Combining Surgery and best medical treatment for obesity and T2D

RICARDO COHEN

Past President,IFSO LAC

Director, The Center for Obesity and Diabetes Oswaldo Cruz German Hospital, São Paulo - Brazil

OSWALDO CRUZ

CENTRO ESPECIALIZADO EM OBESIDADE E DIABETES

Disclosures

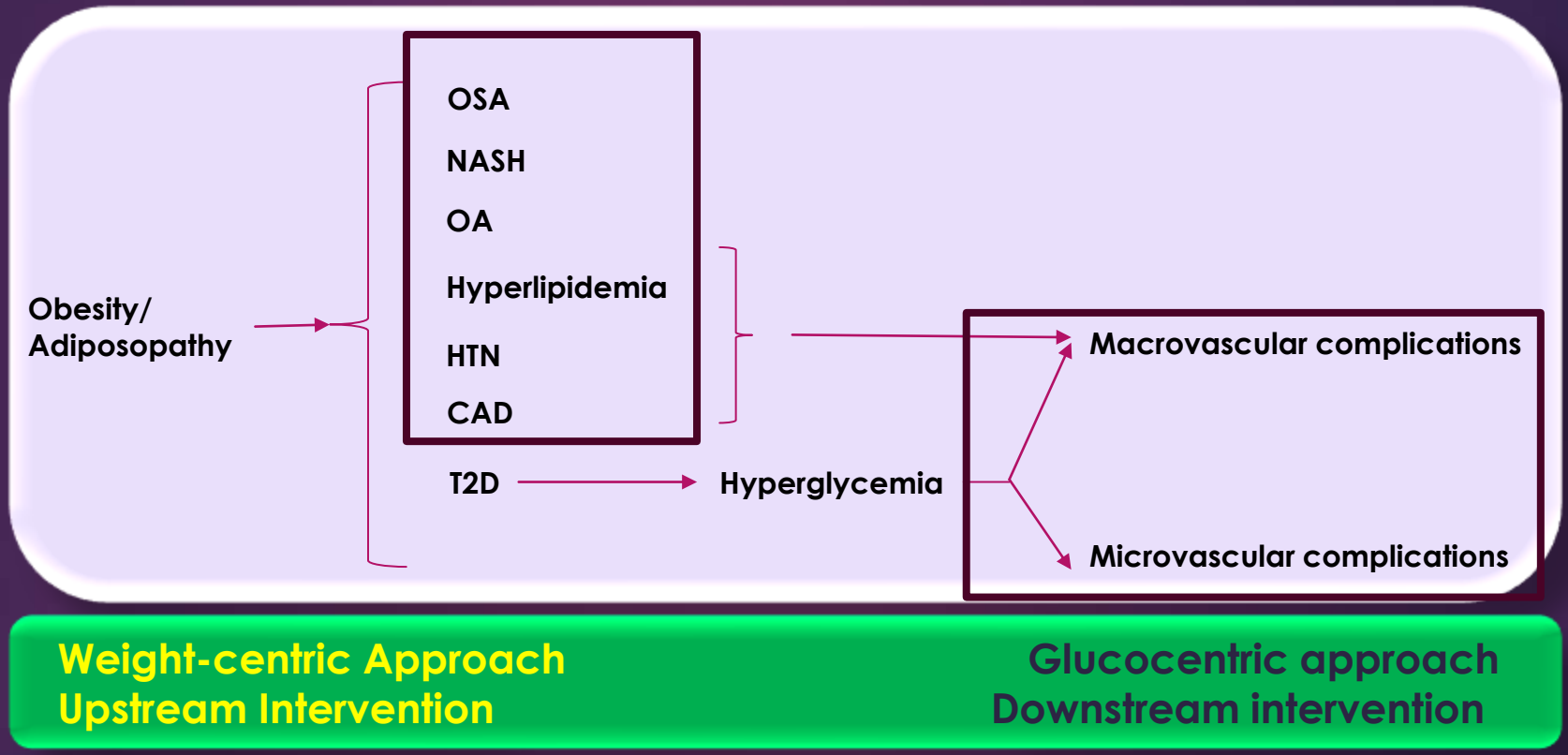
- Research Grant, J&J Medical, Brasil
- Research Grant, Medtronic
- Research Grant, GI Dynamics
- Research Grant, Hospital Oswaldo Cruz Bioscience Institute
- SAB: GI Dynamics, JJ Medical,, Medtronic, Bariatek
- Speaker: J&J Medical, Medtronic

