>
<td>n=21</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Fat</td>
<td>5 (6.0)</td>
<td>10 (43.3)*</td>
<td></td>
</tr>
<tr>
<td>Regular</td>
<td>20 (24.1)</td>
<td>9 (39.1)</td>
<td></td>
</tr>
<tr>
<td>Good</td>
<td>37 (44.4)*</td>
<td>3 (13.9)</td>
<td></td>
</tr>
<tr>
<td>Excelent</td>
<td>21 (25.3)*</td>
<td>1 (4.3)</td>
<td></td>
</tr>
<tr>
<td>Anxiety</td>
<td>n=80</td>
<td>n=25</td>
<td>0.040</td>
</tr>
<tr>
<td>symptoms</td>
<td>40 (50.0)*</td>
<td>9 (37.0)*</td>
<td></td>
</tr>
<tr>
<td>Without symptoms</td>
<td>40 (50.0)*</td>
<td>6 (24.0)</td>
<td></td>
</tr>
<tr>
<td>Depression</td>
<td>n=80</td>
<td>n=25</td>
<td>0.005</td>
</tr>
<tr>
<td>symptoms</td>
<td>36 (45.0)</td>
<td>20 (80.0)*</td>
<td></td>
</tr>
<tr>
<td>Without symptoms</td>
<td>44 (55.0)*</td>
<td>5 (20.0)</td>
<td></td>
</tr>
</tbody>
</table>

* test for a statistically significant association 5% significance
Table 2 - Associations: quality of life, anxiety and depression with the Activity Index for Crohn's Disease - Harvey-Bradshaw

<table>
<thead>
<tr>
<th>Variables</th>
<th>Remission</th>
<th>Activity</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>BDIQ</td>
<td>n=54</td>
<td>n=9</td>
<td>0.003</td>
</tr>
<tr>
<td>Bad</td>
<td>3 (5.6)</td>
<td>4 (44.4)*</td>
<td></td>
</tr>
<tr>
<td>Regular</td>
<td>14 (25.9)</td>
<td>4 (3.3)</td>
<td></td>
</tr>
<tr>
<td>Good</td>
<td>23 (42.6)</td>
<td>2 (22.2)</td>
<td></td>
</tr>
<tr>
<td>Excellent</td>
<td>14 (25.9)</td>
<td>0 (0.0)</td>
<td></td>
</tr>
<tr>
<td>Anxiety symptoms</td>
<td>n=52</td>
<td>n=9</td>
<td>0.276</td>
</tr>
<tr>
<td></td>
<td>27 (51.9)</td>
<td>7 (77.8)</td>
<td></td>
</tr>
<tr>
<td>Depression symptoms</td>
<td>n=52</td>
<td>n=9</td>
<td>0.001</td>
</tr>
<tr>
<td></td>
<td>20 (38.5)</td>
<td>9 (100)*</td>
<td></td>
</tr>
</tbody>
</table>

* test for a statistically significant association 5% significance

Disclosure(s):
Carlos F. Francesconi – Consulting: Abbott Brazil, Janssen, Takeda
The following people have nothing to disclose: Cristina Flores, Raquel Calixto
**Prevention and Chemoprevention**

**Effects of Fluoxetine Upon Metallothioneins and TRPV1 Expression in Rat Colonic Carcinogenesis**

Mo1170 | Waynice P. Garcia, Vinicius Kannen, Sergio B. Garcia

**Affiliation**

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**Abstract:**

Increased expression of transient receptor potential vanilloid type 1 (TRPV1) in nerve fibres may contribute to visceral hypersensitivity and pain. On the other hand, it has been recently shown that TRPV1 exerts a protective role that restricts the initiation and progression of colon cancer. Oxidative stress may be related to the triggering of TRPV1 expression. Fluoxetine (FLX) is a drug commonly used as antidepressant and we have previously demonstrated its potent effects against colonic carcinogenesis. However, the literature on the effects of FLX on chronic pain is inconsistent. Our aim was to verify the effects of FLX on oxidative stress markers, the TRPV1 and the metallothioneins (MT) expression as a reliable marker of chemically-induced colon carcinogenesis in rats.

**MATERIAL AND METHODS**

Four groups with ten male Wistar rats were used in the experiment: CF and C groups were submitted to colonic carcinogenesis induction a single dose of dimethyl-hydrazine DMH (125 mg kg-1; intraperitoneal; i.p.); CF and F groups received a daily FLX-gavage (30 mg kg-1, for two weeks) and the S group was the control. Rats were euthanized after 6 weeks from first FLX gavage. Levels of oxidative stress marker enzymes (LDH, GOT and CK) and the antioxidant parameters, superoxide dismutase (SOD), malondialdehyde (MDA) and Vitamin E were assessed in serum and colon. The colons were processed routinely for immunohistochemistry using antibodies for metallothioneins (MT) and TRPV1. The histological sections were evaluated by two experienced pathologists. Five fields (100X objective magnification) per tissue section, chosen at random, were analyzed and the total numbers of MT crypt positivity and TRPV1 positive fibres were counted. The results were expressed as mean number MT positive colonic crypts and TRPV1 positive fibres/mm2, respectively.

**RESULTS**

There were no significant alterations of levels of oxidative stress markers enzymes among the experimental groups. FLX-treatment decreased colonic crypts MT positivity in comparison to the C group (p<0.05, Student t test). No MT positivity was fond in the other groups. The median number of TRPV1 fibres was significantly (2.3-fold) higher in CF group compared with C group (p<0.001) and with S group (7.9 fold) and F group (6.2-fold) (ANOVA test; p<0.001). Our findings indicate that FLX exerts a protective effect against colon carcinogenesis independently of the oxidative status of the colonic mucosa and a stimulatory effect on the spread of TRPV1-immunoreactive fibres on the early phase of the colonic carcinogenesis in rats. These findings confirm that FLX has a protective role against colonic carcinogenesis, at least partially due to an increase in TRPV1 expression, but, paradoxically this mechanism may also be related to the visceral hypersensitivity related to the carcinogenesis process.

**Disclosure(s):**

The following people have nothing to disclose: Waynice P. Garcia, Vinicius Kannen, Sergio B. Garcia
Clinical trials: RCTs and Pharmacotherapy

Spirulina Platensis Attenuates Dyspeptic Symptoms After Cessation of Chronic Use of Proton Pump Inhibitors: Results of a Randomized Clinical Trial
Mo1063 | Andréia M. Gronevalt², Telma E. Bertolin³, Cassiano M. Forcelini¹, Daniela Bertol², Rubens Rodriguez¹, Fernando Fornari¹

Affiliation
¹Sistema Digestório, School of Medicine, Universidade de Passo Fundo-RS, Brazil, Passo Fundo, Brazil; ²PPG Envelhecimento Humano, Universidade de Passo Fundo, Passo Fundo, Brazil

Abstract:
Background: Approximately 5% of the world population uses PPIs regularly, and half of them do so without formal indication. This can be explained at least in part by rebound acid hypersecretion that transiently occurs after PPI cessation, which may be accompanied by reappearance of dyspeptic symptoms in 30-60 days. This phenomenon difficult PPIs withdrawal from individuals who do not require such treatment. In this setting, the use of agents with analgesic and anti-inflammatory properties such as Spirulina platensis (Sp) could be useful to minimize rebound symptoms after PPIs withdrawal. We conducted a randomized, double-blinded clinical trial to test this hypothesis. Methods: We studied 45 patients (91% women, aging 51 ± 14 years, BMI 25.7 ± 4.1 kg/m²) in regular use of PPIs without previous history of peptic ulcer or reflux esophagitis. Patients were prospectively treated with pantoprazole 40 mg/day for 28 days and underwent clinical and endoscopic (E1) evaluation. In the absence of contraindications (large size hiatal hernia, peptic ulcer, or esophagitis grade ≥ B), patients were randomized to 2 months treatment with Sp (1.6 g/day) or placebo, with permission to use antacids on demand. Clinical and endoscopic (E2) evaluations were repeated at the end of 2 months. Primary outcomes were dyspepsia (either appearance or maintenance of dyspeptic symptoms with a score > 50% from baseline) and reflux symptoms (either appearance or maintenance of troublesome typical symptoms). An intention-to-treat analysis was applied (dropout patients = positive outcome). Results: The median time of PPIs usage was 32 months (ranging 4 to 96). Two patients were excluded in E1 due to hiatal hernia. Among 43 patients, 25 (58%) were randomized to placebo and 18 to Sp. After 2 months, 18 patients treated with placebo (72%) and 12 treated with Sp (67%) completed the study (P = 0.968). Dyspepsia was present in 10 out of 18 patients treated with Sp and in 22 out of 25 patients treated with placebo [56% vs. 88%; relative risk 0.63 (CI95% 0.41 - 0.98)]. The outcome reflux symptoms was present in 13 out of 18 patients treated with Sp and in 19 out of 25 patients treated with placebo [72% vs.76%; relative risk 0.95 (CI95% 0.66 - 1.36)]. There were no significant side effects either in Sp or placebo groups. Findings from endoscopy and gastric histology did not differ between groups.

Conclusions: Our results indicate that the majority (two thirds) of patients in chronic use of PPIs was able to discontinue the medication for 2 months, regardless of Sp or placebo therapy. However, dyspeptic symptoms were significantly less severe in patients treated with Sp than with placebo, whereas no benefit was seen in relation to reflux symptoms after Sp or placebo. Considering its good safety profile, Sp treatment might be useful to relieve dyspeptic symptoms after PPIs withdrawal.

