

GASTRIC MYOELECTRICAL AND EMPTYING ACTIVITY IN PATIENTS WITH GASTROESOPHAGEAL REFLUX DISEASE (GERD) AND DYSMOTILITY-LIKE FUNCTIONAL DYSPEPSIA (GERD+): EFFECT OF WATER LOAD TEST. Mark D. Noar, M.D., Yuki Igari, M.D., Debra Bidlack, CRNP, Lihara Xu, M.D., Kenneth Koch, M.D., Endoscopic Microsurgery Associates, Towson, Maryland; Division Gastroenterology and Hepatology, The Milton S. Hershey Medical Center, Hershey, Pennsylvania

Gastric myoelectrical abnormalities, gastric dysrhythmias (GD), occur in approximately 60% of patients with dysmotility-like dyspepsia. Patients with predominant heartburn frequently have dyspepsia symptoms of early satiety, nausea, fullness, and vague upper abdominal discomfort. GERD patients are known to have excessive transient lower esophageal relaxations or TSLERs, which may affect gastric motility.

AIM: To determine in GERD+ patients, 1) the incidence of GD in response to the water load test during electrogastronomy, and 2) gastric emptying parameters.

METHODS: 67 consecutive patients with predominant heartburn/regurgitation were evaluated in a community based GI practice. The demographic characteristics included: 41 female, 26 male, ages 19 to 78 years old. Symptoms questionnaires for GERD and dyspepsia symptoms were completed. Each patient underwent Endoscopy, solid-phase gastric emptying and electrogastronomy (EGG). EGG results were compared with controls at baseline and after water load test.

RESULTS: All patients had heartburn and regurgitation. EGD findings showed grade 1 esophagitis in 100 % of patients. There were no gastric or duodenal obstructions noted. Gastroparesis was found in 25% of patients. EGG tests at baseline were abnormal in 40%, with 1) tachyastria in 28%, 2) bradyastria in 7 %, and 3) poor 3cpm in 5%. Average water volume ingested during water load test was 432cc. After ingestion of water, GD was noted in 79% of patients, consisting of 1) mixed GD in 42 % [tachyastria/bradyastria], 2) tachyastria in 25%, 3) bradyastria in 7%, and 4) poor 3 cpm in 5%. Normal EGG response to water load was noted in 21%.

CONCLUSIONS: 1) The water load test evoked a 2 fold increase in GD, predominantly a mixed GD pattern compared with baseline; 2) GD is common and indicative of objective gastric neuromuscular dysfunction in GERD patients with symptomatic dyspepsia; 3) GERD+ patients have a spectrum of gastric dysfunction from GD to frank gastroparesis. Further defining of the relationships among GERD, TSLERs and GD may help in the understanding of GERD+.