

LONG-TERM OUTCOMES AFTER SLEEVE GASTRECTOMY WITH ANTERIOR HEMIFUNDOPLICATION

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Table 1 Pooled prevalence of gastro-oesophageal reflux symptoms according to geographical location

	Studies (n)	Subjects (n)	Pooled prevalence (%)	95% CI (%)	I ² (%)	p Value for I ²
All studies	108	460 984	14.8	13.5–16.1	99.3	<0.001
North American studies	12	43 794	15.4	10.7–20.9	99.5	<0.001
Central American studies	1	500	19.6	16.2–23.4	N/A	N/A
South American studies	6	24 164	17.6	11.0–25.3	99.4	<0.001
European studies	44	218 534	17.1	15.1–19.1	99.3	<0.001
Northern European studies	31	198 686	15.5	13.6–17.5	99.2	<0.001
Southern European studies	13	19 848	21.3	15.8–27.3	98.8	<0.001
Middle Eastern studies	13	86 428	15.0	11.5–19.0	99.4	<0.001
Asian studies	23	67 103	10.0	7.1–13.2	99.4	<0.001
South Asian studies	5	8864	22.1	11.5–35.0	99.4	<0.001
Southeast Asian studies	18	58 239	7.4	5.0–10.1	99.3	<0.001
Australasian studies	9	20 461	14.1	12.2–16.2	93.5	<0.001

N/A, not applicable, too few studies to assess heterogeneity.

Pooled prevalence GERD globally
14.8%

Obesity-associated GERD pooled
prevalence 22.1% (OR-1.73)

**Montreal Classification
GerdQ Questionnaire**

Global prevalence of, and risk factors
for, gastro-oesophageal reflux symptoms:
a meta-analysis

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Reflux changes post LSG:

- Increased incidence 19% (short and long term >12 months)
- Incidence de novo reflux 23%
- Incidence oesophagitis 30%
- Incidence Barrett's disease 6-8%
- Incidence PPI use 38%
- Conversion to RYGB 4%

$n=105$, follow up >5 years

- Incidence GERD 17.1 → 76%
- Incidence oesophagitis 5.7 → 31.4%
- Incidence de novo GERD 52.8%

Does Sleeve Gastrectomy Expose the Distal Esophagus to Severe Reflux?

A Systematic Review and Meta-analysis

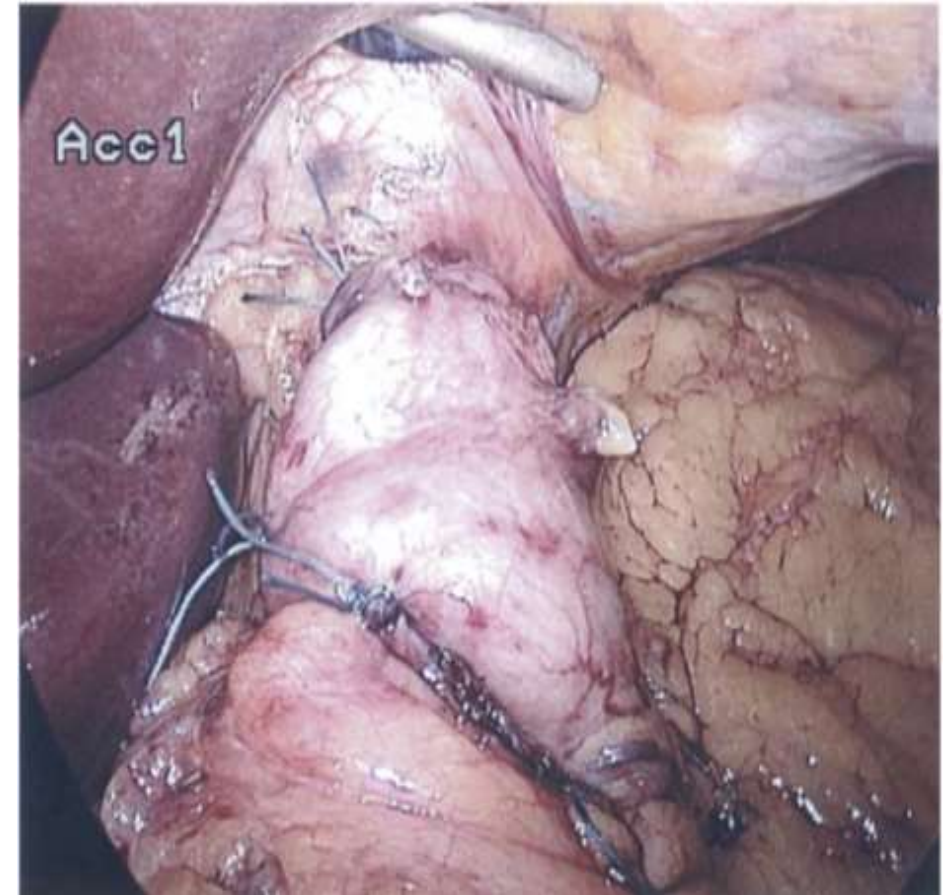
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High rate of de novo esophagitis 5 years after sleeve gastrectomy: a prospective multicenter study in Spain

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STUDY DESIGN

- Retrospective/ prospective case control (consecutive patients) between 2010-2015
- 2:1 matched comparison group (sleeve gastrectomy without fundoplication cf SGAF)
- Planned follow up >6 years
 - clinic/ phone/ email
- GERD assessment via structured questionnaire
- Data:
 - Weight loss
 - PPI use
 - Reoperation (SGAF)
 - Change in comorbidities
 - Complications
- Exclusion criteria:
 - Reoperation in the comparison cohort
 - Loss to follow up
 - Patients declining to participate