Disclosure(s):
The following people have nothing to disclose: Andréia M. Gronevalt, Telma E. Bertolin, Cassiano M. Forcelini, Daniela Bertol, Rubens Rodriguez, Fernando Fornari
Basic Liver Cell and Molecular Biology

Identification of *Helicobacter pylori* in Formalin Fixed Paraffin-Embedded (FFPE) Liver From Brazilian Patients With Hepatocellular Carcinoma: Correlation With Viral Status

Mo1780 | Elizabeth M. Gonçalves, Bruna M. Roesler, Ângela M. Assis, Natalicia H. Hara, Cecilia A. Escanhoela, Jazon Romilson S. Almeida, Ilka F. Boin, José Murilo R. Zeitune

**Affiliation**
Gastrocenter, State University of Campinas, Campinas, Brazil

**Abstract:**
Several studies have shown the presence of *Helicobacter* DNA in the liver specimens of patients with hepatobiliary diseases mainly cirrhosis, cholangiocarcinoma and hepatocellular carcinoma (HCC). The formalin fixed paraffin-embedded (FFPE) tissues are an extraordinary source for DNA molecular studies enabling the correlation of therapy and clinical course of diseases. Considering that *Helicobacter (H.) pylori* is classified as a type I carcinogen and hepatocellular carcinoma represents one of the most common human cancers in the world, the aim of this study was to investigate the presence of *H. pylori* DNA in the FFPE liver from Brazilian patients with HCC. For this purpose, paraffin sections of 38 liver biopsies were used and genomic DNA was extracted using phenol/chloroform method. After that, polymerase chain reaction (PCR) analysis was carried out using *H. pylori* specific 16S rRNA primers and PCR products of positive samples were further identified by DNA sequencing. Results showed that 14 of the 38 samples (36.8%) amplified the 16S rRNA *H. pylori* gene. The nucleotide sequence of the 16S rRNA amplicons demonstrated 98% similarity to *H. pylori*. Considering the *H. pylori* positive patients, in relation to viral infection, 9 of the 14 (64%) subjects were infected by hepatitis C virus (HCV), 2 (14%) were infected by hepatitis B virus (HBV); 1 (7%) presented coinfection with HCV and HBV and 2 (15%) patients had HCC without viral infection. These data confirm the identification of *H. pylori* in FFPE liver tissue of Brazilian patients with hepatocellular carcinoma. Additionally, patients infected with *H. pylori* were most frequently infected by HCV. Further studies will be performed in these samples to detect other *H. pylori* molecular markers such as cagA, vacA and ureA genes and its association with viral status of patients with HCC. This study was supported by grants from FAPESP ( 2009/09889-5) and FAEPEX (10111)

**Disclosure(s):**
The following people have nothing to disclose: Elizabeth M. Gonçalves, Bruna M. Roesler, Ângela M. Assis, Natalicia H. Hara, Cecilia A. Escanhoela, Jazon Romilson S. Almeida, Ilka F. Boin, José Murilo R. Zeitune
Molecular Detection of *Helicobacter pylori* in Formalin-Fixed Paraffin-Embedded (FFPE) Liver Tissue From Patients With Hepatocellular Carcinoma: Comparison of Five Methods to Extract Genomic DNA


**Affiliation**
Gastrocenter, State University of Campinas, Campinas, Brazil

**Abstract:**
*Helicobacter* (H.) *pylori* is the most common bacterial pathogen found in the human gastrointestinal tract. Since *Helicobacter* spp. DNA was identified in liver tissue resected from patients with hepatocellular carcinoma (HCC), studies have suggested the role of this bacterium in hepatic carcinogenesis. Archives of formalin-fixed paraffin-embedded (FFPE) tissues represent an extraordinary source for clinical studies and provide many advantages. However DNA extraction from FFPE tissues still remains a challenge. The aim of this study was to compare five protocols for DNA extraction from FFPE liver in 10 HCC samples to detect *H. pylori* DNA. These protocols ranged from homemade method to commercial kits and were: 1) QIAamp FFPE Tissue Kit/M1, 2) QIAamp DNA Mini Kit/M2, 3) Wizard SV Genomic DNA Purification System/M3, 4) RealiaPrep FFPE gDNA Miniprep System/M4 and 5) Phenol-chloroform method/M5. *H. pylori* detection was performed using 16S rRNA gene amplification by PCR. Our results showed that the highest total amount of DNA was obtained using phenol-chloroform method. Analyses of 16S rRNA gene amplification demonstrated that percentage of *H. pylori* positive cases was 40% in samples extracted with M1, M2 and M4; 50% in samples extracted with M3 and 70% in samples extracted with M5. Although the highest percentage of *H. pylori* positive cases was obtained in samples extracted with phenol-chloroform method (M5), these results were not statistically significant (p=0.466). In conclusion, the liver fragments used in this study were larger tissue samples and we verified that of the five methods tested, phenol/chloroform is the most suitable for detection of *H. pylori*, considering that concentration of target DNA must be reduced in samples. This study was supported by grants from FAPESP (2009/09889-5)

**Disclosure(s):**
The following people have nothing to disclose: Elizabeth M. Gonçalves, Bruna M. Roesler, Ana Carolina Guardia, Arlete Milan, Cecilia A. Escanhoela, Jazon Romilson S. Almeida, Ilka F. Boin, José Murilo R. Zeitune
Canine Mesenchymal Stem Cells Present Antioxidant and Hepatoprotective Properties Against TAA-Induced Injury In Vitro and In Vivo

Mo1785 | Luiz Fernando Quintanilha¹ ⁴, Taro Takami¹, Yoshikazu Hirose¹, Koichi Fujisawa², Yasuhiko Murata¹, Naoki Yamamoto¹ ³, Shuji Terai¹, Isao Sakaida¹ ²

Affiliation
¹Department of Gastroenterology and Hepatology, School of Medicine, Yamaguchi University, Ube, Japan; ²Center for Reparative Medicine, Graduate School of Medicine, Yamaguchi University, Ube, Japan; ³Health Administration Center, Yamaguchi University, Yamaguchi City, Japan; ⁴Institute of Biophysics Carlos Chagas Filho, Federal University of Rio de Janeiro, Rio de Janeiro, Brazil

Abstract:
BACKGROUND AND AIMS: Oxidative stress has been known as crucial factor in establishment and development of liver cirrhosis and hepatocellular carcinomas. In order to overcome therapy limitations, cell-based therapies using mesenchymal stem cells (MSC) have been attempted in murine experimental models and clinical trials. Recently it has been also demonstrated antioxidant properties in MSCs. Moreover, nuclear erythroid-2 related factor (Nrf2) has been implicated as a target for treatment due its central role in regulation of antioxidant genes. Therefore, in order to establish proof of concept, we assessed the curative potential of canine MSC (cMSC) against thioacetamide (TAA)-induced liver injury. In addition, we verified their effects on isolated hepatocytes under TAA-induced oxidative stress condition using monoculture and co-culture systems.

METHODS: These studies were carried out in accordance with the principles for the care and use of vertebrate animals in research and Training (APS, 2010). Twenty eight NOD/SCID immunodeficient mice received TAA injections (250mg/kg i.p.) twice a week for 13 weeks. At the 10th week, 1.0x10⁶ cMSC (cell-treated group; n=14) or vehicle (non-treated group; n=14) were injected via tail vein. Three days after cMSC-injections, 12 mice (6 each group) were euthanized. Sixteen mice kept in TAA-protocol receiving cMSC or vehicle injections once a week, and then were euthanized at 13rd week. Biochemical markers such as alanine transaminase (ALT), aspartate transaminase (AST) and lactate dehydrogenase (LDH), global antioxidant activity and Nrf2 mRNA quantification were analyzed in both time points. To evaluate the ability of cMSC to challenge TAA-induced oxidative stress injury, cell viability (MTT assay), LDH releasing and reactive species of oxygen (ROS) were measured in cultured cMSC with TAA-containing medium. Finally, CM-Dil-labeled cMSC (red) were co-cultured with isolated mouse GFP-positive hepatocytes (green) under the same TAA condition, and then we verified levels of LDH, Nrf2 mRNA and ROS in gated GFP-positive hepatocytes.

RESULTS: Frequent cMSC-infusions prevented the increasing of ALT (p<0.001), AST and LDH (p<0.05). Moreover, global anti-oxidant activity was maintained in cell-treated group while non-treated group showed a clear decreasing of this ability (p<0.001). Interestingly, cMSC exhibited a higher ability to face TAA-induced oxidative stress in vitro, consistent with increasing of viability (p<0.001), lower LDH releasing in culture medium (p<0.001) and ROS-production (p<0.01). Finally, co-cultured hepatocytes with cMSC also presented lower ROS (p<0.001) and higher expression of Nrf2 (p<0.01). CONCLUSION: We concluded that cMSC might be able to reduce TAA-induced chronic liver injury through theirs antioxidant activity and hepatoprotective effects, showing curative potential for liver diseases.

Disclosure(s):
The following people have nothing to disclose: Luiz Fernando Quintanilha, Taro Takami, Yoshikazu Hirose, Koichi Fujisawa, Yasuhiko Murata, Naoki Yamamoto, Shuji Terai, Isao Sakaida
Can an Effective Nissen Fundoplication Improve the Weak Motility of Barrett’s Esophagus?

Mo1721 | Angela Falcão, Sergio Szachnowicz, Rubens A. Sallum, Francisco C. Seguro, Ary Nasi, Julio R. Rocha, Ivan Cecconello

Affiliation
Department of Gastroenterology, Esophageal Surgical Division - University of Sao Paulo Medical School – Brazil, São Paulo, Brazil

Abstract:
Background: Abnormal esophageal motility is frequent in Barrett’s esophagus (BE); isn’t yet clear if is a primary abnormality or a consequence of injury. Non-propagated contractions, simultaneous or low amplitude contractions compromise esophageal clearance. That suggests extension of the inflammatory process to the muscle layer, affecting esophageal motility. Surgical treatment would decrease the inflammation of the esophageal mucosa improving the change in esophageal motor function.

Objective: Assess the effect of antireflux surgery on esophageal motility in patients with Barrett’s esophagus with esophageal motility disorder.

Methods: We evaluated 20 consecutive Barrett’s patients operated with esophageal dismotility. Inclusion criteria were: 12 months of minimum follow-up, asymptomatic patients out of PPIs, with endoscopy study without esophagitis and topic fundoplication.

Results: Thirteen patients were male (65%), the mean age was 54.95 (± 3.53) years, the length of Barrett esophagus was 3.7 (± 0.56). Follow-up was 76.2 (±9.27) months in average. The 24-hour pH monitoring after antireflux surgery showed a significant reduction or absence acid reflux (p<0.01). Before surgery the manometric evaluation showed 17 patients (85%) with LES hypotonia, 12 patients (60%) had esophageal body hypocontractility, two patients (10%) had nutcracker esophagus and four patients (20%) had abnormal esophageal peristalsis (IEM). There was an increase in the LESRP compared with preoperative values in 70% of the patients, the mean LESRP was 10.99 (± 1.92) before and 14.93 (± 1.33) after ARS (p 0.024). After ARS 40% of patients with hypocontractility showed an increase in amplitude of the peristaltic contractions in distal esophagus and these 30% returned to normal values; both patients with nutcracker esophagus have normalised contraction amplitude (p = 0.021). Five patients (25%) showed worsening of contraction amplitude and 15% remained with severe hypocontractility. Four patients (20%) who had normal esophageal peristalsis before ARS evaluated with aperistalsis or IEM after ARS. Three patients (15%) with abnormal esophageal peristalsis showed improvement and normalized the esoophageal peristalsis (p=0.201).

