
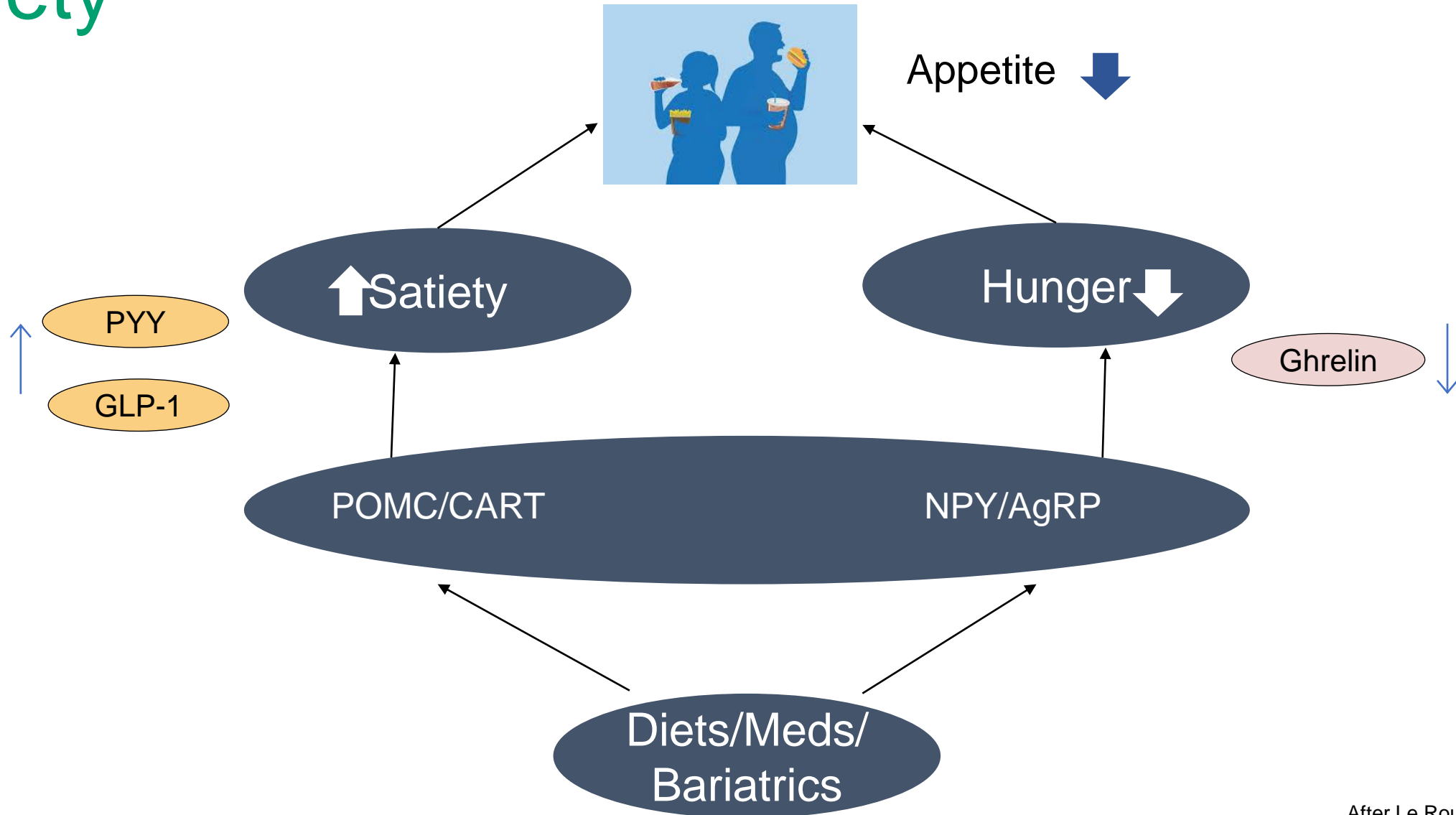


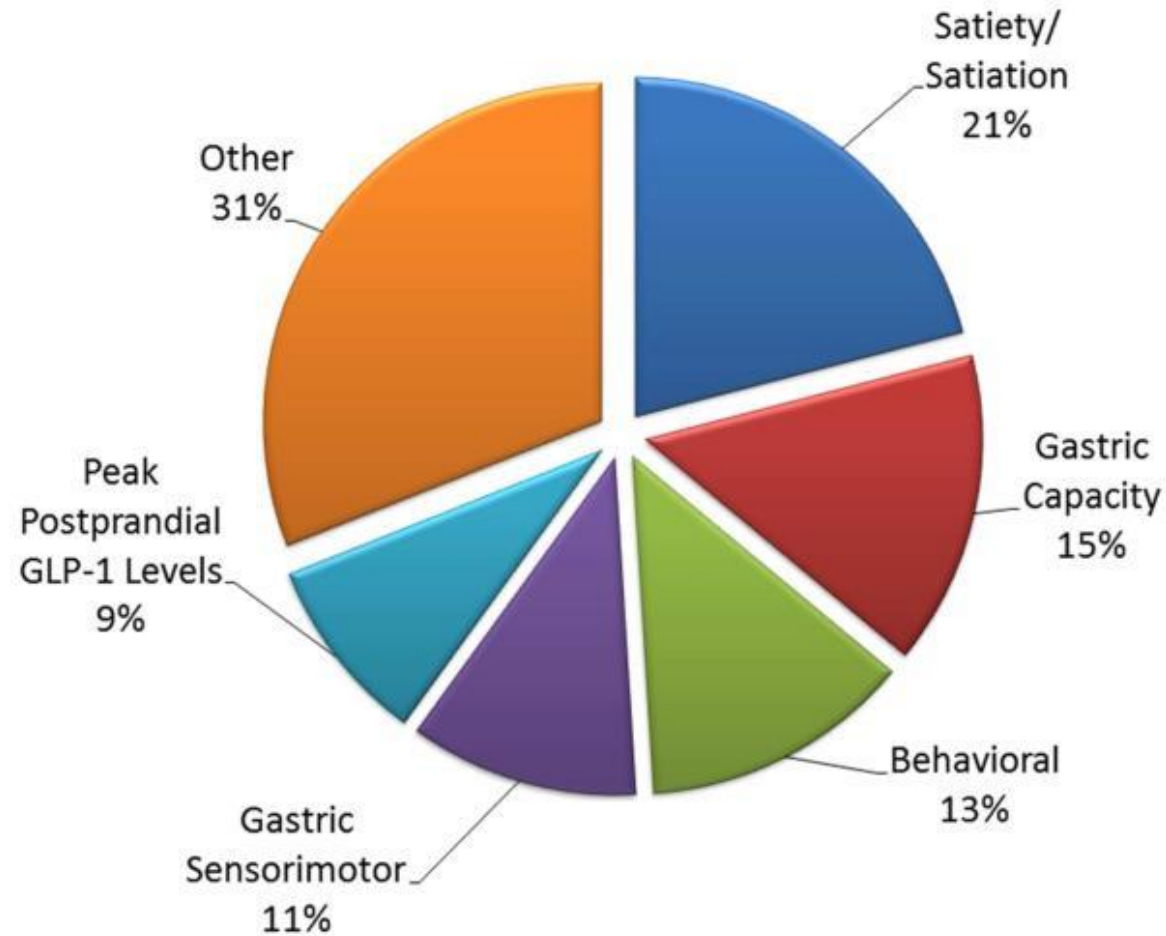
Medical Issues in Weight Loss

Violeta B. Popov, MD, PhD, ABOM Diplomate
Director of Bariatric Endoscopy,
NY VA Harbor Healthcare System(Manhattan)
NYU Langone Health
 @PopovVioleta