RESULTS

Perioperative Patient Characteristics

	SGAF (n=26)	SGAF>6yFU (n=17)	SG (n=53)
Median Age (years)(range)	53 (18-70)	53.0 (27-70)	50.0 (18-66)
% Female	65.4%	76.4%	64.1%
Median Weight (kg) (range)	118.2 (84.0-197.7)	118.0 (84.7-167.3)	114.6 (74.3-253.0)
Median BMI (kg/m ²)(range)	42.0 (32.4-58.6)	41.4 (33.9-58.6)	41.9 (31.4-67.9)
T2DM prevalence	37.5%	41.2%	25%
OSA prevalence	56.0%	70.1%	54.7%
Dyslipidemia prevalence	32.0%	29.4%	45.3%
Hypertension prevalence	44.0%	41.2%	35.8%
Hiatus Hernia Repair at Index Operation (%)	11 (42.3)	8 (47.1)	27 (50.9)
Median Follow-up (months)(range)	99.5 (7-137)	118.0 (75-137)	98.0 (77-119)
Mean Follow-up (months) (std deviation)	80.0 (49.1)	112.9 (19.3)	100.8 (8.9)

Weight Loss Following SGAF and SG

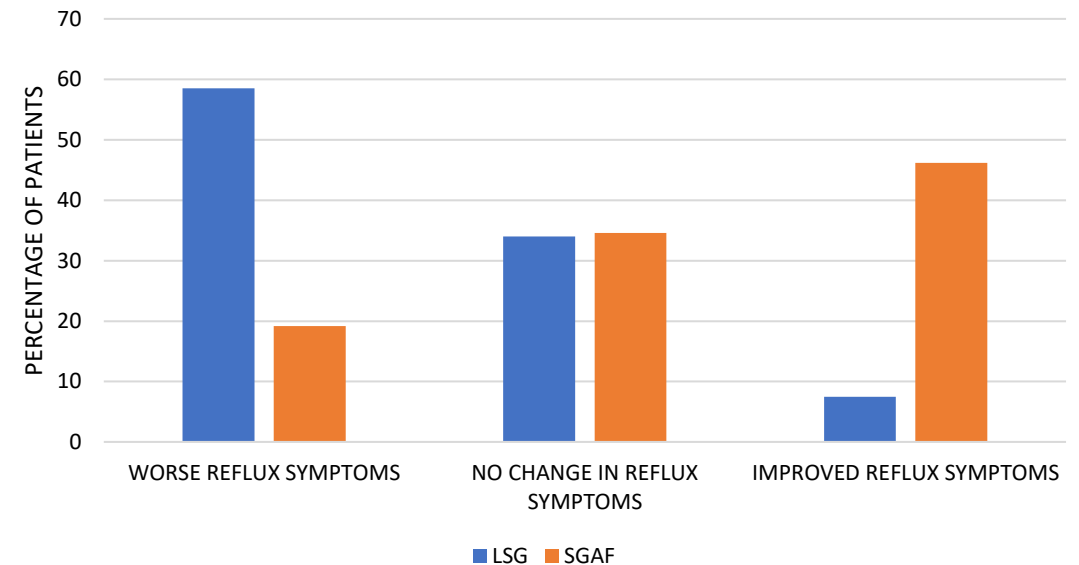
	SGAF>6yFU (n=17)	SG (n=53)	P value
Median Change in BMI (kg/m ²) (range)	-7.5 (+2.7- -17.9)	-9.3 (+3.4- 27.7)	0.93
Mean Change in BMI (kg/m ²) (standard deviation)	-8.6 (5.6)	-9.7 (6.6)	0.50
Percentage Total Weight Loss (%TWL)(median) (range)	-17.2% (+6.8- -42.3)	-22.0% (+7.5- -49.7)	-
Percentage Total Weight Loss (%TWL) Mean (standard deviation)	-19.9% (13.6)	-22.7% (11.4)	0.46

RESULTS

Assessment Of Postoperative GERD

	SGAF >6yF/U (n=17)	SG (n=53)
No GERD Symptoms (%)		
Preop	5 (29.4)	30 (56.6)
Postop	12 (70.6)	9 (17.0)
Mild GERD Symptoms (%)		
Preop	9 (52.9)	16 (30.2)
Postop	2 (11.8)	19 (35.8)
Moderate GERD Symptoms (%)		
Preop	2 (11.8)	5 (9.4)
Postop	2 (11.8)	11 (20.8)
Severe GERD Symptoms (%)		
Preop	1 (5.9)	2 (3.8)
Postop	1 (5.9)	14 (26.4)
Change in GERD Symptoms		
GERD Improved (%)	8 (47.1)	4 (7.5%)
GERD No change (%)	6 (35.3)	18 (34.0)
GERD Worsened (%)	3 (17.6)	31 (58.5)
Proton pump inhibitor (PPI) use*		
PPI Use Preop (%)	4 (23.5)	17 (32.1)
PPI Use Postop (%)	7 (41.2)	30 (56.6)
Number Patients Ceasing PPI (%)	1 (5.9)	4 (7.5)
Number Patients Continuing PPI (%)	3 (17.6)	14 (26.4)
*Number Patients On New PPI (%)	4 (23.5)	16 (30.2)

Comparison Of Reflux Symptoms Between SGAF and SG



RESULTS

Re-operation:

- $n=8/26$
 - dilated fundal pouch endoscopy
 - fundal resection
 - mean weight regain 29kg
- Median time to revision surgery= 44 months
- Reflux outcomes in this subgroup were not significantly different
- $n=1/26$
 - conversion to roux-en-y

CONCLUSION

Weight loss outcomes- equivalent

PPI use- not statistically significant

GERD symptoms

- Less prevalent (71% symptom free)
- Less severe

In favour of SGAF