Conclusion: At least 50% of patients with BE with impaired esophageal motility who underwent surgery had improvement of the esophageal motility disorders, 40% reached normal values and patients with nutcracker esophagus showed normalization of contractility.

Disclosure(s):
The following people have nothing to disclose: Angela Falcão, Sergio Szachnowicz, Rubens A. Sallum, Francisco C. Seguro, Ary Nasi, Julio R. Rocha, Ivan Cecconello
Beneficial Effects of Diazoxide on Hepatic Ischemia/Reperfusion Injury

Mo1837 | Mateus A. Nogueira, Ana Maria M. Coelho, Sandra N. Sampietre, Nilza A. Molan, Rosely A. Patzina, Luiz C. D’Albuquerque, Marcel C. Machado

Affiliation
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Abstract:
Background/Aim: Pretreatment with diazoxide, an opening mitoKATP, increases tissue tolerance against ischemia/reperfusion (I/R) injury, however, there are no prior studies of the role of diazoxide on hepatic I/R injury. In the present study, we evaluated the effect of diazoxide on local and systemic liver I/R process.

Methods: Wistar male rats underwent partial liver ischemia performed by clamping the pedicle from medium and left anterior lateral segments during an hour under mechanical ventilation. They were divided into 2 groups: Control Group (n=26): rats received saline and Diazoxide Group (n=26): rats received IV diazoxide (3.5mg/kg) 15 minutes before liver reperfusion. Four and 24 hours after reperfusion, blood were collected for determinations of AST, ALT, TNF-α, IL-6, IL-10, and TGFβ1. Liver tissues were assembled for mitochondrial oxidation and phosphorylation, malondialdehyde (MDA) content, and histologic analysis. Pulmonary vascular permeability and myeloperoxidase (MPO) were also determined.

Results: Four hours after reperfusion Diazoxide Group presented elevation of AST, ALT, TNF-α, IL-6, IL-10 and TGFβ1 serum levels significantly lower than Control Group (p<0.05). A significant reduction on liver MDA content and on mitochondrial dysfunction were observed in Diazoxide Group compared to Control Group (p<0.05). No differences in pulmonary vascular permeability and MPO activity were observed between groups. Twenty four hours after reperfusion Diazoxide Group showed a reduction of AST, ALT, and TGFβ1 serum levels when compared to Control group (p<0,05).

Conclusion: Diazoxide maintains liver mitochondrial function, increases liver tolerance to I/R injury, and reduces systemic inflammatory response. These effects require further evaluations for using in a clinical setting. Grants from FAPESP2010/19078-1

Disclosure(s):
The following people have nothing to disclose: Mateus A. Nogueira, Ana Maria M. Coelho, Sandra N. Sampietre, Nilza A. Molan, Rosely A. Patzina, Luiz C. D’Albuquerque, Marcel C. Machado
Local and Systemic Effects of Aging on Acute Pancreatitis

Mo1840 | Ana Maria M. Coelho¹, Marcel C. Machado¹, Sandra N. Sampietre¹, Nilza A. Molan¹, Inneke M. van der Heijden², José Eduardo M. Cunha¹, Luiz C. D’Albuquerque¹

Affiliation
¹Gastroenterology, University of Sao Paulo, Sao Paulo, Brazil; ²Infectious Diseases, University of São Paulo, São Paulo, Brazil

Abstract:
Background/Aim: Acute pancreatitis (AP) is associated with high morbidity and mortality rates. Aging process has been found to influence the course and outcome of AP. The aim of this study was to evaluate the local and systemic effects of aging on severity of AP in an experimental model.

Methods: AP was induced in male Wistar rats by intraductal 2.5% taurocholate injection and divided into 2 experimental groups: GI (n=20): Young (3 month old rats), and GII (n=20): Older (18 month old rats). Two and 24 hours after AP blood were collected for determinations of amylase, AST, ALT, urea, creatinine, glucose, and of plasma ileal fatty acid binding protein (I-FABP). TNF-α and IL-6 levels were determined in serum and ascitic fluid. Liver mitochondrial oxidation and phosphorylation and malondialdehyde (MDA) contents, and pulmonary myeloperoxidase (MPO) activity were also performed. Bacterial translocation was evaluated by bacterial cultures of pancreas expressed in colony-forming units (CFU) per gram.

Results: A significant increase in serum amylase, AST, ALT, urea, creatinine, glucose, I-FABP, and IL-6 levels, and a reduction in serum and ascitic fluid TNF-α levels were observed in the elder group compared to the young group (p<0.05). Liver mitochondrial dysfunction, MDA contents, and pulmonary MPO activity were increased in the older group compared to the young group (p<0.05). Also, a significant increase in positive bacterial cultures obtained from pancreas tissue in older group was significantly increased compared to young rats (p<0.05). Conclusion: This study demonstrated that aging influences the course of acute pancreatitis evidenced by increased local and systemic lesions and the increased in bacterial translocation. These findings may have significant therapeutic implication in the clinical setting.

Disclosure(s):
The following people have nothing to disclose: Ana Maria M. Coelho, Marcel C. Machado, Sandra N. Sampietre, Nilza A. Molan, Inneke M. van der Heijden, José Eduardo M. Cunha, Luiz C. D’Albuquerque
Endoscopic Suturing Procedure: What It Can Do and How It Should Be Made
Mo1660 | Kiyoshi Hashiba, Marcelo Averbach, Horus A. Brasil, Fernando Marson, Pablo R. Siqueira, Jorge C. Cassab, Katia R. Leite, Waldir B. Veloso, Juliana Valenciano, Tabatha D. Kalenski

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Serviço de Endoscopia Digestiva, Hospital Sírio Libanês, São Paulo, Brazil

Abstract:
Background: Several techniques for gastric endoscopic suturing procedure (GESP) have been described but they have been ineffective. It remains unclear which strategies should be taken to ensure good results when performing GESP. AIM: Determine the technical details to perform a successful GESP with permanent results in porcine models. Methods: This study complied with 2010 guideline of the APS. Approval of the ethics committee of non-human research was taken. A surgical and an endoscopic group were created. In the surgical group (SG1 and SG 2): All procedures were performed by means of open surgery: a 3.15 inch opening was performed in the anterior gastric wall. SG1 (5 animals): approximation between a segment of the anterior and posterior gastric body wall, 1.18 inch away from each other using two 00 nylon stitch. Four techniques were used in the first subgroup: a) mucosa/ mucosa (area 1cm²). b) mucosa/mucosa after electrocoagulation of each area (1 cm²). c) muscularis propria (MP)/MP after mucosectomia (each area = 1cm²). d) MP/MP after 1 cm² wall transmural resection. SG2 (5 animals): same as SG1 group, but with a larger suturing area (4cm²). Three techniques were used in the second surgical subgroup: a) mucosa/mucosa: the suture procedure covered an area of 4cm². b) MP/MP: after a mucosectomy of 4cm². c) MP/MP with similar mucosectomy, but with the MP scratched by means of a needle knife. The pigs (mini pig br) weighted 77 pounds in average. Euthanasia of the animals was done one month later after upper endoscopy in all pigs. Based on the initial results, which showed permanent sutures only in the SG2 b (MP/MP: after a mucosectomy of 4cm²) and SG2 c (MP/MP: after a mucosectomy of 4cm² + scratching), an endoscopic group (EG), with 5 animals, in which endoscopic suture procedure was done using the successful technique of the SG2 “b” ie: MP/MP after mucosectomy. The endoscopic sutures were performed using a special plastic cap with side hole (figure 1) and the stitches were secured with a special tie-knot device. Results: The euthanasia revealed successful sutures in the endoscopic group (EG) resulting in a tunnel in gastric lumen (figure 2). The histology showed an incomplete muscular propria ring bridged by fibrosis, similar to the histology results achieved by successful open surgery. Discussion: This results suggest that to make a successful GESP in the gastric wall, a mucosectomy should be performed before. The area included need to be sufficiently large and requires at least 3 sutures involving the MP. Conclusion: this study confirms that two gastric sites can be fixed permanently by an endoscopic suturing procedure. This technique should be considered for the treatment of fistula, enlarged anastomosis, GERD and obesity. Further research is required to confirm this results and expand the application perspectives of the method.
Disclosure(s):
Kiyoshi Hashiba – Consulting: Cook Endoscopy
The following people have nothing to disclose: Marcelo Averbach, Horus A. Brasil, Fernando Marson, Pablo R. Siqueira, Jorge C. Cassab, Katia R. Leite, Waldir B. Veloso, Juliana Valenciano, Tabatha D. Kalenski
**ASGE Posters EUS-2**

**Prospective Evaluation of Contrast-Enhanced Harmonic Endoscopic Ultrasound (CEH-EUS) in Cystic Lesion of Pancreas**
Mo1506 | Regina R. Imada, Erwan Bories, Fabrice Caillol, Christian Pesenti, Domenico Galasso, Lucio G. Rossini, Adhemar Pacheco, Marc Giovannini

**Affiliation**
1 endoscopy unit, Institut Paoli-Calmettes, Marseille, France; 2 endoscopy unit, Santa Casa of São Paulo School of Medicine, São Paulo, Brazil

**Abstract:**
Introduction: Contrast-enhanced harmonic endoscopic ultrasound (CEH-EUS) is a new technique to detect signals from intravenous contrast agent (micro-bubbles) and allows an improved visualization of vessels with very slow flow in real time. Despite technological advances in endoscopic ultrasound (EUS) and guided fine needle aspiration (FNA), the diagnostic accuracy to differentiate between benign and malignant cystic lesions is still low, posing a diagnostic dilemma. The aim of this study is to analyze the applicability of CEH-EUS in cystic lesions of the pancreas. Patients and methods: Between April and November 2012, 56 consecutive patients with cystic lesion of pancreas were prospectively enrolled to EUS. After conventional EUS evaluation, they were submitted to CEH-EUS (mecanic index=0,4, with intravenous injection of solution with 8 microliter/ml of sulfuehexafluoride) and FNA for cystic fluid analysis and cytology. The microvascular pattern at CEH-EUS were compared with cytological or histological final standard.

