The impact of re-do Endoscopic Sleeve Gastroplasty for insufficient weight loss, weight plateau and weight regain

Loredana Gualtieri,
Giorgio Carlino, Valerio Pontecorvi,
Maria Valeria Matteo, Martina De Siena,
Cristiano Spada, Ivo Boskoski, Vincenzo Bove
Digestive Endoscopy Unit,
Fondazione Policlinico Universitario Agostino Gemelli IRCCS, Rome, Italy

Conflict of interest disclosure (COI)

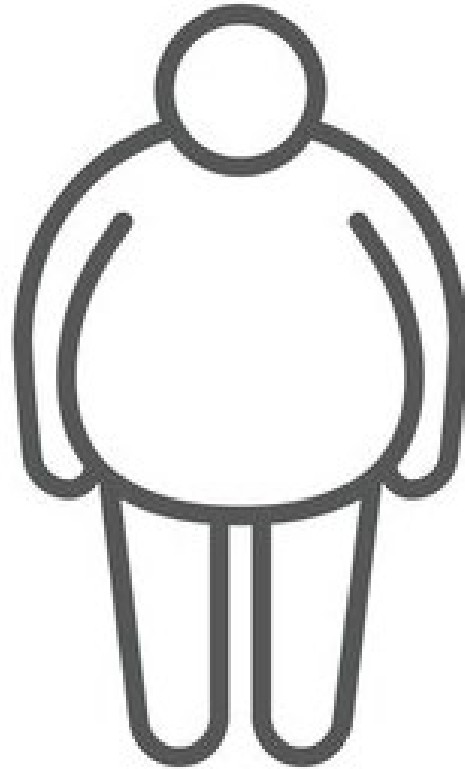- **I have no potential conflict of interest to report**

Endocrine imbalances

Excessive calorie intake

Genetic factors

Physical inactivity

Mental health

Sleep deprivation

Endocrine imbalances

Familiar factors

OBESITY TEAM

Surgeon

Endocrinologist

Psychiatrist/
Psycologist

Endoscopist

Dietitian

GOALS

BARIATRIC SURGERY

MORBID OBESESITY

1%

**NO TREATMENT
NON-SURGICAL TREATMENT**

99%
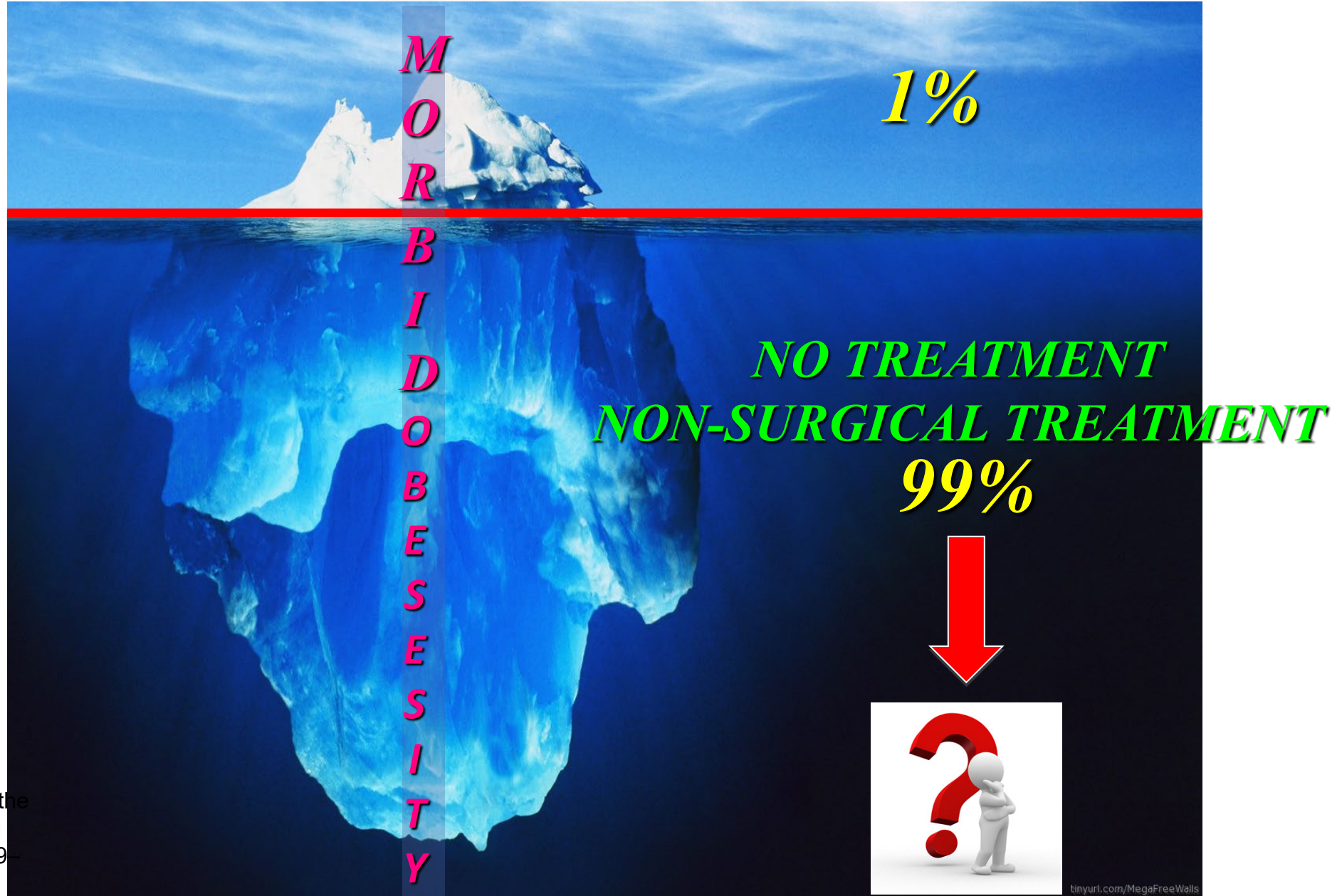
Ponce J, Nguyen NT, Hutter M, Sudan R, Morton JM. American Society for Metabolic and Bariatric Surgery estimation of bariatric surgery procedures in the United States, 2011-2014. Surg Obes Relat Dis 2015;11(6):1199–200.

