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# Eating-Behavior Phenotypes and Anxiety/Hedonic Eating as Predictors of Outcomes After Sleeve Gastrectomy and Roux-en-Y Gastric Bypass

*A Retrospective Cohort Study*

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BACKGROUND

# Choosing between SG and RYGB is still largely anatomical — not behavioral

SG and RYGB together account for the large majority of the >40 IFSO-endorsed bariatric procedures performed worldwide.

Binge eating and grazing are common, clinically overlapping eating patterns among bariatric candidates.

Anxiety and hedonic eating are highly prevalent in this population and may independently affect outcomes.

Whether phenotype + anxiety predicts 1-year weight loss and comorbidity resolution — and differs by procedure — is unclear.

OBJECTIVE

# To determine whether preoperative eating-behavior phenotype and anxiety/hedonic eating predict 1-year weight loss and comorbidity resolution after SG and RYGB.

*Secondary aim: correlate this phenotype with pre- and postoperative comorbidities.*

METHODS

# Study design and population

**Design**

Single-center retrospective cohort study

**Setting**

Obesity Surgery Center, Clínica Red Salud Vitacura, Santiago, Chile

**Period**

August 2022 – February 2024

**Eligibility**

Ages 18–65 · primary laparoscopic SG or RYGB

**Excluded**

Revisional/conversional surgery, oncologic disease, age outside range

**Outcome window**

Weight loss and comorbidity status assessed at 1 year

METHODS

# Two independent behavioral variables, assessed by the multidisciplinary team

## Eating-behavior phenotype

- Binge eating — discrete episodes of large intake with loss of control
- Grazing — repetitive, unplanned snacking through the day
- One predominant pattern recorded per patient

## Anxiety / hedonic eating

- Psychologist/psychiatrist diagnosis of anxiety or hedonic behavior
- Includes patients on anxiolytic medication
- Recorded dichotomously: present / absent

RESULTS

# Patient flow and follow-up

**176**

Bariatric operations
(Aug 2022 – Feb 2024)

→

**153**

Met inclusion criteria
(86.9%)

→

**87 / 66**

Sleeve gastrectomy / RYGB
(56.9% / 43.1%)

→

**112**

Completed 1-year follow-up
(73.2%)

*No conversions to laparotomy · no mortality · 1 internal hernia managed at another institution*