Results: A total of 56 patients were prospectively referred to EUS, but 14 patients were excluded. Total of 42 patients underwent CEH-EUS and FNA of pancreatic cystic lesion. The most frequent indication for EUS was incidental finding (52%) followed by abdominal pain (19%). Anatomo pathological confirmation was obtained in 19/42 patients (45,2%): 7 (36,8%) adenocarcinomas, 7 (36,8%) intraductal papillary mucinous neoplasm (IPMN), 1 (5,3%) mucinous cystoadenoma, 1 (5,3%) serous cystoadenoma, 1 (5,3%) lymphoma, 1 (5,3%) neuroendocrine tumor, 1 (5,3%) pseudocyst. Six of seven patients diagnosed as adenocarcinoma had solid component and showed hipervascularity with positive enhancement of the nodule inside the tumor in 83,3%, and negative enhancement of wall in 71,4%. Patients with not malignant IPMN didn’t show any particular enhancement pattern of the wall or nodule. Serous cystoadenoma showed a positive enhancement of the wall. Mucinous cystoadenoma, lymphoma, neuroendocrine tumor and pseudocyst showed negative enhancement of the wall.

Conclusion: In our analysis 17/42 (40,4%) of all patients referred to EUS were diagnosed with malignant tumor or premalignant condition. 85,7% of adenocarcinomas had a solid component with positive enhancement at CEH-EUS, suggesting that it could be an important data to differentiate between benign and malignant lesion. CEH-EUS in cystic lesion of pancreas may help to predict cyst malignancy when associated with solid component referring patient for close follow-up or early surgery.

**Disclosure(s):**
The following people have nothing to disclose: Regina R. Imada, Erwan Bories, Fabrice Caillol, Christian Pesenti, Domenico Galasso, Lucio G. Rossini, Adhemar Pacheco, Marc Giovannini
Obesity As a Risk Factor for Colonic Adenomas: Is There a Difference in Association Between Men and Women?

Mo1572 | Paula P. Elia¹,², Alvaro G. Freire², Gregorio Feldman², Jose M. Teixeira², Daniela K. Wrobel², Gutemberg C. Silva²

Affiliation
¹Digestive endoscopy, Gastroendo, Rio de janeiro, Brazil; ²Digestive Endoscopy, FIOCRUZ (Instituto Fernandes Figueira), Rio de Janeiro, Brazil

Abstract:
Background and aims: Obesity is a global epidemic. Both increased body weight and obesity are now recognized as environmental factors, which can contribute to the development of colorectal cancer (CRC). The mechanisms of colorectal tumorigenesis and progression associated with obesity are not understood. Some studies suggest a higher association of colonic adenomas and increased risk of adenoma recurrence in obese men than obese women.
Aim: The aim of this study is evaluate the association between obesity (BMI > 30), sex and colonic adenomas.
Methods: This is a prospective data collection from March of 2011 to October of 2012. 364 subjects were included in this study both obese (40 female and 23 male) and non-obese (213 female and 88 male) who had colonoscopy in an endoscopy center in Rio de Janeiro-Brazil. The mean age of subjects was 57.8 (20-88) years. 120 subjects were excluded because of inadequate bowel preparation, history of colonic resection, inflammatory bowel disease, colonoscopy with several biopsies or without cecal intubation and colonoscopy withdrawal time of < 6 minutes. The bowel preparation was oral bisacodyl and mannitol solution. All the procedures were performed under propofol sedation after obtaining informed consent. The most common indication for colonoscopy was screening for colorectal cancer. Statistical analysis: the Chi-square test or Fisher exact test were used to compare the association between colonic adenoma and obesity in the total group and in males and females separately.
Results: Polyps were detected in 157 (43.3%) of the patients, and at least 1 adenoma was found in 58 patients (15.8%). The most common polyp location was the right colon in 15.3% patients. Adenoma was found in the cecum in 2.7% of patients, right colon in 4.4%, transverse colon in 4.1%, left colon in 4.4% and rectum in 3% of patients.
When we evaluated the number of adenomas in non obese and obese patients there was no significant difference between the two groups (15.2% in non obese patients versus 19.0% in obese patients) (p=0.45) (table 1). When the two groups (non obese and obese patients) were analyzed according to sex there was a greater number of adenomas in obese men than in obese women. 15.9% of non obese males had adenomas compared to 30.4% in obese males (p=0.10). There was no difference in the number of adenomas between non obese female subjects (15%) versus 12.5% in obese females (p=0.68) (table 1).
Conclusion: There was no significant association between obesity and adenomatous colonic polyps in the total population of patients. This study suggests an effect of obesity on adenoma development in obese males but not in obese females. Further studies are needed to understand the association of obesity and the development of CRC, and to determine if male gender is a risk factor for development of colonic polyps in obese men.

Adenoma detection rate according to BMI
The Chi-square test or Fisher exact test

**Disclosure(s):**
The following people have nothing to disclose: Paula P. Elia, Alvaro G. Freire, Gregorio Feldman, Jose M. Teixeira, Daniela K. Wrobel, Gutemberg C. Silva
EUS-Guided Anterograde Ureteral Internal Drainage
10:48 | Sp615 | Everson L. Artifon, Fred O. Carneiro, Bruno F. Medrado

Affiliation
São Paulo, Brazil

Disclosure(s):
The following people have nothing to disclose: Everson L. Artifon, Fred O. Carneiro, Bruno F. Medrado
High Resolution Manometry Classifications for Idiopathic Achalasia in Patients With Chagas Disease Esophagopathy

Fernando P. Vicentine, Fernando A. Herbella, Luciana C. Silva, Marco E. Allaix, Marco G. Patti

Affiliation
1HSP - Unifesp, Sao Paulo, Brazil; 2University of Chicago Pritzker School of Medicine, Chicago, IL

Abstract:
Background: Idiopathic achalasia (IA) and Chagas disease esophagopathy (CDE) share several similarities; however, some differences between the 2 diseases have been noticed. The comparison between IA and CDE is important to evaluate if treatment options and their results can be accepted universally. High-resolution manometry (HRM) has proved a better diagnostic tool compared to conventional manometry. The study of IA patients with the aid of HRM allowed the creation of new classifications of the disease with apparent correlation with treatment outcomes, as proposed by the Chicago and Rochester groups. The clinical application of HRM parameters in patients with CDE is still elusive. This study aims to evaluate HRM classifications for idiopathic achalasia in patients with CDE.

Methods: We studied 86 patients with achalasia: 45 patients with CDE (54% females, mean age 55.8 ± 14.7 years) and 41 patients with IA (58% females, mean age 49.0 ± 19.5 years). All patients underwent a HRM when Chicago and Rochester classifications for achalasia were applied and a barium esophagram to measure esophageal dilatation.

Results: The Chicago classification was present in IA: Chicago I: 32%, Chicago II: 66% and Chicago III: 2%; In CDE: Chicago I: 49%, Chicago II: 51% and Chicago III: 0% (p= 0.178). The Rochester classification was present in IA: Rochester I: 2%, Rochester II: 66% and Rochester III: 32%; In CDE: Rochester I: 0%, Rochester II: 51% and Rochester III: 49% (p= 0.178). CDE patients had more pronounced degrees of esophageal dilatation (p<0.0001). The degree of esophageal dilatation did not correlate with neither classification (p=0.2); however, an indirect correlation between esophageal body pressure amplitude and the degree of esophageal dilatation was noticed (p=0.001). In 9 (10%) patients the HRM pattern changed during the test from Chicago I to II.

Conclusion: Our results show that: (a) HRM classifications for IA can be applied in patients with CDE and (b) HRM classifications did not correlate with the degree of esophageal dilatation. The secondary findings of our study suggest that HRM classifications may reflect esophageal repletion and pressurization instead of muscular contraction. The correlation between manometric findings and treatment outcomes for CDE needs to be answered in a near future.

Disclosure(s):
The following people have nothing to disclose: Fernando P. Vicentine, Fernando A. Herbella, Luciana C. Silva, Marco E. Allaix, Marco G. Patti
Endoscopic Therapies of Obesity and Metabolic Disorders

Analysis of 1001 Patients Submitted to Endoscopic Treatment of Excess Weight With an Intragastric Balloon
Tu1209 | Ricardo J. Fittipaldi-Fernandez¹, Cristina F. Diestel¹, ²

Affiliation
¹GI Endoscopy, Endogastro Med Service, Rio de Janeiro, Brazil; ²Nutrition Division, State University of Rio de Janeiro, Rio de Janeiro, Brazil

Abstract:
INTRODUCTION: Endoscopic methods, especially the intragastric balloon (IGB), have been shown to be effective for the treatment of excess weight. OBJECTIVE: To assess the efficacy and complications of excess weight treatment with an IGB in patients seen at the Endogastro Med Service clinic.
METHODS: A total of 1001 patients were analyzed. An Allergan IGB (BIB®) with a volume of 600 to 700 ml was used. The patients had a minimum initial body mass index (BMI) of 27 kg/m² and were followed up by a multidisciplinary team consisting of a nutritionist, a doctor and a psychologist. For statistical analysis, the patients were divided into groups according to sex and degree of excess weight (overweight and grade I, II and III obesity). Data were analyzed using descriptive statistical methods, the Student t-test, Spearman correlation, and analysis of variance followed by the Tukey post-test. The level of significance was set at p<0.05. RESULTS: 43 patients were excluded from the analysis: 27 (2.69%) due to early IGB removal, 4 (0.39%) due to absence of weight loss, 2 (0.19%) due to weight gain, and 10 (0.99%) due to incomplete data. The incidence of fungus was 0.39% (n=4) and the incidence of leakage was 0.19% (n=2). Of the 958 remaining patients, 747 were women and 211 were men. Mean age was 37.33 years. The patients showed a significant weight loss, with a significantly lower final BMI (mean: 29.02±5.01 kg/m²; range: 19.79-47.03) than the initial BMI (mean: 36.94±5.43 kg/m²; range: 27.04-62.03) (p<0.0001). Mean BMI reduction was 7.92±2.83 kg/m² (range: 1.70-17.09). Mean percent weight loss was 19.55±6.63% and mean percent excess weight loss was 70.88±38.56% (range: 11.35-339.03). There was no difference between BMI ranges regarding percent initial weight loss (p=0.5143) and there was no difference between men and women regarding BMI reduction (p=0.0944) or percent initial weight loss (p=0.8013). There was a positive correlation between the numbers of visits to a nutritionist and a greater loss of initial weight (p=0.0001). CONCLUSION: Endoscopic treatment of excess weight with an IGB has been established as an excellent therapeutic option for patients of both genders with overweight or different degrees of obesity.