Successful Weight Loss Therapies Increase Satiety

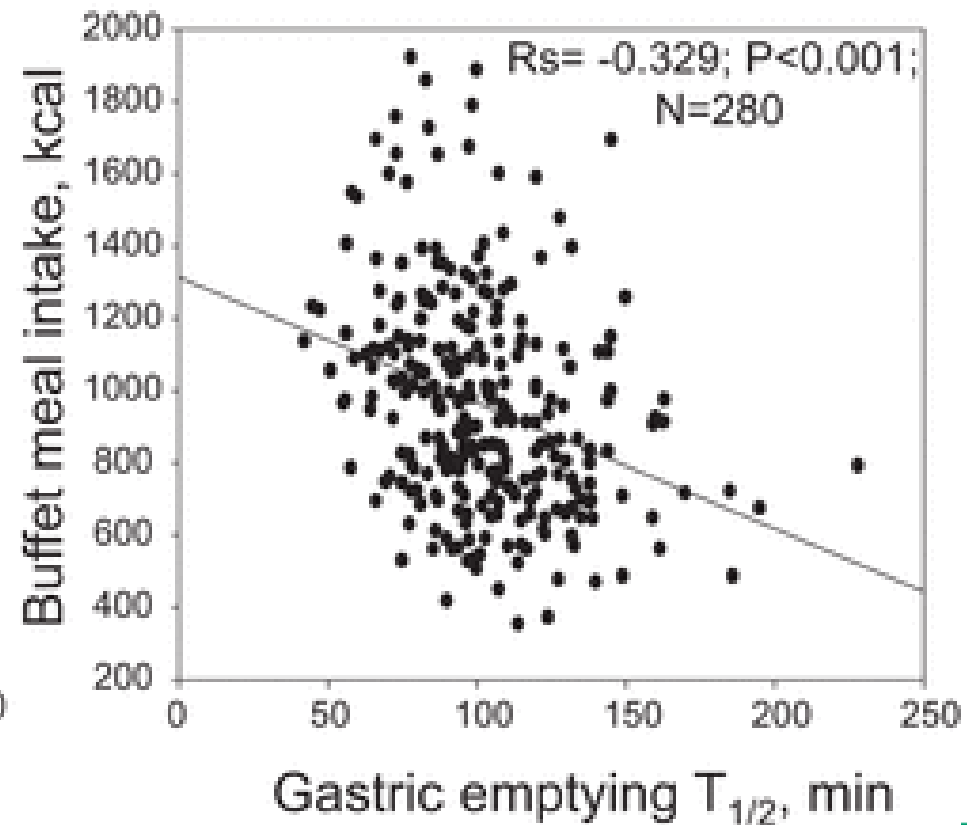
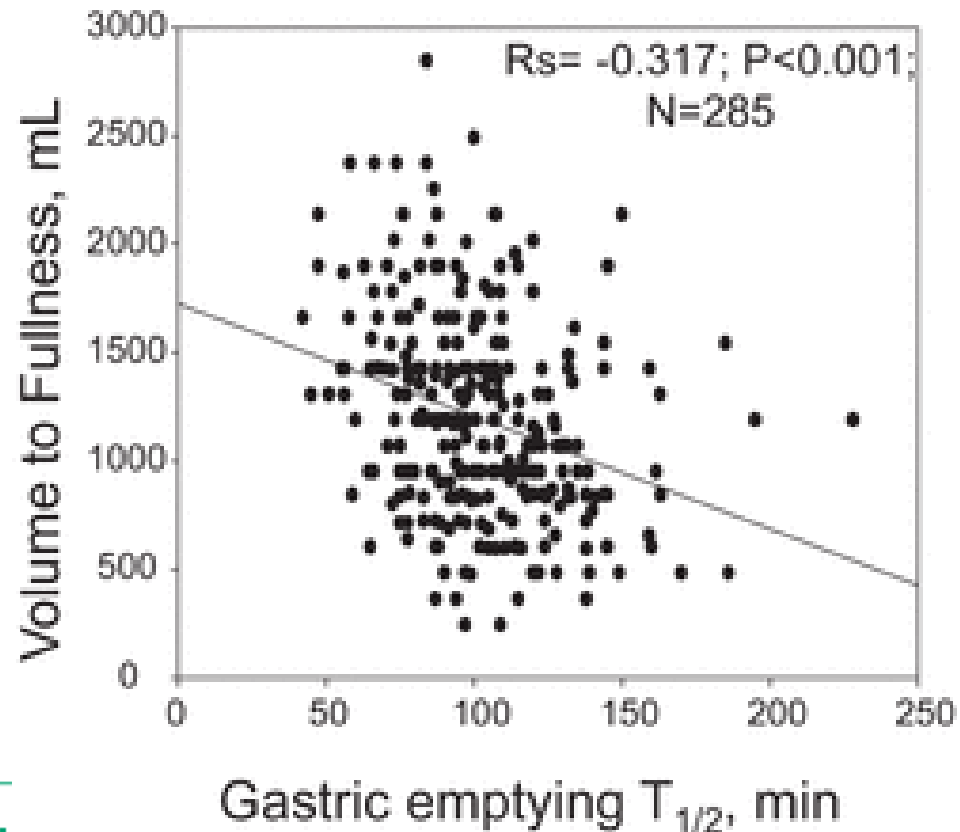