ENDOSCOPIC SLEEVE GASTROPLASTY

❖ REVERSIBLE
❖ MINIMALLY INVASIVE
❖ ENDOLUMINAL
❖ ORGAN SPARING

❖ SAFE & EFFECTIVE procedure
   (SAEs < 2%)
   (TBWL 17-20% at two years)

Abu Dayyeh BK, Bazerbachi F, Vargas EJ, Sharaiha RZ, Thompson CC, Thaemert BC, Teixeira AF, Chapman CG, Kumbhari V, Ujiki MB, Ahrens J, Day C; MERIT Study Group; Galvao Neto M, Zundel N, Wilson EB. Endoscopic sleeve gastroplasty for treatment of class 1 and 2 obesity (MERIT): a prospective, multicentre, randomised trial.
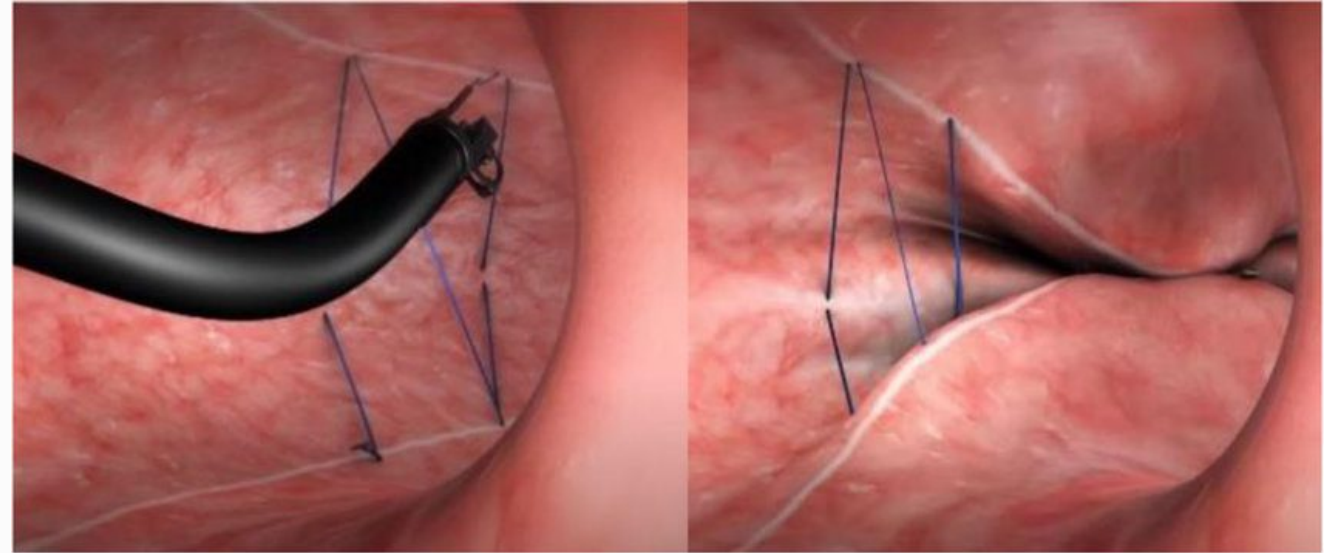
AIM OF THE STUDY

❖ To assess the effectiveness of endoscopic revision (Re-ESG) versus primary intervention (P-ESG) focusing on weight loss outcomes.