Disclosure(s):
The following people have nothing to disclose: Ricardo J. Fittipaldi-Fernandez, Cristina F. Diestel
Constipation, IBS and Other Colonic Motility and Functional Disorders: Diagnosis, Evaluation, and Treatment

Prolonged Orocecal Transit Time in Irritable Bowel Syndrome: Investigation of the Relationships With Clinical Features, Psychological Distress and Small Intestinal Bacterial Overgrowth

Tu2080 | Cristiane K. Nagasako1, Sônia L. Lorena2, Célia R. Pavan1, Maria A. Mesquita2

Affiliation
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Abstract:
Background: Studies on small intestinal transit in irritable bowel syndrome (IBS) have reported contradictory results.
Aims: To determine the orocecal transit time (OCTT) in patients with irritable bowel syndrome and its association with clinical features, psychological distress and small intestinal bacterial overgrowth (SIBO). Subjects and Methods: Seventy-three consecutive patients with the diagnosis of IBS based on Rome III criteria (females: 61, age: 50 ± 10 years) participated in this study. All patients completed a questionnaire for intestinal symptoms and underwent the lactulose hydrogen breath test (LBT) to determine OCTT and the glucose breath test (GBT) to assess the occurrence of SIBO. The control group for the LBT was composed of 24 healthy volunteers. The GBT test was considered positive for SIBO if there was a rise in breath hydrogen ≥ 12 ppm above the basal value at 120 min, following the ingestion of 50g glucose. The presence of anxiety and depression was assessed by the Hospital Anxiety and Depression (HAD) scale. Results: 34 patients (46%) were classified as IBS with diarrhea, 25 (34%) as IBS with constipation and 14 (19%) as mixed IBS. Anxiety and/or depression were observed in 55 (75.3%) patients. There was a statistically significant increase in OCTT values in IBS patients (80 ± 39 min) in comparison with controls (54 ± 17 min; p= 0.02). Individual analysis showed that OCTT was above the upper limit (mean + 2SD: 88 min) in 23 patients (31.5%). There was no association between OCTT values and IBS subtypes, symptoms of bloating and distension, or anxiety and depression scores (p>0.05). Eleven patients (15%) had a positive GBT suggestive of SIBO. Eight of them (72%) complained of diarrhea. SIBO was identified in 30% of patients with prolonged OCTT and in 8.3% of those with OCTT values within the normal range of the test (p=0.05).
Conclusions: Small bowel transit may be delayed in about one-third of IBS patients. This abnormality seems to be equally distributed among IBS subtypes and may contribute to the development of SIBO in these patients.

Disclosure(s):
The following people have nothing to disclose: Cristiane K. Nagasako, Sônia L. Lorena, Célia R. Pavan, Maria A. Mesquita
Oropharyngeal and Esophageal Motility and Functional Esophageal Disorders

Normative Esophageal Pressure Topography Metrics for Data Derived From the Sandhill High Resolution Manometry Assembly

Tu1207 | Gardenia Carmo, Gustavo A. Mota, Ricardo B. Oliveira

Affiliation
Clínica Médica, Hospital das Clínicas de Ribeirão Preto, Ribeirão Preto, Brazil

Abstract:
Background and aims: High Resolution Manometry with Esophageal Pressure Topography (HRM), overcomes several limitations of the conventional manometry by utilizing enhanced spatial pressure resolution and data visualization. Normal values of HRM-specific metrics have been published only for the Given Imaging HRM system, and it is not certain that these normative data necessarily apply to data from other manufacturers’ devices (Kahrilas PJ, Peters JH. Neurogastrenterol Motil 2012; 24(suppl 1): 11-19). We aimed at establishing normative ranges and cut-off values for the HRM metrics derived from the Sandhill HRM assembly in both sitting and supine positions, and apply the upper cut-off values (95th percentiles) of Integrated Relaxation Pressure (IRP) to the data of patients with non-obstructive dysphagia. Methods: HRM studies including test swallows in both a supine and sitting position were done on 30 healthy volunteers (17 women, age: 20-55 years; median age: 36.5 years), 12 patients with idiopathic achalasia by conventional criteria, and 27 patients with dysphagia and a normal-appearing esophagus (NAE), employing the Sandhill’s HRM system (InSIGHT™ HRiM®). Ten single-swallows of 5-cc saline in each position were recorded. Data were analyzed by a single investigator (GCC) employing the BioViEw® analysis software. IRP, Distal Contractile Integral (DCI), Distal Latency (DL), and Contractile Front Velocity (CFV) were calculated. Normative HRM metrics were derived from data the 30 volunteers in both supine and sitting positions. Results: Normative HRM metrics are shown in Table. The IRP, DCI, and DL were lower, whereas the CFV tended to be higher in the sitting position than in supine position. Abnormal IRP values in both positions were found in 5 of the 27 NAE patients, and only in the sitting position in another 3. Abnormally high IRP values in both positions were found in 10 of the 12 ACH patients; in 1 patient had abnormal IRP only sitting, and another one only supine. Conclusions: The upper limits of normal for the IRP and DCI from the Sandhill HRM assembly are substantially higher than those previously reported for the Given Imaging HRM assembly; HRM cut-off values are dependent on the posture in which the study is conducted; IRP generated from the Sandhill HRM assembly accurately detects impairment of esophagogastric junction relaxation; HRM metrics must be linked to the assembly with which they were derived.

Normative HRM data for the 30 healthy volunteers in sitting and supine position
<table>
<thead>
<tr>
<th></th>
<th>Sitting</th>
<th>Supine</th>
<th>P value</th>
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<td>IQR</td>
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<td><strong>Dinal contractile integral (mmHg*s-cm)</strong></td>
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<td>95th Percentile</td>
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<td>IQR</td>
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<td><strong>Bulb Mid Respiratory Pressure of LOS (mmHg)</strong></td>
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HRM, high resolution manometry; IQR, interquartile range.; LOS Lower oesophageal sphincter

**Disclosure(s):**
The following people have nothing to disclose: Gardenia Carmo, Gustavo A. Mota, Ricardo B. Oliveira
Ischemia and Hypoxia: Basic and Clinical Advances

Effects of the Brilliant Blue Green (Bbg) on the P2X7 Receptor and Enteric Neurons Following Ischemia and Reperfusion in the Intestine (I/R)
Tu2001 | Kelly Palombit, Cristina Mendes, Patricia Castelucci

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Anatomy, University of São Paulo, São Paulo, Brazil

Abstract:
Ischemia and reperfusion (I/R) occurs following intestinal obstruction, arterial thrombosis, embolism, trauma, shock, vascular surgery, strangulation ileus, or organ transplantation. Studies have shown that ischemia followed by reperfusion reduces the total number of enteric neurons. Previous immunohistochemical studies documented the distribution of P2X receptors in the rat enteric nervous system. Several studies have shown that injury can be attenuated by the antagonist of P2X7 receptor, the Brilliant Blue Green (BBG). In the present work, we analyzed the effects of the BBG on ileum myenteric neurons immunoreactive for the P2X7 receptor, nitric oxide synthase (NOS-IR), neurofilament (NF-IR) and choline acetyl transferase (ChAT-IR) following I/R. Methods: All studies involving are conform to Guiding Principles in the Care and Use of Animals. The ileal artery was occluded for 45 minutes with an atraumatic vascular clamp. The groups analyzed were: I/R 24 h (reperfusion) group, the BBG (50 or 100 mg/kg) or saline (vehicle, n=5) were given subcutaneous 1 hour after ischemia, and the I/R 14 day (reperfusion) group (n=5) the BBG (50 or 100 mg/kg) or saline were given once daily for the next 5 days following ischemia. Also, we analyzed I 0h group (n=5) (not reperfusion) and the sham groups (Sham 0 h, Sham 24 h and Sham 14 d) rats were subjected to identical manipulations without the arterial occlusion. In particular, we examined the neuronal density (neurons/cm2) and colocalization of the P2X7 receptor with NOS-IR, NF-IR and ChAT-IR neurons. Results: P2X7 receptor-IR was observed to co-localize 100% with NOS-IR, NF-IR and ChAT-IR neurons in all groups. The neuronal density of the I 0h group was decreased by 40% NOS-IR, 26% NF-IR and 29% ChAT-IR neurons compared to Sham 0 h group (P < 0.05). The density of the P2X7-IR, NOS-IR, NF-IR and ChAT-IR neurons was decreased by 28%, 36%, 40% and 18%, respectively in I/R 24 h saline group compared to Sham 24 h group; and was reduced by 19%, 21%, 23%, 13%, respectively in the BBG50 and BBG100 I/R 24 h groups compared to I/R 24 h saline groups (P < 0.05). The density of P2X7-IR, NOS-IR, NF-IR and ChAT-IR neurons were reduced by 22%, 45%, 34% and 38% in the I/R 14 d saline group, respectively compared to Sham 14 d group; and in the BBG50 and BBG100 I/R 14 d groups were reduced by 15%, 33%, 26%, 17%, respectively compared to I/R 14 d saline group (P < 0.05). Conclusion: This work indicates that I/R cause myenteric neuronal loss, and BBG treatment appeared to be effective in protecting neuronal class studied.
Figure 1 Co-localization of P2X7 receptor (P2X7R) immunoreactivity (ir) with Neurofilament 200 in the rat ileum myenteric plexus of the sham group (A-A'), I/R (ischemia and reperfusion) 24 h saline (sal, B-B'), I/R BBG-50 (Brilliant Blue G, C-C') and I/R BBG-100 groups (D-D'). Double-labeled neurons are indicated by arrows. Scale bars = 20 μm

Disclosure(s):
The following people have nothing to disclose: Kelly Palombit, Cristina Mendes, Patricia Castelucci
Novel insights into GERD treatment

Similar Healing and Symptom Response Rates for 40 mg Pantoprazole-mg and 40 mg Esomeprazole in Erosive Esophagitis
Tu1836 | Joaquim P. Moraes-Filho¹, Martha Pedroso², Eamonn M. Quigley³

