Symptomatic Esophagogastric Junction Outflow Obstruction: How Should We Investigate These Patients?

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Background: Esophageal junction outflow obstruction (EGJOO) was introduced by the Chicago Classification of esophageal motility disorders and is defined as an elevated Integrated Relaxation Pressure with some instances of intact or weak peristalsis such that the criterion for achalasia is not met. It is increasingly found on high-resolution manometry (HRM). However, there is no consensus on how to further investigate this finding as there is little data on its clinical relevance, especially when they are symptomatic. Hence, the aim of our study was to investigate the modality of investigations chosen by clinicians for symptomatic EGJOO and their subsequent diagnostic yield, and 2) if clinical features and HRM parameters can differentiate a pathological EGJOO from an insignificant EGJOO. Methods: Retrospective analysis of clinical details and HRM parameters of patients who underwent HRM at our institution between February 2012 and January 2014 was conducted, and patients with symptomatic EGJOO were selected. HRM parameters were analysed using regression analysis. Results: No correlation was found between other HRM parameters and symptoms score. Conclusion: LES resting pressure and distal esophageal amplitude correlate with the UCLA SSC_GIT 2.0 questionnaire, and can be a predictor of the GIT affection in SSC. HRM parameters among SSC patients and control

Su1098

Esophageal High Resolution Manometry (HRM) in Systemic Sclerosis: Correlation With University of California Los Angeles Scleroderma Clinical Trial Consortium GIT 2.0 (UCLA SSC_GIT 2.0) Questionnaire

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Esophageal HRM is a new method to assess esophageal pressure characteristics. The UCLA SSC_GIT 2.0 is a validated disease-specific HRQOL instrument for evaluation of GIT-related activity and severity in systemic sclerosis (SSc). Aim: We studied HRM in SSC patients and the correlation of findings to the UCLA SSC_GIT 2.0 scores. Methods: Forty SSc patients administered UCLA SSC_GIT 2.0 that includes multi-item scales: reflux, distention, diarrhea, feal soiling, constipation, emotional well-being, social functioning, and total GIT score. Twenty out of 40 patients underwent esophageal HRM study (Solar GI MMS). HRM studies were analyzed for LES resting and residual pressures, esophageal amplitude and peristaltic integrity, distention, and duration of velocity and distal esophageal contraction, and LES resting and residual pressures. HRM data were compared with 15 healthy volunteers. Stepwise multiple linear regression analysis was done to test if HRM parameters could predict UCLA SSC_GIT 2.0 variables. Results: Forty patients (32 females), mean age 46 +/- 7 years, mean disease duration 9.3 +/- 7 years, reported upper (83.7%) and lower GI symptoms (77%), while 5% reported no symptoms. 31 patients had diffuse cutaneous systemic sclerosis (dcSSc), and 9 had limited cutaneous systemic sclerosis (lcSSc). Mean (SD) score of UCLA SSC_GIT 2.0 GIT items for those who underwent HRM were as follows: reflux 1.2 +/- 0.8, distention 1.6 +/- 1.2, fecal soiling 0.5 +/- 0.9, diarrhea 0.8 +/- 1, social 1 +/- 1, emotional 1 +/- 1.1, constipation 0.5 +/- 0.9, and total GIT score 0.9 +/- 0.6. LES resting pressure and distal esophageal amplitude were significantly lower in SSc patients than control (table 1). Main manometric findings were decrease LES resting pressure (40%), apraxialism (40%), small and large peristaltic breaks in mid and distal esophagus (33%), and low amplitude of proximal esophageal peristalsis (23%) of patients. While, normal manometric findings were found in (15%) of SSc patients. Regression analyses showed distal esophageal amplitude and LES resting pressure negatively correlated with reflux score (r = -0.64; p = 0.001 and r = -0.46; p = 0.019 respectively), and total GIT score (r = -0.54; p = 0.007 and r = -0.42; p=0.03 respectively). While LES resting pressure only had negative correlation with diarrhea score (r = -0.062 p=0.002). There was no significant correlation between other HRM parameters and symptoms score. Conclusion: LES resting pressure and distal esophageal amplitude correlate with the UCLA SSC_GIT 2.0 questionnaire, and can be a predictor of the GIT affection in SSc. HRM parameters among SSc patients and control

Su1100

TRPV1 Receptors Modulate Acid Induced Esophageal Inflammation in Surgical Murine Model of Gastro- Esophageal Reflux Disease

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Background: In vitro experiments showed overexpression of TRPV1 receptors in esophageal sensory fibers in GERD, and that acid induced activation of TRPV1 receptors with the release of inflammatory mediators from neurons and epithelial cells. Aim: To investigate the role of TRPV1 in esophageal inflammation "in vivo" using a surgical murine model of GERD. Methods: Gastro-esophageal reflux was surgically induced in Swiss mice (30- 35g) using a modification of the method described by Omura et al., 1999. The animals were sacrificed at 1, 7, and 14 days postop. The control group was the Sham surgery. Other groups of mice were divided into: Group I: GERD (positive control), II: GERD + Omeprazole (40 mg/kg, i.p., daily), Group III: GERD + Resiniferatoxin (to deplete capsaicin-sensitive neurons (for 3 days, 30 µg/kg, 70 µg/kg and 100 µg/kg, i.p., 3 days; 30 µg/kg, 70 µg/kg and 100 µg/kg, i.p., 3 days; 30 µg/kg, 70 µg/kg and 100 µg/kg, i.p., 3 days; 30 µg/kg, 70 µg/kg and 100 µg/kg, i.p., 3 days; 30 µg/kg, 70 µg/kg and 100 µg/kg, i.p., 3 days) and sacrificed after 7 days. Evaluation used macroscopic and histopathological score (according to the criteria of Yerian et al., 2011), esophageal wet weight and myeloperoxidase (MPO) activity. Results: Surgery did not provoke macroscopic esophageal inflammation, increased wet weight and MPO activity with maximal effect at day 7 and resolution after 14 days. Sham intervention did not provoke esophageal inflammation (See Table 1). The model at day 7 was selected for further experiments. Inhibition of acid secretion with omeprazole, depletion of capsaicin-sensitive neurons by Resiniferatoxin and treatment with TRPV1 antagonist capsazepine significantly decreased the surgical induced esophageal inflammation (See Table 2). Conclusion: Our in vivo experiments confirm that TRPV1 receptors modulate acid induced esophageal inflammation and are involved in the pathophysiology of esophageal inflammatory process associated with gastro-esophageal reflux disease. Financial support: CNPq, CAPES.