Electrical Stimulation of the Lower Esophageal Sphincter for Gastroesophageal Reflux Disease after Sleeve Gastrectomy

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Background:
• Sleeve Gastrectomy (SG):
  • is the most commonly performed bariatric procedure
  • results in new-onset GERD and may worsen preexisting GERD
• Patients not well controlled with PPI are switched to more invasive, anatomy altering, gastric bypass surgery (RYGB)
• Lower Esophageal Sphincter (LES) electrical stimulation (ES) therapy might provide an alternative to RYGB

Methods:
• 9 patients after SG and symptomatic GERD despite maximum antireflux-therapy
• Laparoscopic placement of electrodes for ES of LES with hiatoplasty
• ES delivered at 5mA, 220uSec pulses in 12 30-minute sessions daily

Results:
• 5 female patients (56%)
• median Body Mass Index 41kg/m² (min 31- max 53)
• median time after SG 3.2 years
• median preoperative %pH<4 14.4 (9.7 – 23.1)
• no perioperative complications; one patient readmitted for pain
After 6 months (n=8, 89%):
• esophageal acid exposure normalized (<4% pH<4) in 6 patients (75%)
• 2 patients on PPI for reasons other than GERD

Conclusion:
Electrical Stimulation of Lower Esophageal Sphincter:
• in patients with GERD after SG is safe and efficient
• results in significant improvement of GERD symptoms and esophageal acid exposure