Affiliation
¹Gastroenterology, Uni Sao Paulo School of Medicine, Sao Paulo, Brazil; ²Medical Department, Takeda Brazil, Sao Paulo, Brazil; ³Alimentary Pahramabiotic Center, University College, Cork, Ireland

Abstract:
BACKGROUND: Proton pump inhibitors (PPI) are regarded as the most effective acid suppressive therapy for Gastroesophageal Reflux Disease (GERD). While individual PPIs have been extensively studied, comparisons of endoscopic and symptomatic remission rates for similar doses of different PPIs have been rare.
OBJECTIVES. To compare the relative effectiveness of pantoprazole-Mg and esomeprazole in obtaining complete remission over 4 to 8 weeks of treatment in patients with erosive GERD.
METHODS. This was a multicenter (14 Brazilian sites), phase III, randomized, double-blind study, controlled trial in patients with erosive GERD (LA grades A-D). Patients were randomized to receive either 40 mg pantoprazole Mg (n=290) or 40 mg esomeprazole (n=288) once daily for 8 weeks. Severity of esophagitis (at endoscopy) and GERD-related symptoms (using ReQuestTM-GI) were assessed at baseline and after 4 weeks and 8 weeks treatment. Complete remission was defined as a ReQuestTM-GI score below 1.73 and endoscopic healing. Complete remission rates at weeks 4 and 8 were compared and p values <0.025 were considered significant.
RESULTS. Complete remission rates at 4 weeks and 8 weeks were similar for both PPIs (table). Symptom response rates were numerically higher at 8 weeks for those treated with pantoprazole-Mg and reached statistical significance in the PP population (p=0.0028). Both PPIs were well tolerated and had similarly low rates of adverse events.
CONCLUSION. Pantoprazole-Mg 40mg daily and esomeprazole 40mg daily were similarly effective in achieving complete remission in patients with erosive GERD. There was a trend towards better symptoms relief after 8 weeks of treatment with pantoprazole Mg in comparison to esomeprazole.

Complete remission and symptom response after 4 and 8 weeks - Intention to Treat (ITT) and Per-Protocol (PP) population

<table>
<thead>
<tr>
<th>PPI</th>
<th>4 weeks (%)</th>
<th>8 weeks (%)</th>
<th>4 weeks (%)</th>
<th>8 weeks (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pantoprazole-Mg</td>
<td>I TT</td>
<td>PP</td>
<td>I TT</td>
<td>PP</td>
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<td>Complete Remission</td>
<td>61.2</td>
<td>70.2</td>
<td>81.2</td>
<td>88.4</td>
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<tr>
<td>Symptom Response</td>
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<td>88.3</td>
<td>91.6</td>
<td>95.8*</td>
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p <0.025

Disclosure(s):
Joaquim P. Moraes-Filho - Advisory Committees or Review Panels: Takeda; Consulting: Reckitt Benckiser
Martha Pedroso – Employment: Takeda Brazil
Eamonn M. Quigley - Advisory Committees or Review Panels: Salix Pharmaceuticals, Boehringer Ingelheim, Nycomed, Movetis, AGI Therapeutics, Sucampo Pharmaceuticals, Inc.,
Almirall, Shire; Board Membership: Alimentary Health; Consulting: GlaxoSmithKline, Ironwood, Ocera Therapeutics, Inc., Schering-Plough Corp., Johnson & Johnson Health Care Companies; Grant/Research Support: Merck; Other Activities Not in List (use freeform entry below): Danone Research; Speaking and Teaching: Reckitt Benckiser, Procter & Gamble Pharmaceuticals, Falk Pharma, Norgine Ltd., Novartis Pharmaceuticals, Janssen-Cilag, Sanofi-Aventis, Yakult Europe, Inc.
IBD: Disease Activity Assessment

Radioimmunoscintrigraphy With 99mTc - Anti-TNF-Alpha As an Adjunct Method for Assessing Crohn’s Disease Activity
Tu1114 | Huang L. Fang, Sergio Augusto L. de Souza, Antonio José V. Carneiro, Lea Mirian B. Fonseca, Bianca Gutfilen, Heitor S. Souza

Affiliation
Federal University of Rio de Janeiro, Rio de Janeiro, Brazil

Abstract:
Background and aims: Crohn’s disease (CD) is characterized by a chronic inflammatory process in which the overproduction of proinflammatory cytokines, such as tumor necrosis factor (TNF)-alpha, is regarded to play a crucial role. The beneficial actions of anti-TNF-alpha agents reinforce its role in the pathogenesis as well as a therapeutic target in CD. The aim of this study was to investigate the biodistribution and specific targeting for TNF-alpha of a human anti-TNF monoclonal antibody (anti-TNF mAb) labeled with 99mTc in patients with CD.

Methods: Nineteen consecutive patients with CD were selected from the outpatients unit and disease activity was assessed by usual clinical parameters, laboratory, endoscopic, and imaging examinations. In parallel, patients underwent whole body scintigraphy following the administration of a tracer-sub-therapeutic dose of 150 microg human anti-TNF mAb, through an intravenous injection. Representative images were obtained at 30 min and 2 h after injection at a dual head gamma camera equipped with a high-resolution collimator.

Results: Scintigraphic images of 99mTc-anti-TNF mAb provided clear visualization of inflamed areas within the abdominal cavity. Most hot spots identified were topographically related to specific colon segments, small bowel, or distal ileum. In addition, scintigraphic studies detected images compatible with fistules in all patients known to have penetrating disease, and also accurately identified extra-intestinal sites of inflammation. Although no significant correlation was found between scintigraphy of labeled anti-TNF and the other methods usually utilized for the estimation of disease activity, preliminary results of the pilot study show a high sensitivity and negative predictive value (100%) compared to clinical evaluation, and a high sensitivity (79%) and positive predictive value (73%) compared to the combination of clinical, laboratory, endoscopic and imaging data. The procedure was well tolerated.

Conclusion: Radioimmunoscintrigraphy with 99mTc-human anti-TNF mAb allows the identification of active inflammatory sites in patients with CD. Local accumulation of this agent is probably due to specific TNF targeting and is likely to be predictive for inflammation. Labeled anti-TNF-alpha identification emerges as a potential novel adjunct method, which may be useful in the clinical follow-up of patients with Crohn’s disease.

Disclosure(s):
The following people have nothing to disclose: Huang L. Fang, Sergio Augusto L. de Souza, Antonio José V. Carneiro, Lea Mirian B. Fonseca, Bianca Gutfilen, Heitor S. Souza
Late-Breaking Abstract Liver (Clinical)

Simeprevir (Tmc435) With Peginterferon/Ribavirin for Treatment of Chronic HCV Genotype-1 Infection in Treatment-NaïVE Patients: Results From Quest-2, a Phase III Trial
8:00 | 869a | Fred Poordad1, Michael P. Manns2, Patrick Marcellin3, Evaldo Stanislau Affonso de Araujo4, Maria Buti5, Yves Horsmans6, Ewa Janczewska7, Federico Villamil8, Monika Peeters9, Oliver Lenz9, Sivi Ouwerkerk-Mahadevan10, Ronald Kalmeijer11, Maria Beumont-Mauviel9

Affiliation
1Texas Liver Institute, University of Texas Health Science Center, San Antonio, TX; 2Department of Gastroenterology, Hepatology and Endocrinology, Medizinische Hochschule Hannover, Hannover, Germany; 3Service d’Hépatologie, INSERM U-481, Hôpital Beaujon, Clichy, France; 4Hospital das Clinicas of the University of Sao Paulo School of Medicine, University of Sao Paulo, Sao Paulo, Brazil; 5Hospital Vall d’Hebron and Ciber hed del Instituto Carlos III, Barcelona, Spain; 6UCL St Luc, Brussels, Belgium; 7NZOZ Pol-SaNa-Med, Czeladz, Poland; 8CIPREC, Buenos Aires, Argentina; 9Janssen Infectious Diseases BVBA, Beerse, Belgium; 10Janssen Research & Development, Beerse, Belgium; 11Janssen Global Services, LLC, Titusville, NJ

Abstract:
Background and aims: Simeprevir is a potent, once-daily, oral, investigational HCV NS3/4A protease inhibitor. QUEST-2 (NCT01290679) is a Phase III, randomised, double-blind, placebo-controlled trial assessing the efficacy, safety, and tolerability of simeprevir versus placebo as part of a regimen including peginterferon α-2a (pegIFNα-2a) or pegIFNα-2b/ribavirin (PR) in treatment-naïve patients chronically infected with genotype-1 HCV. Safety and SVR12 results from a primary (Week 60) analysis are presented.

Methods: Patients (n=391), randomised 2:1 and stratified by HCV genotype-1 subtype and host IL28B genotype, received simeprevir (150mg QD)+PR or placebo+PR for 12 weeks, followed by PR alone. Total treatment duration was 24 or 48 weeks (simeprevir group) based on response-guided therapy (RGT) criteria (HCV RNA <25 IU/mL Week 4 and undetectable Week 12) or 48 weeks (placebo group).

Results: Simeprevir/PR was superior to placebo/PR; SVR12: 81 vs 50%, respectively (p<0.001). The majority (91%) of simeprevir-treated patients met RGT criteria and completed treatment at Week 24. Overall, 79% of simeprevir- and 13% of placebo-treated patients achieved RVR. Treatment with simeprevir/PR led to lower rates of on-treatment failure and relapse compared to placebo/PR (7 vs 32% and 13 vs 24%, respectively). The incidence of AEs was similar between groups, regardless of the pegIFN used. The most common AEs were fatigue, influenza-like illness, pruritus and headache. A slightly higher proportion of simeprevir patients experienced rash and photosensitivity, compared to placebo (27 vs 20% and 4 vs 1%, respectively). There was no difference in the proportion of patients experiencing anemia.

Conclusions: Simeprevir 150mg QD was well tolerated, leading to a high SVR12 rate of 81% when administered with either pegIFNα-2a or pegIFNα-2b. The majority of patients (91%) receiving simeprevir was able to shorten therapy to 24 weeks.