Physiologic Contributors to Obesity



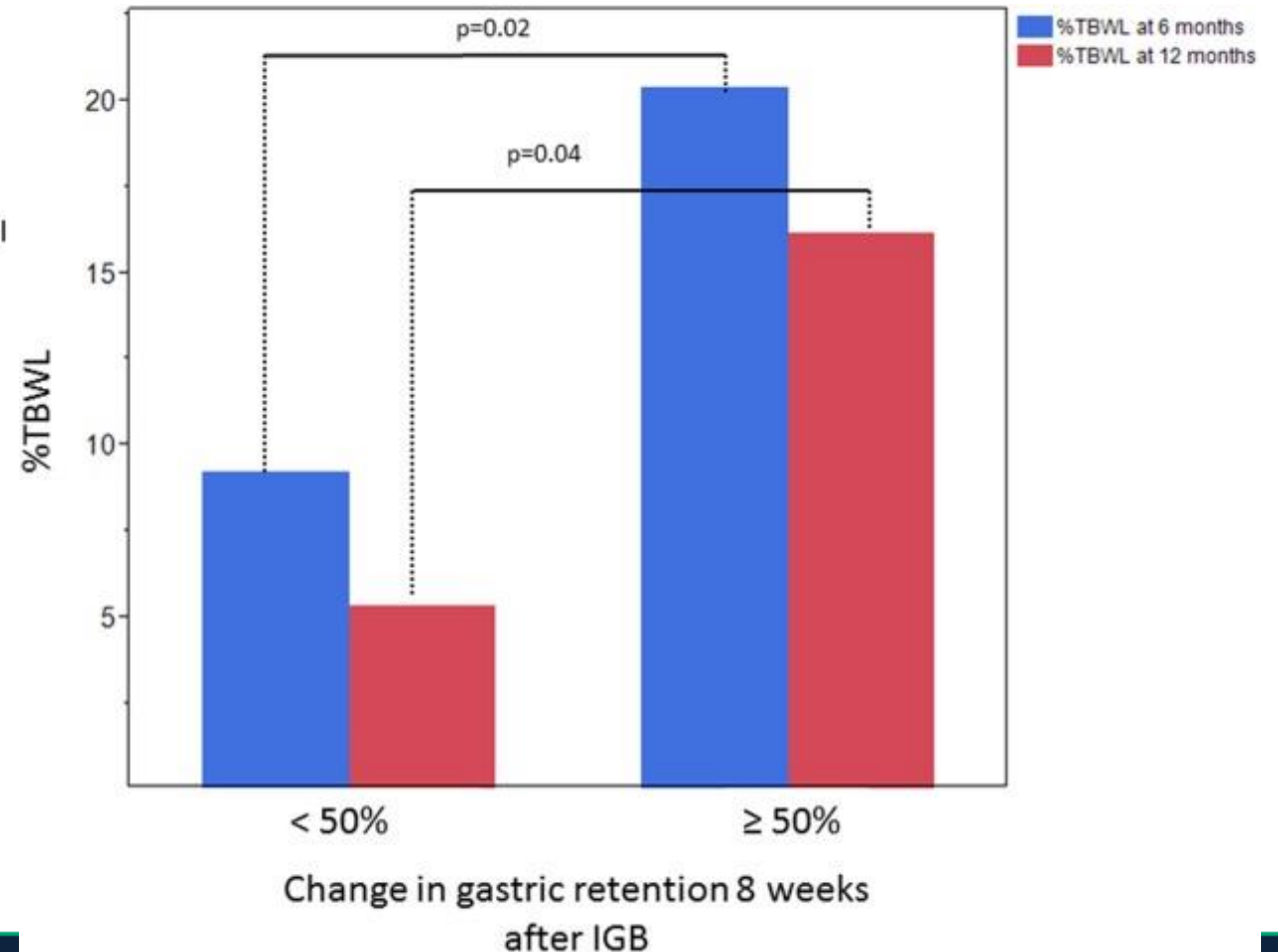
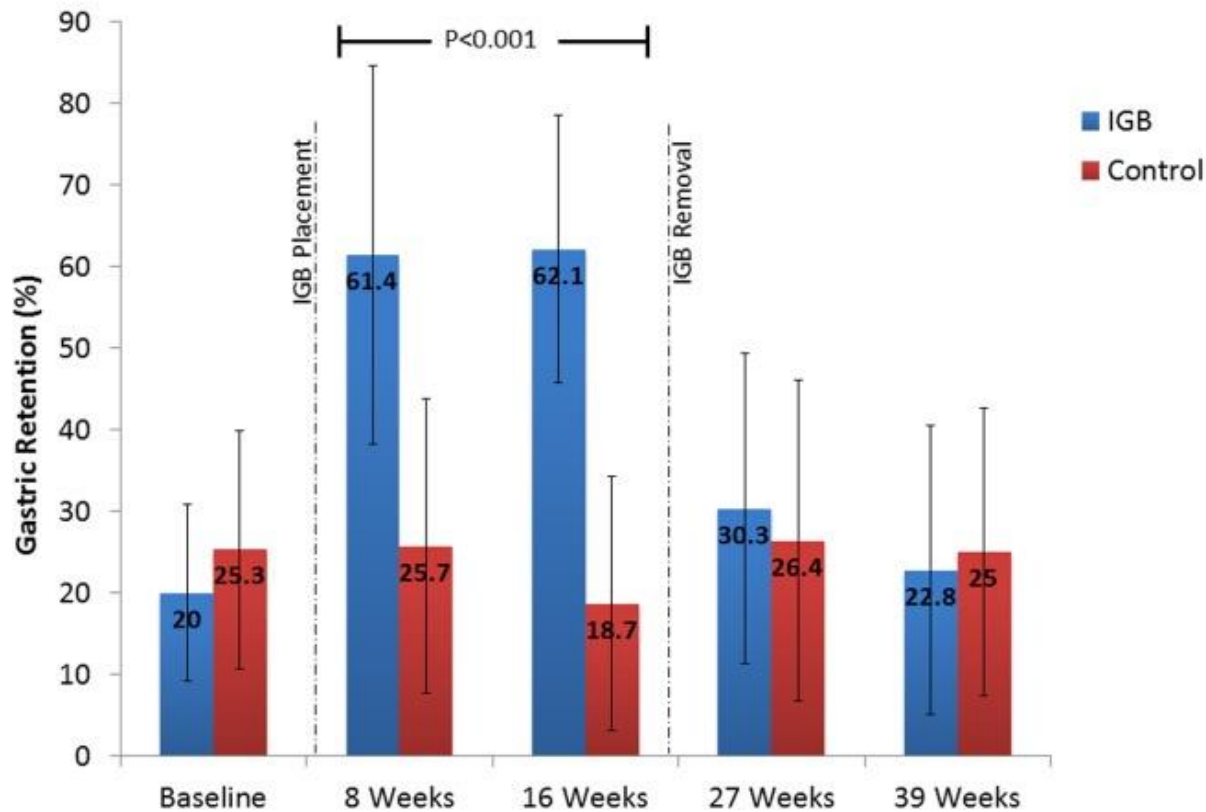
Camilleri M, et al. Gastrointest. Endosc 2016

Faster Gastric Emptying=Higher Caloric Intake



Mechanism of Action: Changes in Gastric Emptying with IGB

Comparison of 2-hr gastric retention between groups



Impact of Gastric Motor Function and Genetic Variants Related to GLP-1 On Weight Loss with Liraglutide

Caselli D, et al, Mayo Clinic

- **Background:**

- Liraglutide is associated with weight loss
- Delays in gastric function induced by weight loss may facilitate that function
- Genetic variants of GLP1R and TCFL7(pro-glucagon levels -> endogenous GLP-1 levels) may play a role in baseline gastric motor function and response to GLP1 analogs

- **Purpose:**

- Are there baseline phenotypic predictors of response to Liraglutide?
- Are there baseline genetic predictors of response to Liraglutide?