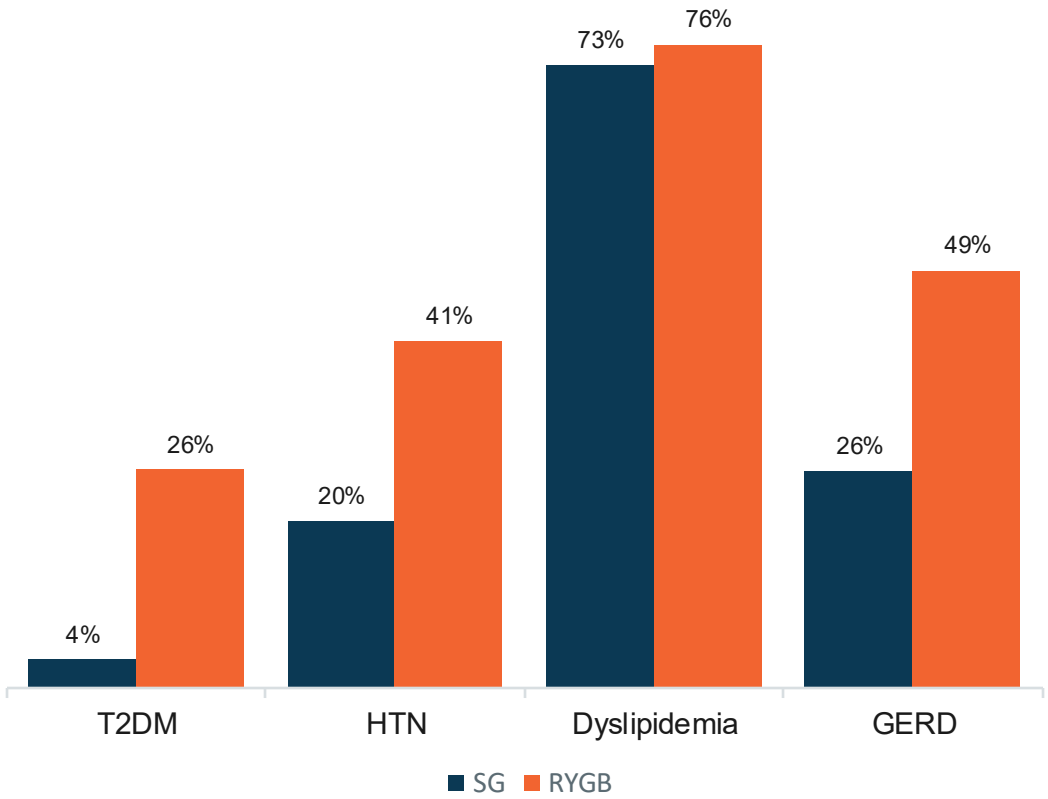
RESULTS

# Baseline characteristics: RYGB patients carried greater metabolic burden

| Variable | SG (n=87) | RYGB (n=66) | p |
|---|---|---|---|
| Age, y | 34.2 ± 9.1 | 37.1 ± 9.7 | 0.063 |
| BMI, kg/m² | 37.3 ± 3.6 | 43.7 ± 6.3 | <0.001 |
| Weight, kg | 99.6 ± 13.6 | 116.0 ± 23.9 | <0.001 |

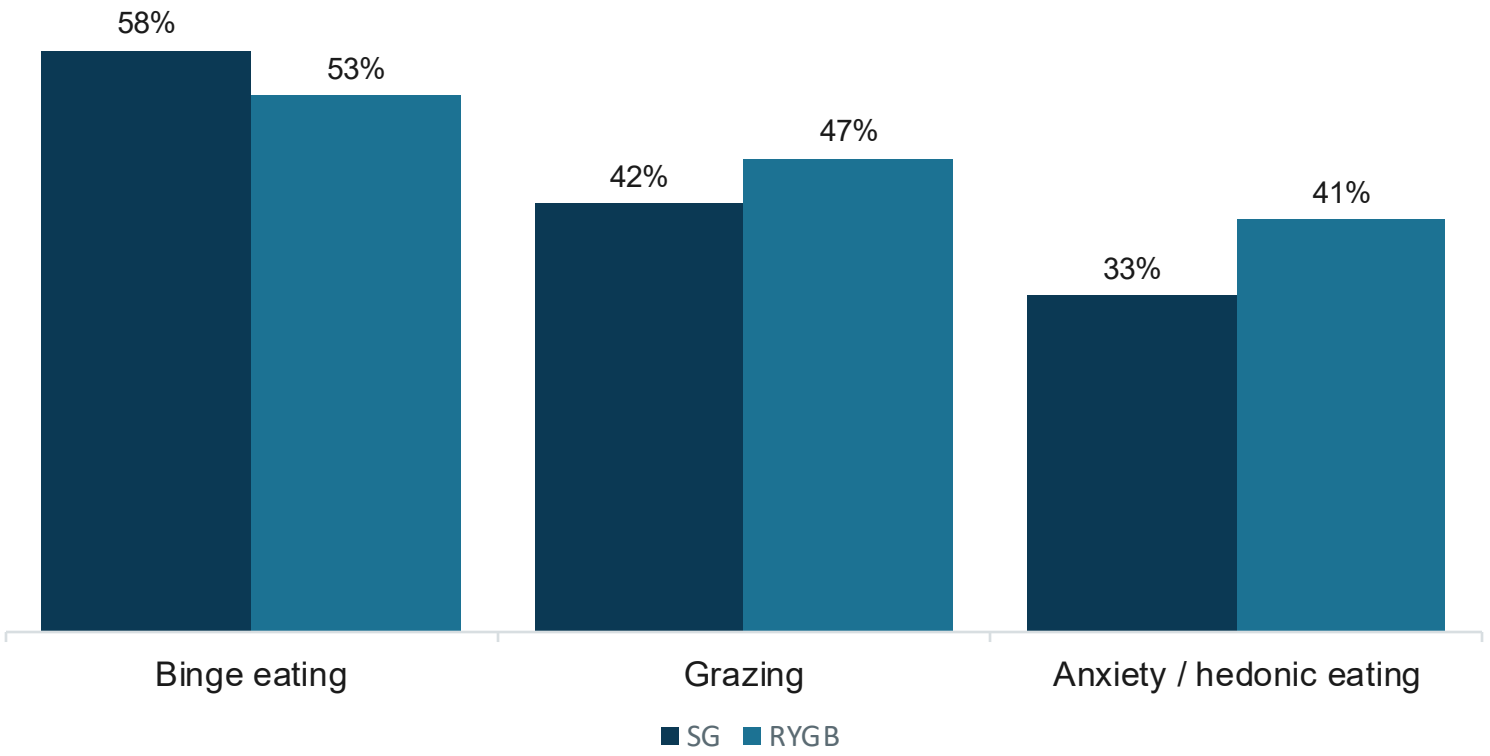
*SG selected for lower-BMI patients; RYGB for higher metabolic/reflux burden — consistent with standard clinical selection.*