<table>
<thead>
<tr>
<th>Percentage of patients achieving SVR12</th>
<th>Placebo/PR</th>
<th>Simeprevir/PR</th>
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</thead>
<tbody>
<tr>
<td>All patients</td>
<td>50%</td>
<td>81%</td>
</tr>
<tr>
<td>Treated with pegIFNα-2a/pegIFNα-2b</td>
<td>62% / 42%</td>
<td>88% / 78%</td>
</tr>
<tr>
<td>Patients who met RGT criteria</td>
<td>uns applicable</td>
<td>86%</td>
</tr>
<tr>
<td>IL28B genotype CC/CT/TT</td>
<td>81% / 14% / 10%</td>
<td>96% / 80% / 58%</td>
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<tr>
<td>HCV subtype 1a or other / 1b</td>
<td>46% / 53%</td>
<td>80% / 82%</td>
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<tr>
<td>META VIR score F1 / F2 / F3 / F4</td>
<td>51% / 47%</td>
<td>85% / 66%</td>
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</tbody>
</table>
Disclosure(s):
Fred Poordad - Advisory Committees or Review Panels: Abbott, Achillion, BMS, Inhibitex, Boehringer Ingelheim, Pfizer, Genentech, Idenix, Gilead, Merck, Vertex; Grant/Research Support: Abbott, Anadys, Achillion, BMS, Boehringer Ingelheim, Genentech, Idenix, Gilead, Merck, Pharmasset, Vertex, Salix, tibotec/Janssen, Novartis
Michael P. Manns - Advisory Committees or Review Panels: Achillion Pharmaceutical; Grant/Research Support: Janssen-Cilag, Roche, Bristol-Myers Squibb, GlaxoSmithKline, Gilead Sciences, Boehringer Ingelheim, Novartis Pharmaceuticals, Vertex Pharmaceuticals, Merck & Co, Tibotec, Falk Pharma
Monika Peeters - Employment: Janssen-Virco; Stock Shareholder: Janssen-Virco
Oliver Lenz - Employment: Janssen Research & Development, Janssen Research & Development
Monica Peeters - Employment: Janssen-Cilag, Janssen-Cilag
Maria Buti – Speaking and Teaching: Gilead Sciences, MSD, BMS, Jansseen
Sivi Ouwerkerk-Mahadevan - Employment: Johnson and Johnson, Johnson and Johnson
Maria Beumont-Mauviel – Employment: Janssen-Cilag, Janssen-Cilag
The following people have nothing to disclose: Evaldo Stanislau Affonso de Araujo, Yves Horsmans, Ewa Janczewska, Federico Villamil, Ronald Kalmeijer
Adult and Pediatric Cholestasis

Noninvasive Methods in Predicting Large Esophageal Varices in Pediatric Patients With Intra-Hepatic Portal Hypertension, According to Child-Pugh Classification
Tu1010 | Marina R. Adami, Cristina Targa Ferreira, Vania Hirakata, Sandra Maria G. Vieira, Carlos O. Kieling

Affiliation
pediatrics, HCPA- Hospital de Clínicas de Porto Alegre, Porto Alegre, Brazil

Abstract:
Introduction: Esophageal varices (EV) bleeding is a severe complication of portal hypertension and can be fatal. The standard diagnostic screening tool for EV is endoscopy, which could be used as treatment of large esophageal varices, but it is still considered an invasive procedure in pediatric patients.

Aim: to evaluate clinical and laboratory parameters in predicting large EV in children with intra-hepatic portal hypertension.

Methods: We studied retrospectively eighty eight children (mean age: 10.1 ±7.7) with intra-hepatic portal hypertension. All patients had no bleeding history and they underwent upper GI endoscopy for EV screening. We recorded variceal size (F1, F2 and F3), according to The Japan Society for Portal Hypertension classification. Patients were classified into two groups: small (F1) and no varices and large varices (F2 and F3). We evaluate seven noninvasive markers in predicting large EV: (1) platelet count; (2) spleen z score, expressed as a standard deviation score relative to normal values for age; (3) platelets count: spleen z score ratio; (4) platelets count: spleen size (cm) ratio; (5) the Clinical Prediction Rule (CPR); (6) APRI test and (7) risk score.

Results: Thirty one children had large EV in the first endoscopy. In univariate analyses, platelet count, CPR, risk score, platelet count: spleen z score ratio and Child-Pugh Classification were statistically significant. The best noninvasive predictors of large varices were: platelets (AUROC 0.67; IC 95%, 0.57-0.78), CPR (AUROC 0.65; IC 95%, 0.54-0.76) and risk score (AUROC 0.66; IC 95%; 0.56-0.76). A logistic regression model was applied with large esophageal varices as the dependent variable and corrected by albumin, Child-Pugh Classification, bilirubin and spleen size z score. Children with CPR under 114 were 8.59-fold more likely to have large esophageal varices compared to children with CPR>114. Risk score >-1.2 increased the likelihood of large varices (odds ratio 6.09; 95% CI,1.43-25.90; p=0.014). Using Child-Pugh Classification (CPC), a negative predictive value (NPV) of 92.3% for risk score over -1.2 and NPV of 88.5% for CPR under 114 in children with CPC-A for large varices.

Conclusions: Children with intra-hepatic portal hypertension with CPR below 114 and risk score greater than -1.2 have more chance to present large EV. According to these results, patients with CPC-A and risk score under -1.2 and CPR over 114 have low risk of large EV. Therefore those two tests could be helpful to select cirrhotic children to endoscopic treatment.

Disclosure(s):
The following people have nothing to disclose: Marina R. Adami, Cristina Targa Ferreira, Vania Hirakata, Sandra Maria G. Vieira, Carlos O. Kieling
**Immunosuppression, Outcomes, Complications**

**A New Formula As a Predictive Score of Post-Liver Transplantation Outcome: Postoperative MELD Lactate**

Tu1027 | Nathalia M. Cardoso, Orlando Castro-e-Silva, Anibal Basile-Filho

**Affiliation**  
Surgery, FMRP-USP, Ribeirão Preto, Brazil

**Abstract:**  
**Introduction:** The 3-year survival rate after orthotopic liver transplantation (OLT) is approximately 80%, though with a wide variation from 65 to 90%. This major operation is not without risk, involving a 5 to 10% 30-day mortality rate. Multiple scores have been used as predictors of early postoperative survival and mortality, such as original model for end-stage liver diseases (MELD) and MELD sodium. However, these indicators have shown serious limitations as predictors of postoperative outcome after OLT, and investigations have been conducted over the last five years to find new predictors of early post-OLT mortality.

**Objective:** The aim of the present study was to develop a new mathematical model to predict the individual chance of 30-day mortality after OLT.

**Methods:** The study was conducted on 58 patients out of a total of 106 submitted to OLT at the University Hospital, Faculty of Medicine of Ribeirão Preto, USP, between October 2008 and March 2012. The 29 latest survivor (S) and 29 latest nonsurvivor (NS) cases were selected. All liver transplants were performed using the piggy-back technique. Blood sodium, blood lactate, international normalized ratio (INR), total bilirubin and creatinine values were determined for both groups 1 hour after the end of surgery. The MELD original equation, MELD sodium and new MELD lactate were also calculated. The results were analyzed by the Mann-Whitney and Wilcoxon tests. All P-values <0.05 were considered significant.

**Results:** The new formula elaborated was: \[ \text{MELD lactate} = 6.80 \times \log_{e}(\text{creatinine}) + 2.42 \times \log_{e}(\text{bilirubin}) + 10.3 \times \log_{e}(\text{INR}) + 9.8 \times \log_{e}(\text{lactate}) \]

The MELD Lactate values were significantly higher than the MELD sodium and original MELD values during the postoperative period (p<0.05), but not during the preoperative period (p>0.05). The area under the receiver operating characteristic (ROC) curve of MELD Lactate in predicting the outcome of patients submitted to OLT was 0.81, as opposed to 0.71 for original MELD and 0.72 for MELD sodium (p<0.05).

**Conclusion:** The postoperative MELD lactate score proved to be more specific and sensitive than original MELD and MELD sodium as a predictive model of the outcome of patients submitted to OLT.

**Disclosure(s):**  
The following people have nothing to disclose: Nathalia M. Cardoso, Orlando Castro-e-Silva, Anibal Basile-Filho
Impact of Using a Revealing Solution of Lymph Nodes in Surgical Specimens on the Pathological Staging of Gastric Carcinoma

Tu1907 | Márcio Tadeu D. Sousa, Paulo Roberto S. Rocha, Mônica Maria A. Cabral

Affiliation
1Anatomia Patológica e Medicina Legal, UNIVERSIDADE FEDERAL DE MINAS GERAIS. FACULDADE DE MEDICINA, Belo Horizonte, Brazil; 2Cirurgia, UNIVERSIDADE FEDERAL DE MINAS GERAIS. FACULDADE DE MEDICINA, Belo Horizonte, Brazil

Abstract:
Gastric cancer (GC) is the second most frequent tumor in the world and it is also the second main cause of cancer-related mortality. Surgery is still the only GC curative treatment. The TNM staging system for GC is widely used and provides important prognostic information, especially with regards to the lymph node (LN) status. LN involvement is one of the most important criteria for staging GC. There is a link between GC prognosis and the number of metastatic LN. Special procedures have been recommended in order to improve LN analysis and metastasis detection. The aim of this study was to evaluate the impact of using a fat clearing solution in lymph nodes dissection in a series of GC surgical specimens.

METHODS: A prospective study was performed in a consecutive series of 30 GC surgical specimens analyzed for pathological TNM staging. At first, LN dissection from the fat tissue was done according to the routine procedures (conventional method). In order to improve LN detection, this tissue was emerged in a fat clearing solution: a mixture containing 65% alcohol, 20% ether, 5% acetic acid and 10% formalin (at 10%) for 36 hours with 3 changes. After this procedure, a new LN dissection was performed. The number of LN obtained by both methods were compared and analyzed. The number of LN positive and negative for metastasis was determined.

RESULTS: From the 30 surgical specimens of GC analyzed, 1,005 LN have been dissected: 657 (21.9/specimen) by the conventional method and 348 (11.6/specimen) after using LN revealing solution. Metastasis was detected in 272 lymph nodes: 211 (77.6%) by the conventional method and 61 (22.4%) after using LN revealing solution. The use of a fat clearing solution in lymph nodes dissection increases the number of lymph nodes in 53% of the specimens, and of metastasis in 28.90% of the specimens. The pN changed in 6 of the 30 cases analyzed.

CONCLUSION: The use of a fat clearing solution in LN detection is a special but simple procedure to apply in GC surgical specimens in order to increase the LN dissection. It must be recommended because it is useful to increase LN analysis and metastasis detection providing one of the most important prognostic factors for GC TNM staging.