Impact of Gastric Motor Function and Genetic Variants Related to GLP-1 On Weight Loss with Liraglutide

Caselli D, et al, Mayo Clinic

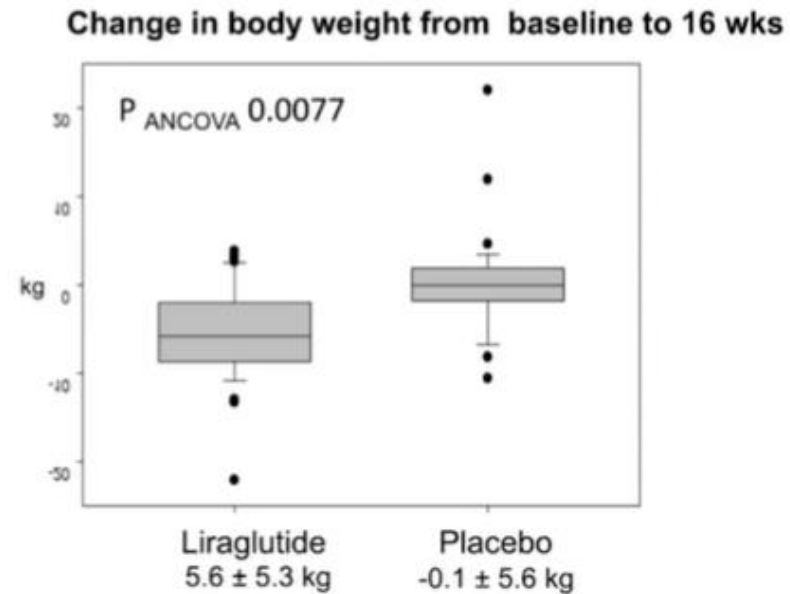
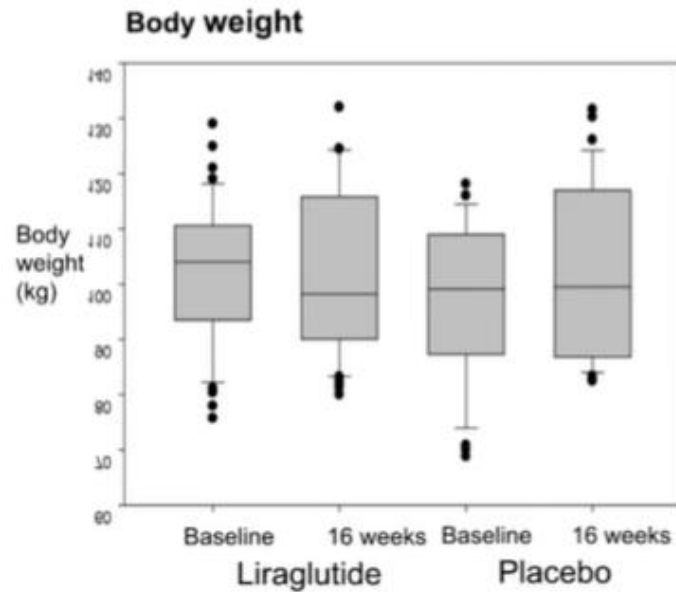
- Aims:
 - Aim 1: Compare the **effect of Liraglutide 3 mg sq vs placebo** on weight loss and gastric motor function
 - Aim 2: Determine if **baseline gastric motor function** is a predictor of weight loss response to Liraglutide
 - Aim 3: Evaluate the **effect of common SNPs in GLP1R and TCFL7** on response to liraglutide

Study Design

- Randomized placebo - controlled trial of 82 adults with obesity followed for 16 weeks
- Study procedures:
 - Liraglutide starting at 0.6 mg/daily, escalate to 3 mg/daily as prescribed or placebo sq daily
 - Gastric emptying at baseline and 16 weeks
 - Gastric accommodation volumes at 0 and 16 weeks
 - Max tolerated kcal at a buffet

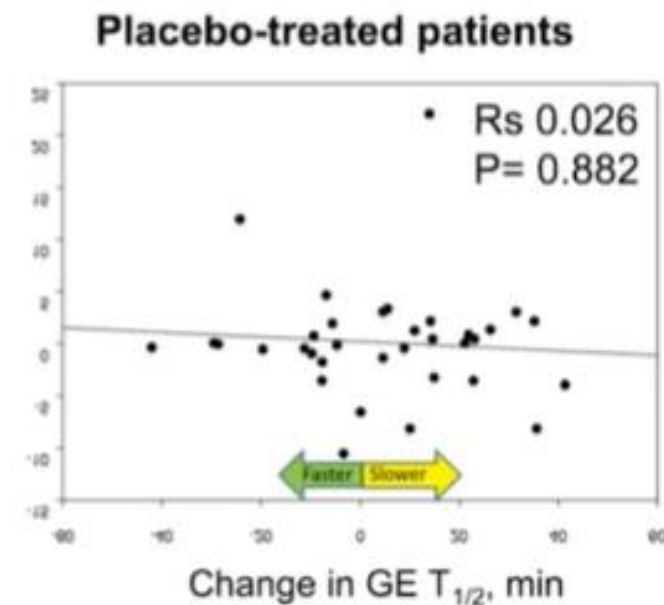
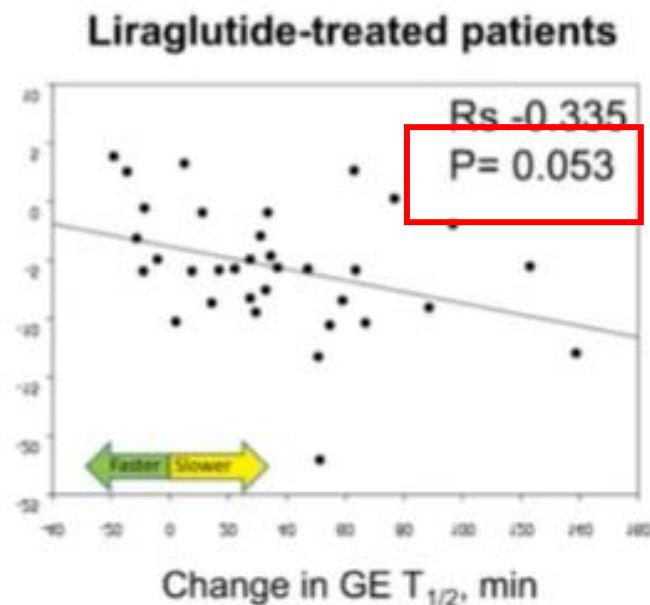
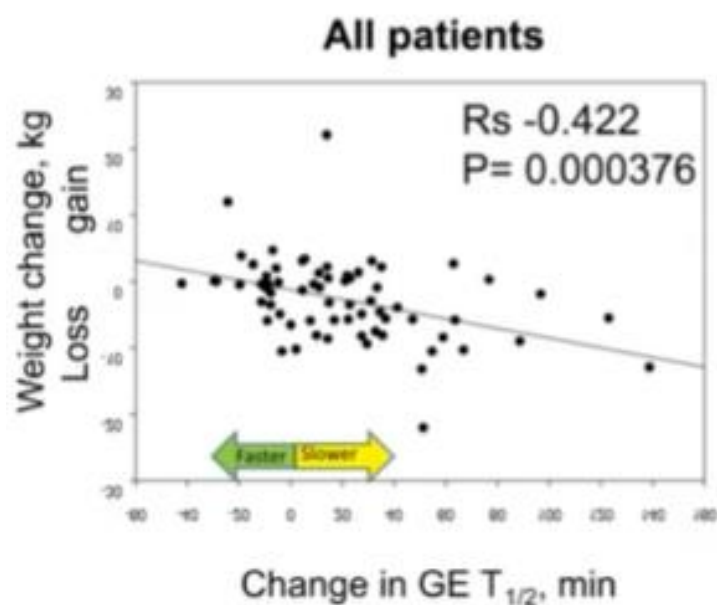
Results- Aim 1

