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Endoscopic Sleeve Gastroplasty as a therapeutic option for class III obesity

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BACKGROUND

The spread of Endoscopic Sleeve Gastroplasty (ESG) as an effective bariatric endoscopic technique has been notable, particularly for treating patients with class I and II obesity with related comorbidities. Our study aimed to assess the efficacy of ESG in class III obese patients [Body Mass index (BMI) >40 kg/m²] focusing on weight loss and comorbidities improvement.

METHODS

This is a retrospective analysis on a prospective dataset, focused on subjects with a baseline BMI >40 kg/m² who underwent ESG from June 2017 to November 2023. Weight loss outcomes and the impact of ESG on related comorbidities were assessed at 1, 3, 6, 12 and 24 months.

RESULTS

Baseline demographics

Number of patients	129
Age (years) mean \pm SD	47 \pm 12.7
Sex, female, n (%)	74 (57.36)
BMI, mean \pm SD	44.4 \pm 4.1
Comorbidities	
Type 2 Diabetes Mellitus n (%)	14 (11)
Hyperinsulinemia n (%)	33 (25.6)
Arterial Hypertension n (%)	49 (38)
Obstructive Sleep Apnea Syndrome n (%)	29 (22.5)
n= numbers of patients; BMI: Body Mass Index; SD: Standard Deviation.	

RESULTS

- ❖ BMI reduction was 7.1 ± 4.8 at 24-months follow-up.
- ❖ At 12-month follow-up, our data showed improvement or complete remission of Type 2 Diabetes (T2D), Hyperinsulinemia (H-INS), Arterial Hypertension (AH), Obstructive Sleep Apnea Syndrome (OSAS), in 50% (7/14), 36.3% (12/33), 41% (20/49) and 31% (9/29) of patients, respectively.

RESULTS

Weight loss outcomes of primary ESG in subjects with BMI >40 kg/m²

Follow-up	n	Weight (kg)	p	TBWL (%)	BMI (kg/m ²)	p	BMIL (kg/m ²)
Baseline	129	125.3 (18.3)			44.4 (4.1)		
1m	110	112.5 (16.4)	<0.01	9.4 (2.6)	39.9 (4.4)	<0.01	4.4 (2.6)
3m	99	106.1 (15.7)	<0.01	15.3 (5.0)	37.7 (3.8)	<0.01	6.8 (2.6)
6m	90	103.8 (17.1)	<0.01	17.2 (6.9)	36.6 (4.7)	<0.01	7.7 (3.3)
12m	83	105.4 (21.5)	<0.01	16.0 (10.0)	37.5 (5.9)	<0.01	7.2 (4.6)
24m	44	106.1 (17.4)	<0.01	15.4 (10.0)	37.7 (4.3)	<0.01	7.1 (4.8)

TBWL: Total Body Weight Loss; BMI: Body Mass Index; BMIL: BMI Loss.

Data are reported as mean value (standard deviation).

A two sample T-Test was used to compare baseline weight and weight loss outcomes.

CONCLUSION

While Endoscopic Sleeve Gastroplasty demonstrated effectiveness in inducing weight loss and ameliorating comorbidities in class III obese patients, it did not fully resolve obesity, potentially due to the high baseline BMI.

Consequently, surgical intervention should continue to be the primary treatment modality for class III obesity. However, when surgery is contraindicated or refused by the patient, ESG represents a less invasive option and could be considered as an effective first-stage or multi-step treatment.



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