Disclosure(s):
The following people have nothing to disclose: Márcio Tadeu D. Sousa, Paulo Roberto S. Rocha, Mônica Maria A. Cabral
**SSAT Esophageal: Clinical (III)**

**Long Follow-up in Patients With Barrett’s Esophagus Submitted to Fundoplication. What Is the Importance of the Endoscopic Surveillance?**

Tu1542 | Sergio Szachnowicz, Francisco C. Seguro, Rubens A. Sallum, Angela Falcão, Julio R. Rocha, Ary Nasi, Ivan Cecconello

**Affiliation**

Department of Gastroenterology, Esophageal Surgical Division - University of Sao Paulo Medical School – Brazil, São Paulo, Brazil

**Abstract:**

Background: Barrett’s esophagus is associated to esophageal adenocarcinoma. Endoscopic surveillance of patients treated surgically or clinically allows early detection of cancer. Some authors concluded that surveillance is not cost-effective and does not reduce mortality from cancer.

Aim: We analyze efficacy of endoscopic surveillance in patients with Barrett’s esophagus submitted to fundoplication.

Methods: from January 1980 to November 2012, 221 patients with Barrett’s esophagus were submitted to fundoplication to control reflux. Of those, 196 were followed (mean 82 months) . All patients in our service had routine endoscopic examination each 2 years with multiple biopsies.

Results: Ten patients (8.9%) showed Barrett’s endoscopic regression. Three patients (2.6%) were diagnosed with esophageal adenocarcinoma in this series. Two underwent prolonged pH monitoring that showed no acid reflux. They were asymptomatic and had diagnostic of early adenocarcinoma during routine endoscopy 2 (2) and 6 years after fundoplication. All underwent transhiatal esophagectomy and are alive (12 to 56 months).

Conclusion: Besides the related low cost-effectiveness of endoscopy surveillance, cancer was detected during follow up of Barrett’s patients submitted to a successful antireflux procedure allowing early diagnosis and cure.

**Disclosure(s):**

The following people have nothing to disclose: Sergio Szachnowicz, Francisco C. Seguro, Rubens A. Sallum, Angela Falcão, Julio R. Rocha, Ary Nasi, Ivan Cecconello
Magnifying Colonoscopy for the Prediction of Histology of Nonpolypoid Colorectal Lesions

Tu1469 | Fabio S. Kawaguti1,2, Fernanda C. Pessorrusso3,2, Raphael S. de Medeiros3,2, Bruno C. Martins1,2, Ricardo S. Uemura1,2, Caterina Pennacchi1,2, Marcelo S. Lima1,2, Felipe A. Retes1,2, Fauze Maluf-Filho1,2

Affiliation
1Endoscopy Unit - Gastroenterology Dept, University of Sao Paulo Medical School, Sao Paulo, Brazil; 2Endoscopy Unit, São Paulo Cancer Institute - ICESP, São Paulo, Brazil

Abstract:
INTRODUCTION

Magnifying endoscopy increases 40 to 100 fold the mucosal surface. Based on this, Kudo has described the openings of colonic crypts, referring as “pits”, allowing the prediction of malignancy of the mucosal lesions through its classification system. Lesions types IIIs, IIIIL or IV have higher probability of being non-invasive adenomas and may be treated endoscopically. Those with pit pattern Vn should be treated surgically, as they are definitely invasive and can present with lymph node metastases. Objective: Evaluate efficacy of magnifying colonoscopy for the histology of nonpolypoid colorectal neoplasms.

PATIENTS AND METHODS: Between April 2009 and August 2012, patients underwent colonoscopy with chromoendoscopy and magnification for evaluation of nonpolypoid lesions. The lesions were diagnosed by standard colonoscopy and then were submitted to magnifying colonoscopy (EVIS EXERA II CF-Q160Z Olympus® scope). All the found lesions were submitted to chromoscopy with Indigo carmine dye 4% solution, magnifying view and classified according Kudo’s pit pattern. The therapy (endoscopic treatment or surgery) was defined according to the endoscopic evaluation.

RESULTS: Forty nine lesions were evaluated. The average size of the lesions was 48.3 ± 40.5 mm. The macroscopic shape of lesions were: 86% LSTs, 8% depressed and 6% elevated. Most of the lesions (77,6%) were treated endoscopically, followed by 18,4% surgically and 4% received combined treatment. The pathologic correlation between histological and pit pattern findings is shown in Table 1. After the histological analysis the procedure was revised and some patients are waiting complimentary treatment with surgery (8,2%). Two patients had ESD plus surgery at the same procedure. Most of the patients didn’t need another treatment after endoscopic resection (Table 2).

CONCLUSION: The magnifying colonoscopy was effective in the early diagnosis of colorectal neoplasms, providing the choice of appropriate treatment.

Table 1 - Correlation between histological and pit pattern findings

<table>
<thead>
<tr>
<th></th>
<th>II</th>
<th>III</th>
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<th>IV</th>
<th>VI</th>
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<td>1</td>
<td>13</td>
<td>20</td>
<td>4</td>
<td>49</td>
</tr>
</tbody>
</table>

§ This patient received chemotherapy between the diagnostic and treatment of the lesion

Table 2 - Histological findings versus therapeutic choice

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<th></th>
<th>EMR</th>
<th>EPMR</th>
<th>ESD</th>
<th>TEM</th>
<th>Surgery</th>
<th>Combined#</th>
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<tr>
<td>Adenoma</td>
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<td>4</td>
<td>3</td>
<td>-</td>
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<td>2</td>
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</table>
This patient received chemotherapy between the diagnostic and treatment of the lesion
# Two patients had ESD and surgery in the same procedure
* Those patients are waiting surgery

Disclosure(s):
The following people have nothing to disclose: Fabio S. Kawaguti, Fernanda C. Pessorrusso,
Raphael S. de Medeiros, Bruno C. Martins, Ricardo S. Uemura, Caterina Pennacchi, Marcelo S.
Lima, Felipe A. Retes, Fauze Maluf-Filho
Implementation of Assessment Satisfaction Instrument of Nursing Consultation in Patients Submitted to Percutaneous Endoscopic Gastrostomy (PEG)

Tu1307 | Gisele O. Orsi, Pedro L. Lourenção, Erika P. Ortolan

Affiliation
Surgery, Botucatu medical School, Botucatu, Brazil

Abstract:
Introduction: In recent decades, patient satisfaction has been considered as a criteria for assessing the quality of care in health services. The questionnaires for evaluation of patient satisfaction available in the literature, focus in the care received during hospitalization, which motivated the development of a specific questionnaire for patients undergoing PEG, focusing besides the patients and their caregivers satisfaction, the level of comprehension of the instructions received.

Objectives: to propose a satisfaction questionnaire focusing nursing consultation with patients submitted to percutaneous endoscopic gastrostomy (PEG) and their caregivers, registering the levels of satisfaction and comprehension.

Patients and Methods: From November 2009 to March 2011, a prospective study was conducted in all adults submitted to PEG at the Endoscopy Unit in Botucatu Medical School. Patients and or their caregivers signed a consent form (ICF), approved by the Botucatu Medical School Ethics Committee. Patients were evaluated in 4 moments by the same nurse, through nurse consultations: immediately post - procedure (M1), first day after the procedure (M2) and 30 and 90 days after the procedure (M3 and M4).

Results: 38 patients were prospectively followed, all of them had caregivers. 96.6% of the patients and their caregivers understood the instructions received during the four evaluation moments, 93.1% felt safe transferring the information to practice, 86.2% felt prepared to deal with complications or problems with the tube or in the peristomal region, 96.6% answered that they carried the manual with instructions to patients with them when visiting healthcare units, and 86.2% used the standard terms taught by the nurse, when calling or visiting the physician and/or nurse. 100% of caregivers who received the instructions were satisfied with the consultations held by the nurse. The Cronbach’s alpha showed consistency and coherence (α=0.7557) in the questionnaire’s results, suggesting that it can be used in other studies.

Conclusion: There was good acceptance and great satisfaction with nursing consultations for orientation in PEG by patients and their caregivers.

Disclosure(s):
The following people have nothing to disclose: Gisele O. Orsi, Pedro L. Lourenção, Erika P. Ortolan
Sedation for Colonoscopy: a Clinical Trial Comparing the Use of Propofol and Fentanyl With or Without Midazolam

Tu1378 | Jose Francisco N. Pereira das Neves¹, Mariana Moraes P. Neves Araujo¹, Clarice M. Ferreira¹, Fabiana B. Neves Duarte¹, Fabio H. Pace¹, Laura C. Halfeld¹, Fernando P. Araujo¹, Todd H. Baron², Lincoln E. Ferreira¹

Affiliation
¹GIE, UFJF, Juiz de Fora, Brazil; ²GI, Mayo Clinic, Rochester, MN

Abstract:
BACKGROUND: Colonoscopy is one of the most common procedures in the world. Pain during colonoscopy may difficult the procedure and reduce patient satisfaction. Thus, many patients prefer that the examination be performed under sedation and analgesia. However, the optimal sedation for colonoscopy is yet to be defined.
OBJECTIVES: To evaluate the side effects of sedation, conditions for discharge from the post-anesthesia recovery room, quality of sedation in the opinion of the endoscopist and the patient, and the propofol consumption.
MATERIAL AND METHODS: This was a prospective, double-blind study, in which 140 patients were randomized into 2 groups of 70 patients who received propofol, fentanyl, and midazolam (group I) or propofol and fentanyl (group II). The study endpoints were to evaluate sedation-related adverse events, conditions at the time of discharge from the recovery room, and quality of sedation as judged by the endoscopist and the patient. A secondary endpoint was to evaluate total propofol dosage.
RESULTS: The intergroup distribution by sex and age was similar. Regarding the examination, higher incidence of reaction (motor or verbal) to the introduction of the colonoscope was observed in group II patients (P < 0.04) than in group I patients. Further, group II showed a higher incidence of hypotension (P = 0.121) and more number of episodes of bradycardia (P = 0.04) than that in group I. Only 1 episode of mild hypoxemia was noted in both the groups. The mean propofol dose used for inducing anesthesia was similar in both groups; however, the total propofol consumption was higher in group II (153±60.3 vs. 206±79.2, P < 0.001). Patient satisfaction was significantly higher in group I (P = 0.006) than in group II.
CONCLUSION: The combination of midazolam with propofol and fentanyl for sedation in colonoscopy reduces the total propofol consumption and ensures greater patient satisfaction.

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