- Liraglutide **decreased body weight** compared to placebo and led to **greater delay in gastric emptying**



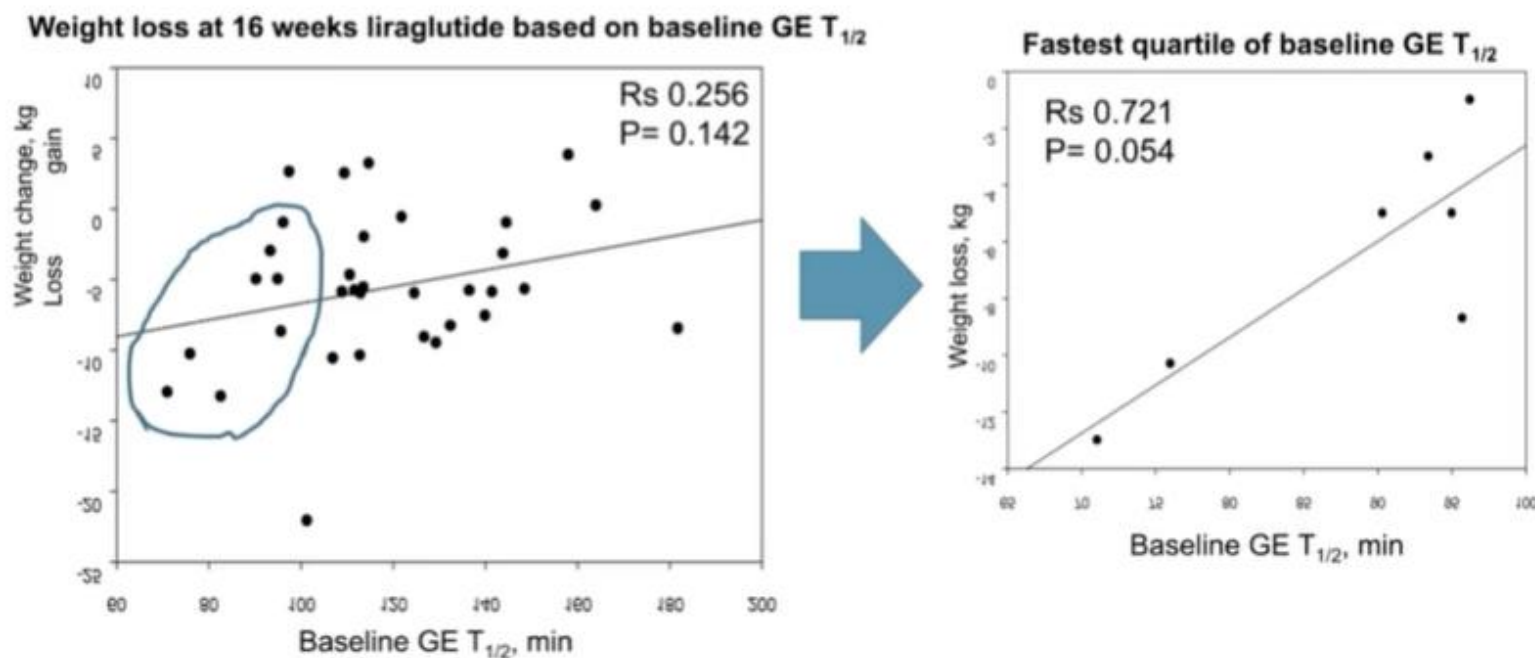
Results – Aim 2

- Change in Gastric Emptying Time and Weight Loss



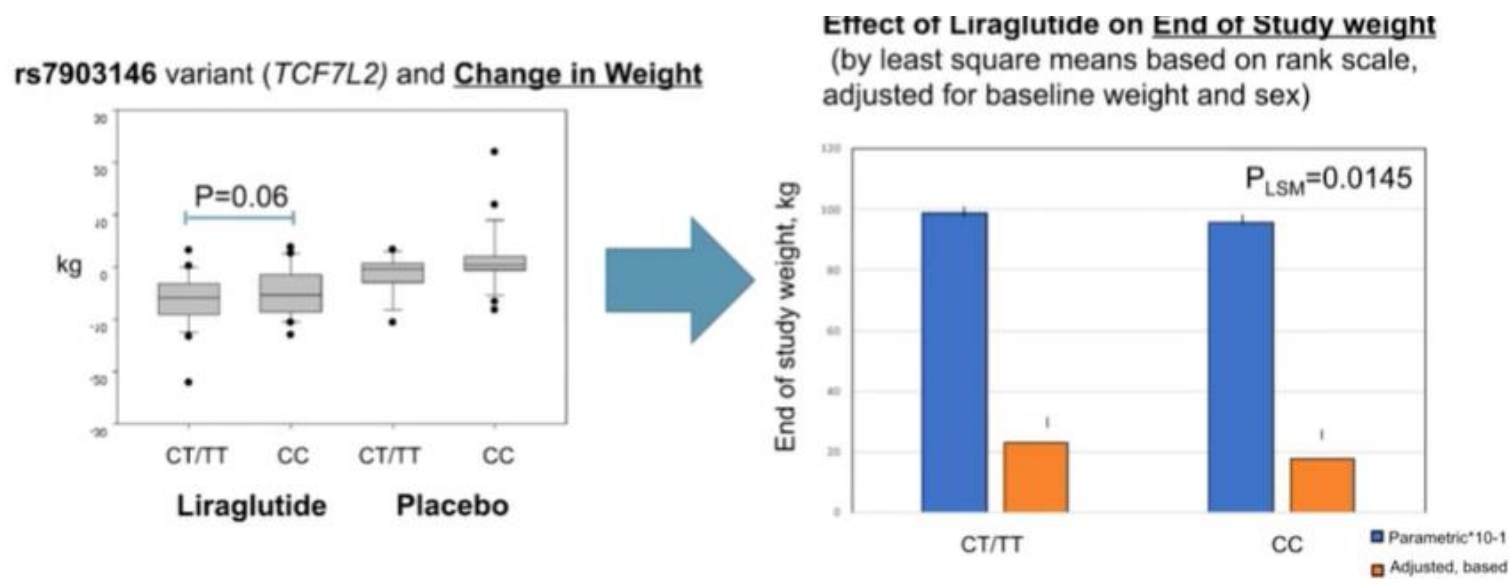
Results - Aim 2

- Baseline gastric emptying time (GET) may predict weight loss from liraglutide for those with faster baseline GET



Results – Aim 3

- Variants of GLP1R were not associated with change in gastric motor function but **CC genotype of the TCF7L2** was associated with **greater weight loss** and **slower GET** (unexpected) possibly due to **diminished max tolerated kCal** at a buffet meal



- Endoscopic sleeve gastroplasty is an effective procedure for obesity, associated with about **16.5 %** weight loss at 12 months
- Semaglutide, a novel long-acting GLP-1 agonist, produces significant weight loss in combination with lifestyle
- A recent study published in NEJM showed **14.9%** weight loss at week 68 at a dose of 2.4 mg sq once a week