**Preoperative comorbidities (%)**



RESULTS

# Eating-behavior phenotype and anxiety were evenly distributed across procedures




**p = 0.78**

Binge vs. grazing distribution — no difference between SG and RYGB

**p = 0.54**

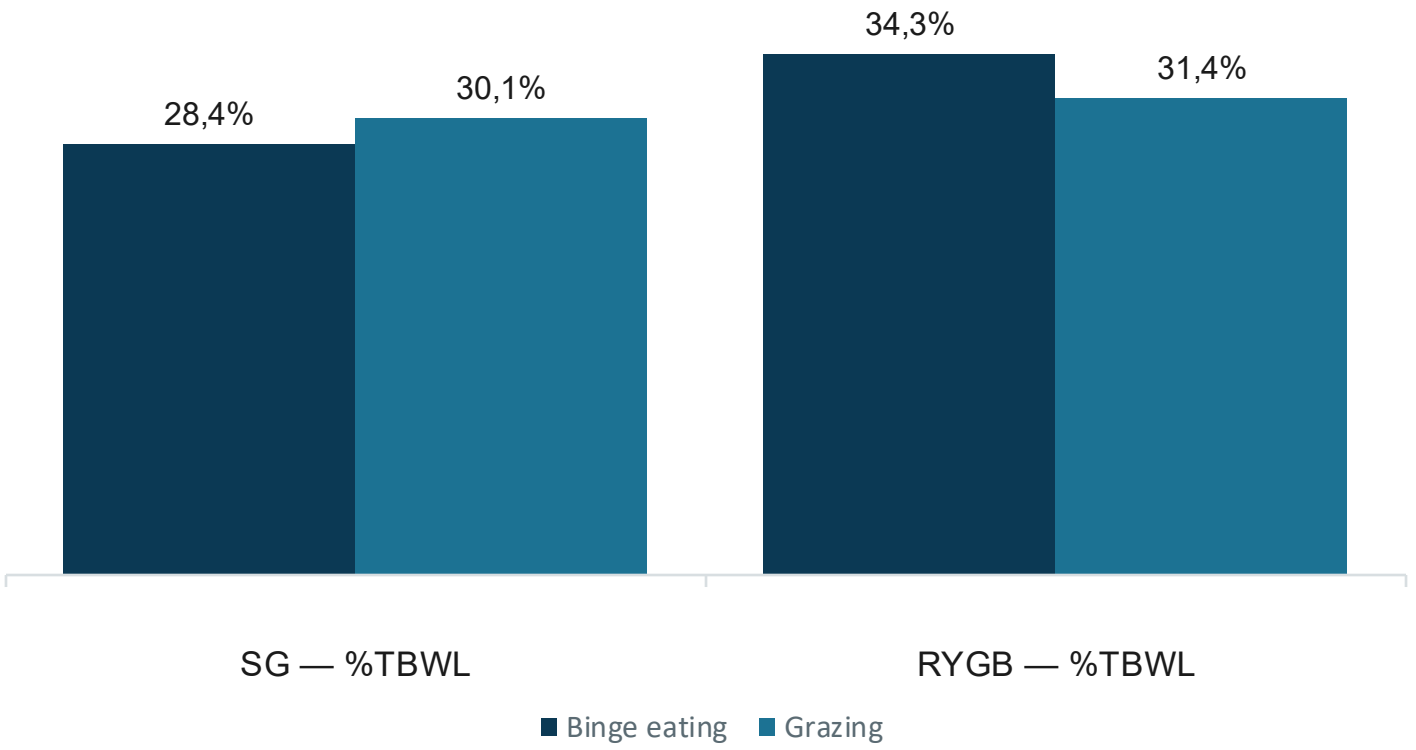
Anxiety/hedonic eating prevalence — no difference between SG and RYGB

**~30%**

of assessments were missing — addressed as a limitation

RESULTS

# Binge eating vs. grazing: no significant effect on 1-year weight loss




No statistically significant difference in %EWL, %TBWL, or kg lost by eating-behavior phenotype, in either procedure.

