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

Y. Borbély, D. Kröll, J. Lenglinger, B. Muggli, P. Nett, R. Tutuian
Department of Visceral Surgery and Medicine, Inselspital, Bern University Hospital, University of Bern, and Tiefenauspital Bern

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