

## Endoscopic Sleeve Gastroplasty Significantly Reduces Body Mass Index and Metabolic Complications in Obese Patients

Reem Z. Sharaiha • Nikhil Kumta • Monica Saumoy • Amit Desai • Alex Sarkisian • Andrea Benvenuto • Amy Tyberg • Rekha Kumar • Leon Igel • Elizabeth Verna • Michel Kahaleh • Alpana Shukla • Louis Aronne. *Clinical Gastroenterology and Hepatology February 15, 2017.*

### Purpose:

ESG is an incisionless, minimally invasive bariatric procedure that reduces the length and width of the gastric cavity to facilitate weight loss. We performed a prospective study to evaluate the effects of ESG on TBWL and obesity related comorbidities.

### Methods:

- Collected data on 91 consecutive patients undergoing ESG
- All procedures were performed using a cap-based flexible endoscopic suturing system to facilitate triangular pattern of sutures to imbricate the greater curvature of the stomach.
- Patients were evaluated at 6mo (n=73), 12mo (n=53), 24mo (n=12)
- Secondary outcomes: evaluated effects of ESG on metabolic factors and safety

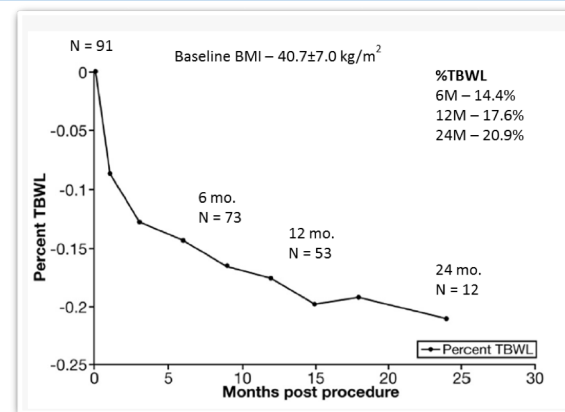
### Study Criteria:

- All patients had a BMI greater than 30kg/m<sup>2</sup> and failed noninvasive WL measures or had a BMI greater than 40kg/m<sup>2</sup> and were not considered good surgical candidates or refused surgery.

### Results:

- 91 subjects with baseline BMI of 40.7±7kg/m<sup>2</sup>
- Metrics were evaluated at 6 months, 12 months and 24 months:
  - 14.4% TBWL at 6 mo 80% follow-up
  - 17.6% TBWL at 12 months with 76% follow-up
  - 20.9% TBWL at 24 months with 66% follow-up
- Statistically significant improvements in A1c (p=.01), systolic blood pressure (p=.02), waist circumference (p<.001), alanine aminotransferase (p<.001), and serum triglycerides (p=.02)

	Before ESG, mean (SD)	12 months after ESG, mean (SD)	P value
HgbA1c, % (all patients)	6.1 (1.1)	5.5 (0.48)	.05
HgbA1c, % (only diabetes and prediabetes)	6.6 (1.2)	5.6 (0.51)	.02
Waist circumference, cm	119.66 (14.05)	92.75 (5.85)	<.001
SBP, mm Hg	129.02 (13.44)	122.23 (11.69)	.023
LDL, mg/dL	121.62 (38.61)	124.27 (27.82)	.786
TG, mg/dL	131.84 (83.19)	92.36 (39.43)	.017
ALT, mg/dL	32.28 (16.43)	20.68 (11.44)	<.001



### Adverse Events:

- 1 serious adverse event: perigastric leak occurred that was managed non-operatively.

### Conclusion:

ESG is a minimally invasive and effective endoscopic WL intervention. In addition to sustained TBWL up to 24 months, ESG reduced markers of hypertension, diabetes, and hypertriglyceridemia.

### Key Points:

1. %TBWL was 20.9% at 24 months
2. Statistical improvements in A1c, systolic blood pressure & hypertriglyceridemia.
3. 1 serious adverse event (perigastric leak) in 92 patients – managed non-operatively.

Healthier Outcomes All Around™