**SG**

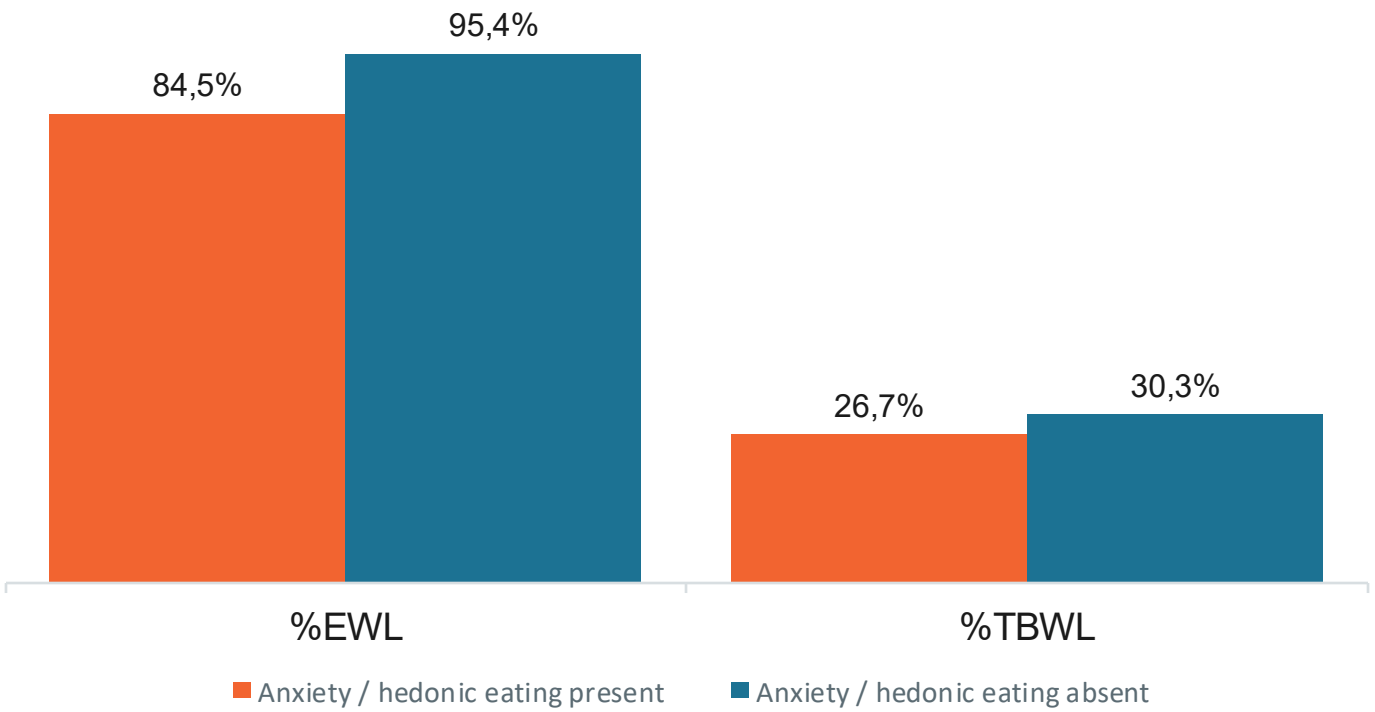
p = 0.538 (EWL) · 0.277 (TBWL) · 0.324 (kg)

**RYGB**

p = 0.889 (EWL) · 0.151 (TBWL) · 0.060 (kg)

RESULTS — KEY FINDING

# After sleeve gastrectomy, anxiety/hedonic eating was linked to significantly less weight loss




**p = 0.028**

%TBWL was significantly lower with anxiety/hedonic eating (26.7% vs. 30.3%)