Wilding JP, Batterham R, Calanna S, et al. N Engl J Med 2021

Hedjoudie et al, Clin Gastro Hep 2020

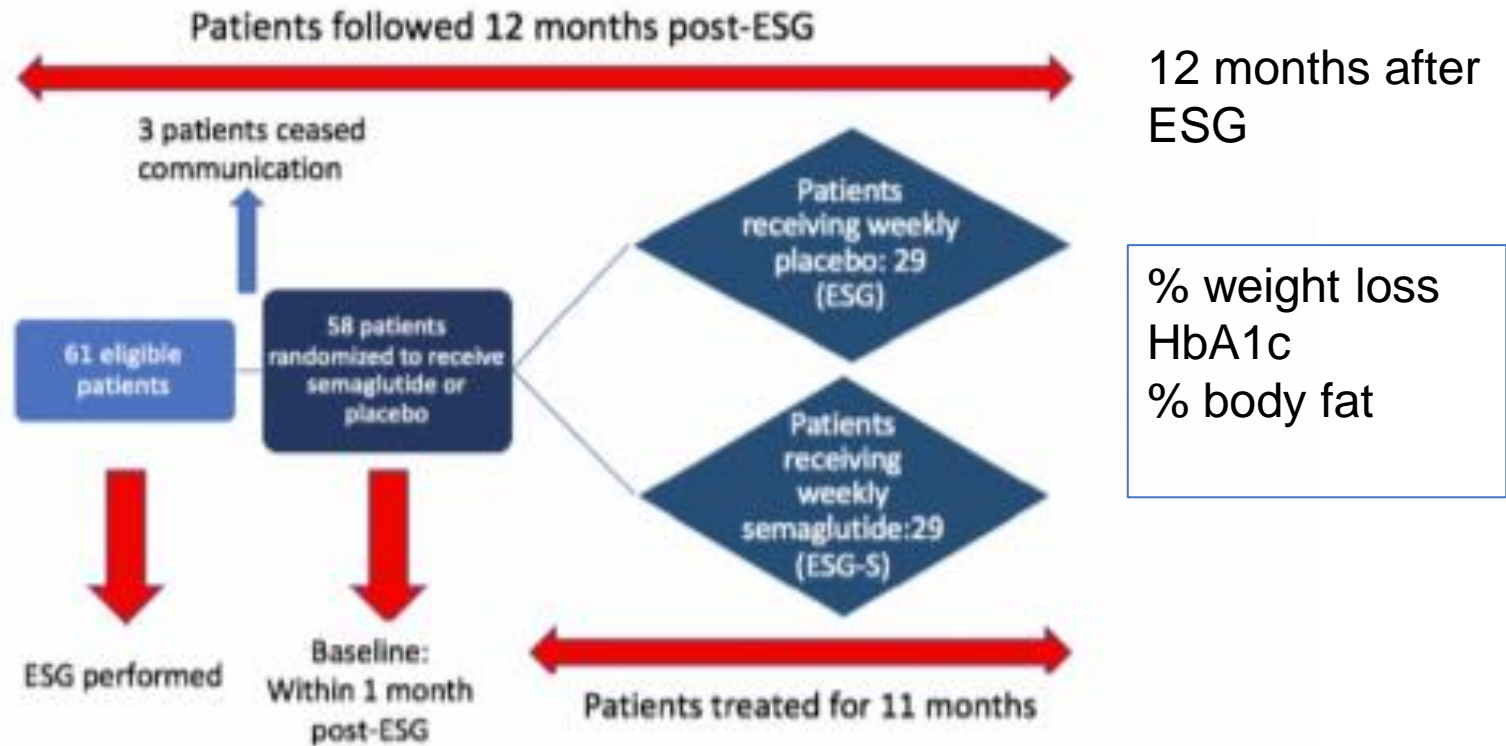
- **Aim:** Investigate efficacy of ESG in combination of semaglutide compared to ESG alone
- **Methods:** A double-blinded randomized trial
- **Primary outcome:**
 - Change in % weight loss at 12 months post-ESG/11 months post-sema compared to ESG alone at 12 months
- **Secondary outcome:**
 - Change in % body fat and HbA1c

SEMAGLUTIDE IN ASSOCIATION TO ENDOSCOPIC SLEEVE GASTROPLASTY: TAKING ENDOSCOPIC BARIATRIC PROCEDURES OUTCOMES TO THE NEXT LEVEL

Hoff, Anna Carolina¹; Barrichello, Sergio²; Kumbhari, Vivek³; Galvao Neto, Manoel⁴; Sharaiha, Reem Z.⁵; Badurdeen, Dilhana³.

- 1. bariatric endoscopy, angioskope, Sao Paulo, Sao paulo, Brazil.
- 2. HealthMe, Sao Paulo, SP, Brazil.
- 3. Johns Hopkins University, Baltimore, MD, United States.
- 4. Florida International University, Miami, FL, United States.
- 5. Weill Cornell Medicine, New York, NY, United States.

Study Flow



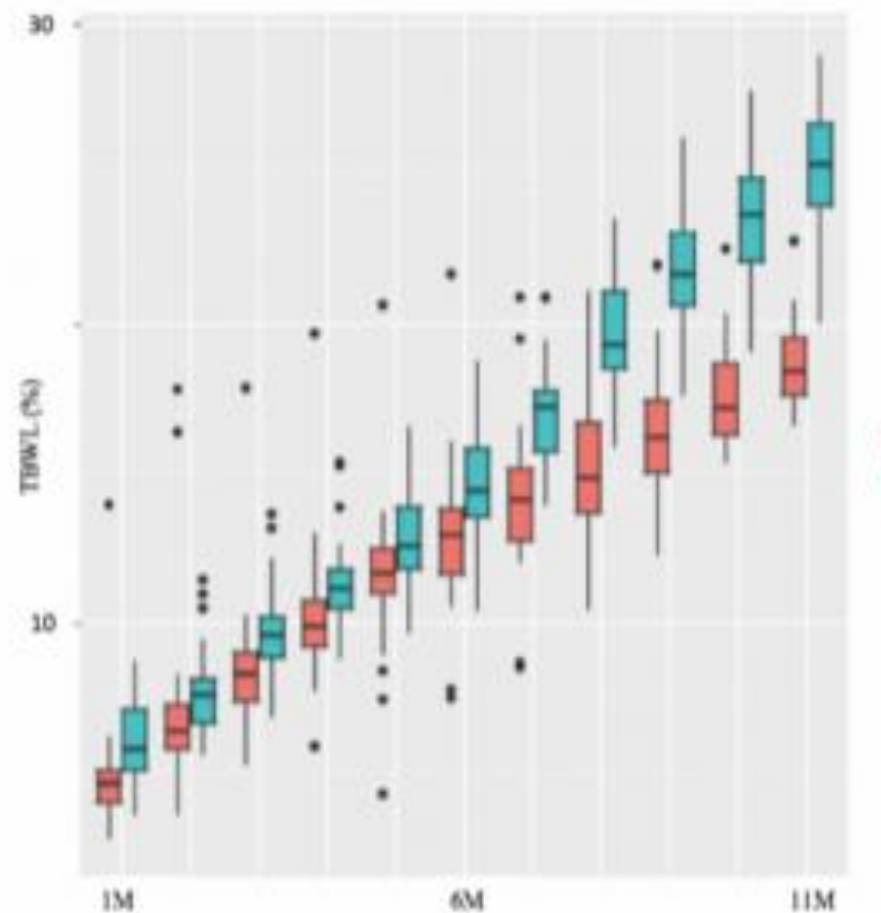
12 months after ESG

% weight loss
 HbA1c
 % body fat

Results: Primary Outcome

Greater %weight loss in the ESG-semaglutide group:

25.2% \pm 2.1 vs. **18.65% \pm 1.44**,
 $p < 0.001$



Results: Secondary Outcomes

- HbA1c became significantly lower after month 6 in the ESG - semaglutide group vs ESG alone: **4.38 vs. 5.33**
- BMI decreased more significantly in the ESG-semaglutide than ESG alone; difference noted after 6 months
- Greater %fat loss in the ESG - semaglutide group vs ESG alone: **-12.69% vs -9.4%**

RESULTS			
Change in BMI after administration of placebo and semaglutide			
	ESG	ESG-S	P value
n	29	29	
BMI loss by month (kg/m ²)			
1	2.59 (1.10)	2.84 (0.59)	0.28
2	3.10 (0.84)	3.60 (0.60)	0.01
3	3.75 (0.93)	4.22 (0.67)	0.04
4	4.28 (0.99)	4.75 (0.75)	0.05
5	4.74 (0.99)	5.44 (0.87)	0.007
6	5.23 (1.03)	6.29 (0.96)	<0.001
7	5.66 (1.00)	7.22 (1.02)	<0.001
8	6.06 (0.94)	8.04 (1.11)	<0.001
9	6.50 (0.85)	8.70 (1.24)	<0.001
10	6.90 (.72)	9.32 (1.26)	<0.001
11	7.27 (0.71)	9.88 (1.22)	<0.001
Change in hemoglobin A1c and percent body fat mass after ESG			
	ESG	ESG-S	P value
n	29	29	
HbA1c, mean (SD)			
Baseline	5.86 (0.79)	5.86 (0.63)	0.99
Month 3	5.66 (0.70)	5.62 (0.56)	0.80
Month 6	5.48 (0.62)	5.39 (0.53)	0.57
Month 9	5.45 (0.59)	5.18 (0.50)	0.08
Month 12	5.33 (0.61)	4.38 (0.95)	0.006
Percent Body Fat Mass (%), mean (SD)			
Baseline	44.61 (4.47)	42.61 (6.01)	0.17
Month 12	-9.04	-12.69	<0.001

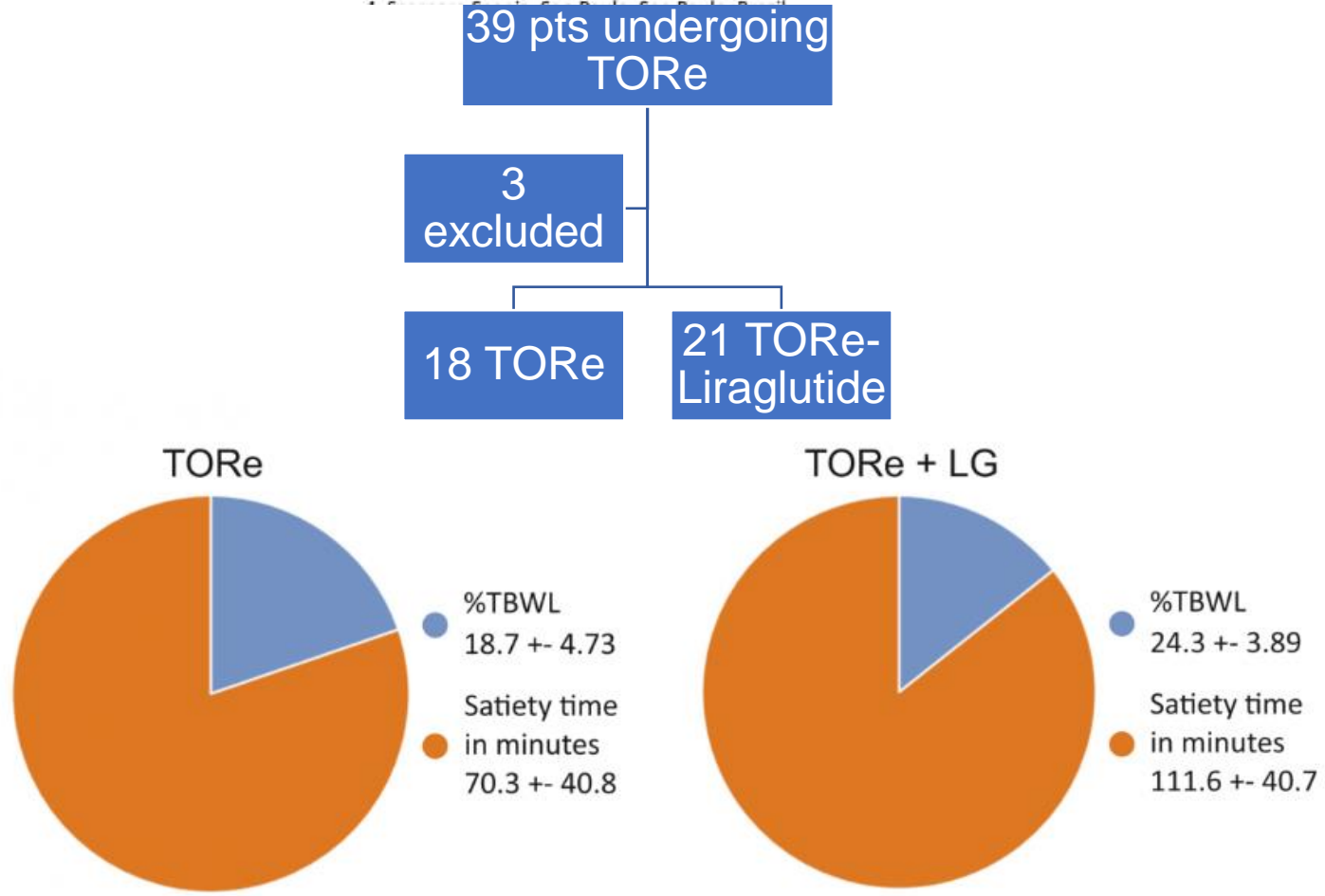
Conclusion

- Use of Semaglutide was associated with greater weight loss 12 months after an ESG than ESG alone
- Potential issues: cost and compliance

COMBINING MINIMALLY INVASIVE ENDOSCOPIC TECHNIQUES TO MEDICATIONS: WILL THIS BE THE GOLD STANDARD FOR TREATING WEIGH REGAIN AFTER A ROUX-EN-Y GASTRIC BYPASS?

Anna C. Hoff¹, Sergio Barrichello², Gabriel C. Nunes¹, Manoel Galvao Neto³, Jimi Scarparo⁴, Vivek Kumbhari⁶, Gontrand Lopez Nava⁷, Mohamad I. Itani⁵, Dilhana Badurdeen⁵

- 1. bariatric endoscopy, angioskope, Sao Jose dos Campos, Sao Paulo, Brazil.
- 2. HealthMe, Sao Paulo, Sao Paulo, Brazil.
- 3. Florida International University, Miami, FL, United States.
- 4. Johns Hopkins University, Baltimore, MD, United States.
- 5. Johns Hopkins Medicine, Baltimore, MD, United States.
- 6. Johns Hopkins Medicine, Baltimore, MD, United States.
- 7. Hospital Universitario HM Sanchinarro, Madrid, Madrid, Spain.



