High Resolution Manometric Patterns in Systemic Sclerosis: Comparison with Normal Volunteers

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Abstract:

Purpose: The aim was to study the manometric patterns of systemic sclerosis (SS) by esophageal High Resolution Manometry (HRM). Methods: Fifteen patients with SS were studied with a solid state 32-channel esophageal HRM assembly (Solar GI MMS). Ten 5-ml water swallows were given with 30 sec apart. Studies were analyzed for resting LES tone, LES residual pressure, peristalsis integrity, UES resting tone and UES residual pressure. The results compared with HRM data of 15 healthy volunteers. Results: Fifteen female patients, median age 48 y range (36-62) and disease duration 4.5 y (1-12). Controls were 7 males and 8 females median age 40 y (29-56). 33% had SS of cutaneous diffuse type, and 66% limited type. The main symptoms were dysphagia in 40%, heartburn 27%, and dyspepsia 13%. While 20% had no foregut symptoms. Manometric abnormalities were found in 66% of patients. 5 patterns of esophageal dysmotility were observed: Low LES tone with aperistalsis in 27%, low LES tone and UES tone with aperistalsis 13% (Figure 1), aperistalsis 13%, (Figure 2) hypoperistalsis of proximal esophagus 7%, and low UES tone in 7%. Normal esophageal motility was reported in 33% [68] Table 1. Median (range) of manometric measurements of SS[68] Table 1. Median (range) of manometric measurements of SS LES tone mmHg LES residual mmHg LES length cm UES tone mmHg UES residual mmHg UES length cm Systemic sclerosis 15.5 (3-29) 4 (2–23) 2.3 (2–3.6) 47.5 (11–223) 4 (0–39) 2.3 (2–2.5) Control 24 (9–41) 4 (−2 to 22) 2.8 (2.1–3.8) 67 (20–200) 5 (−2 to 16) 2.2 (1.9–2.7) P value 0.02 0.683 0.123 0.505 0.880 0.86 Median LES tone was significantly lower than that in controls (Table 1) while LES residual pressure, UES tone and residual pressure were comparable, similarly were LES and UES lengths. Conclusion: Esophageal manometric abnormalities are common in SS. Various segments of the esophagus are involved. The most common pattern is low LES tone and aperistalsis of the body.

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