▪ METHODS

❖ Retrospective analysis of a prospective dataset (ESG May 2017- December 2023)

❖ Comparisons between groups (baseline and follow-up data): statistical comparisons were performed with the use of Student's t-test, after Shapiro wilk-test.

RESULTS

- **578 subjects underwent ESG**

Number of patients	**578**
Age (years) mean ± SD	42.1 ± 9.1
BMI, mean ± SD	**37.9 ± 5.3**
n= numbers of patients; BMI: Body Mass Index; SD: Standard Deviation.	

▪ RESULTS

- **578 subjects underwent ESG**

❖ 53 patients (9.2%) underwent Re-ESG after a mean time of 25.4 (±11.4) months from P-ESG :

- ➢ 24 for Weigh Regain,
- ➢ 18 for Weight Plateau
- ➢ 12 for Weight Failure

Number of patients	53
Age (years) mean ± SD	43.5 ± 9.6
BMI, mean ± SD	35.5 ± 4.3
n= numbers of patients; BMI: Body Mass Index; SD: Standard Deviation.	

One subject underwent a second revision, for a total of 54 revisions.

Lopez-Nava G, Sharaiha RZ, Vargas EJ, et al. Endoscopic Sleeve Gastroplasty for Obesity: a Multicenter Study of 248 Patients with 24 Months Follow-Up. Obesity Surgery. 2017

RESULTS

Overall weight loss outcomes after Re-ESG

Overall-ESG	n	Weight	p	AWL (kg)	EWL (%)	TBWL (%)	BMI (kg/m2)	p	BMIL (kg/m2)
6M	29	85.2 (12.5)	<0.01	22.1 (11.8)	60.9 (20.6)	19.8 (7.1)	30.5 (3.9)	<0.01	7.8 (4.1)
12M	21	85.8 (15.4)	<0.01	22.9 (14.5)	**61.2** (20.3)	20.4 (9.3)	**30.1** (3.6)	<0.01	8.2 (5.5)
18M	10	91.7 (19.3)	0.02	19.9 (13.3)	52.5 (33.9)	17.1 (10.0)	32.1 (6.3)	0.01	6.8 (4.5)
24M	6	101.5 (26.4)	0.536	16.2 (9.5)	**37.7** (19.6)	13.1 (6.5)	**35.2** (8.7)	0.402	5.4 (2.9)

A two sample T-Test was used to compare baseline weight and weight loss outcomes.
ESG=Endoscopic Sleeve Gastroplasty; AWL=Absolute weight loss; EWL=Excess weight loss; TBWL=Total body weight loss;
BMI=Body Mass Index; BMIL=BMI loss

RESULTS

	6-months				12-months				18-months				24-months			
	AWL (kg)	EWL (%)	TBWL (%)	p	AWL (kg)	EWL (%)	TBWL (%)	p	AWL (kg)	EWL (%)	TBWL (%)	p	AWL (kg)	EWL (%)	TBWL (%)	p
P-ESG	18.4 (7.9)	55.2 (24.5)	17.3 (6.7)	<0.01	17.9 (9.7)	**52.9** (27.7)	16.7 (8.2)	<0.01	18.1 (10.5)	50.0 (22.7)	16.6 (8.3)	<0.01	16.3 (11.9)	**45.7** (32.7)	15.1 (10.6)	<0.01
Re-ESG	15.0 (7.7)	52.9 (23.5)	14.7 (6.1)	<0.01	17.0 (8.0)	**55.7** (21.8)	16.5 (7.2)	<0.01	11.9 (10.9)	41.4 (44.2)	11.4 (11.0)	<0.01	7.3 (11.3)	**25.4** (25.9)	7.0 (9.2)	0.937
P	0.32	0.571	0.434		0.712	0.684	0.924		0.121	0.569	0.128		0.122	0.183	0.109	

Comparison of weight loss outcomes between primary ESG and endoscopic revision (Re-ESG) at 6-,12-,18- and 24-months follow-up.
Data are reported as mean value (standard deviation). A two sample T-Test was used to compare baseline weight and weight loss outcomes.;

CONCLUSION

✓ Despite the limit of a low sample, our study highlights how the endoscopic revision of a previous ESG is as effective as the primary intervention in the short and medium term.

✓ These results may pave the way for an exclusively minimal-invasive multi-step treatment of chronic obesity.

Grazie