The Impact of Bariatric Surgery on Colorectal Cancer Risk: A matched Analysis Using A Nationwide U.S. Cohort

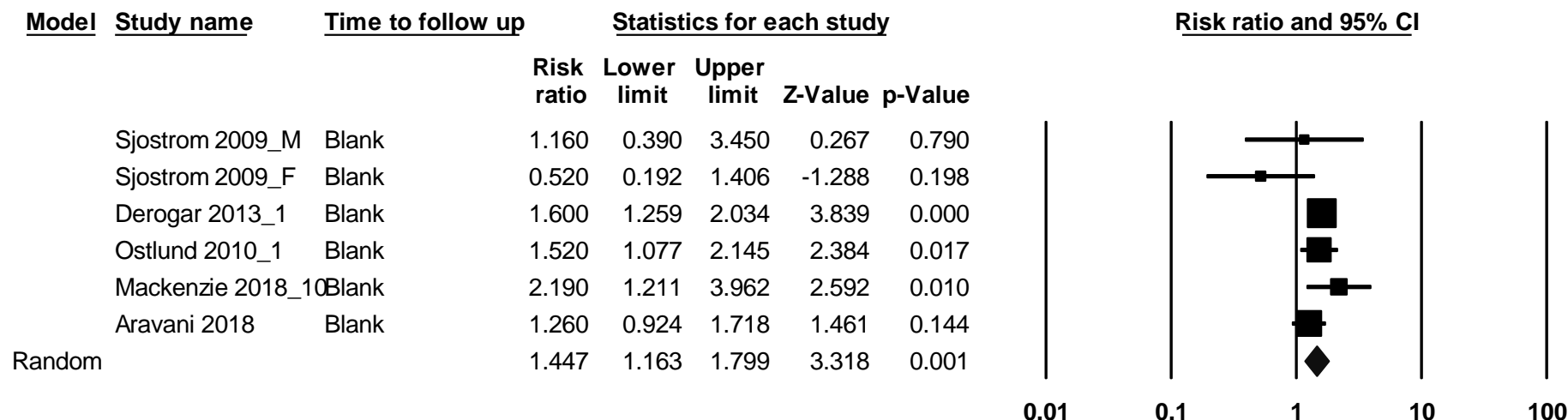


THE OHIO STATE
UNIVERSITY
WEXNER MEDICAL CENTER

Hisham Hussan, MD¹; Samuel Akinyeye, MD¹; Maria Mihaylova, PhD¹; Eric McLaughlin, MS¹; Chienwei Chiang, PhD¹; David Lieberman, MD²
1. The Ohio State University, Columbus, OH, 2. Oregon Health & Science University, Portland, OR

• Background.

- Obesity increases the risk of CRC
- Bariatric Surgery is the most effective method to treat obesity
- Effect on CRC is unknown



Chang S, Jang J, Popov V, DDW 2018

The Impact of Bariatric Surgery on Colorectal Cancer Risk: A matched Analysis Using A Nationwide U.S. Cohort



THE OHIO STATE
UNIVERSITY

WEXNER MEDICAL CENTER

WEXNER MEDICAL CENTER

Hisham Hussan, MD¹; Samuel Akinyeye, MD¹; Maria Mihaylova, PhD¹; Eric McLaughlin, MS¹; Chienwei Chiang, PhD¹; David Lieberman, MD²

1. The Ohio State University, Columbus, OH, 2. Oregon Health & Science University, Portland, OR

1. The Ohio State University, Columbus, OH, 2. Oregon Health & Science University, Portland, OR

- **Methods:**

- MarketScan insurance claims database (2012-2018)

- **Cohorts:**

- Adults with BMI >40 kg/m² who underwent RYGB or sleeve gastrectomy(**cases**) compared to adults with BMI >40 kg/m² (**controls**)
- Cohorts were matched by age, sex, Charlson Comorbidity Index and time to follow-up(4:1)

- **Methods:**

- Risk of CRC or polyps > 1 yr

The
Spring Course

2021

BEST OF DDW

June 5, 2021



The Impact of Bariatric Surgery on Colorectal Cancer Risk: A matched Analysis Using A Nationwide U.S. Cohort



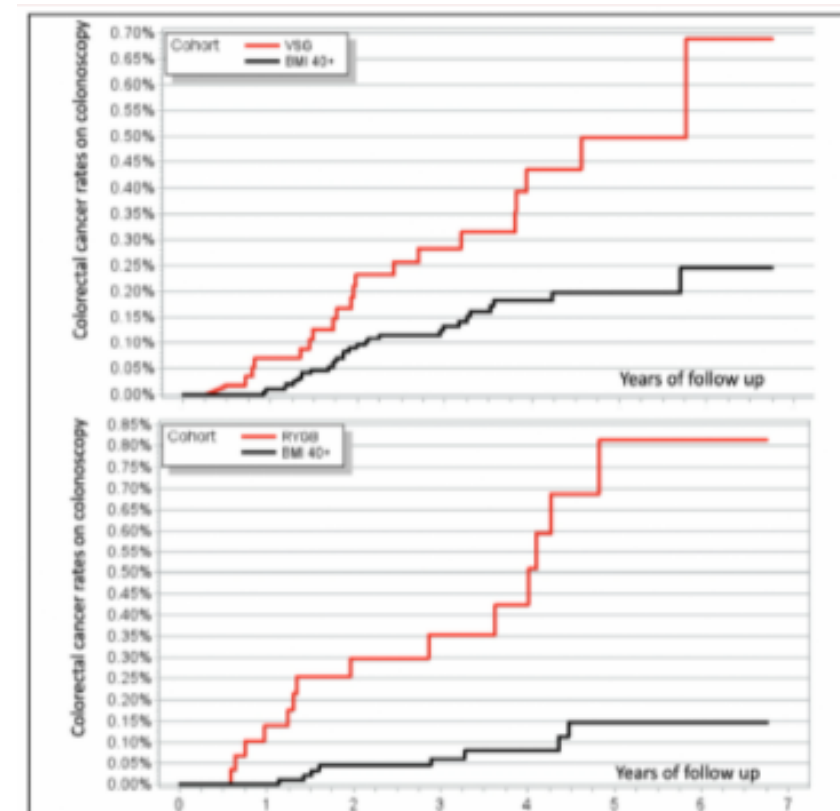
THE OHIO STATE
UNIVERSITY

WEXNER MEDICAL CENTER

Hisham Hussan, MD¹; Samuel Akinyeye, MD¹; Maria Mihaylova, PhD¹; Eric McLaughlin, MS¹; Chienwei Chiang, PhD¹; David Lieberman, MD²
1. The Ohio State University, Columbus, OH, 2. Oregon Health & Science University, Portland, OR

• Results:

- 34, 744 controls were matched to 8, 497 cases with bar surgery who had colonoscopy
- Increased risk of CRC on colonoscopy after both types of bariatric surgery with an **adjusted OR of 3.66 (1.65-8.62)**



The
Spring Course

BEST OF DDW

2021

June 5, 2021



Thank you!



PopovVioleta