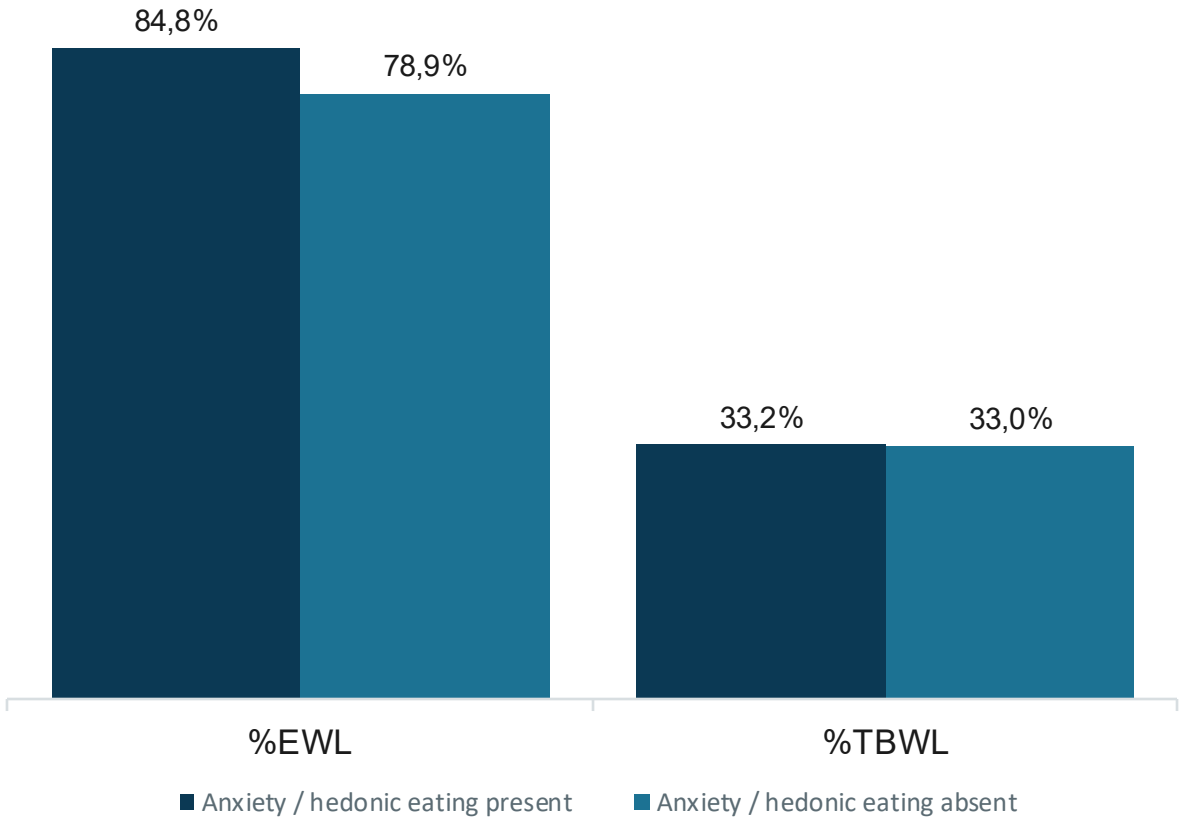
**p = 0.107 (%EWL)**

A parallel trend in %EWL did not reach statistical significance

*GERD symptom resolution at 1 year: 83.3% (anxiety+) vs. 96.7% (anxiety−), p = 0.394 — numerically lower, small subgroup.*

RESULTS

# After RYGB: weight loss was preserved, but anxious patients were predominantly female




**90.0%**

of RYGB patients with anxiety/hedonic eating were female — vs. 58.6% without (p = 0.017)

**90% vs. 100%**

GERD resolution at 1 year in anxiety+ vs. anxiety− patients (p = 0.809, small subgroup)

*No significant difference in weight loss by anxiety status (p = 0.22 EWL · 0.92 TBWL)*

SUMMARY

# Anxiety/hedonic eating — not binge eating vs. grazing — is the signal that matters

- Eating-behavior phenotype (binge vs. grazing) did not predict weight loss after SG or RYGB.
- Anxiety/hedonic eating predicted significantly lower %TBWL after SG ($p = 0.028$), with a parallel trend in %EWL.
- GERD symptom resolution trended lower with anxiety after both procedures.
- RYGB patients with anxiety were overwhelmingly female (90%) — a subgroup worth targeted support.

DISCUSSION

# Clinical implications and limitations

## Clinical implications

- Screen routinely for anxiety/hedonic eating, not only grazing vs. binge eating.
- Consider RYGB over SG when significant GERD coexists with anxiety.
- Prioritize anxious/hedonic-eating patients for CBT, pharmacologic support, and closer follow-up.
- Consider anxious/hedonic-eating phenotype as a target for adjunctive therapy (e.g., GLP-1 agonists).

## Limitations

- Retrospective, single-center; procedure choice not randomized.
- Phenotype/anxiety based on clinical judgment, not validated psychometric tools.
- Missing assessment in ~26–32% of patients; 1-year follow-up in 73.2%.
- Multiple comparisons without correction; small subgroups for comorbidity resolution.
- Follow-up limited to 1 year — longer-term data needed.

CONCLUSION

# Preoperative anxiety and hedonic eating — more than the pattern of binge eating vs. grazing — predict attenuated weight loss and less complete GERD resolution after bariatric surgery.

*Routine screening for anxiety/hedonic eating may help individualize procedure choice and target patients for adjunctive behavioral or pharmacologic care.*

# Thank you

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*Questions welcome*