Obesity,Diabetes under control

Obesity management as a primary treatment goal for type 2 diabetes: time to reframe the conversation

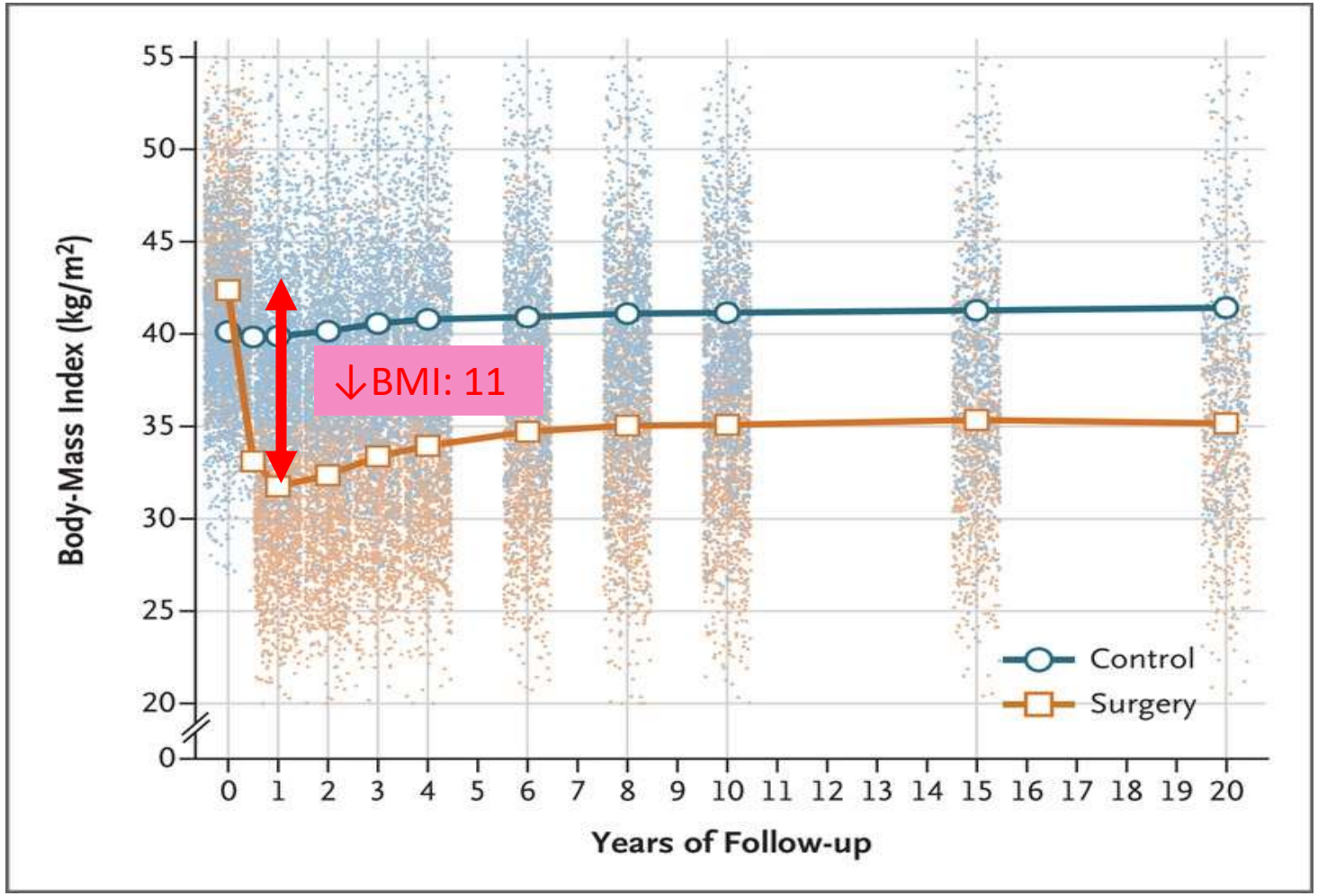
The Lancet 2022

Ildiko Lingvay, Priya Sumithran, Ricardo V Cohen, Carel W le Roux



SOS: Results

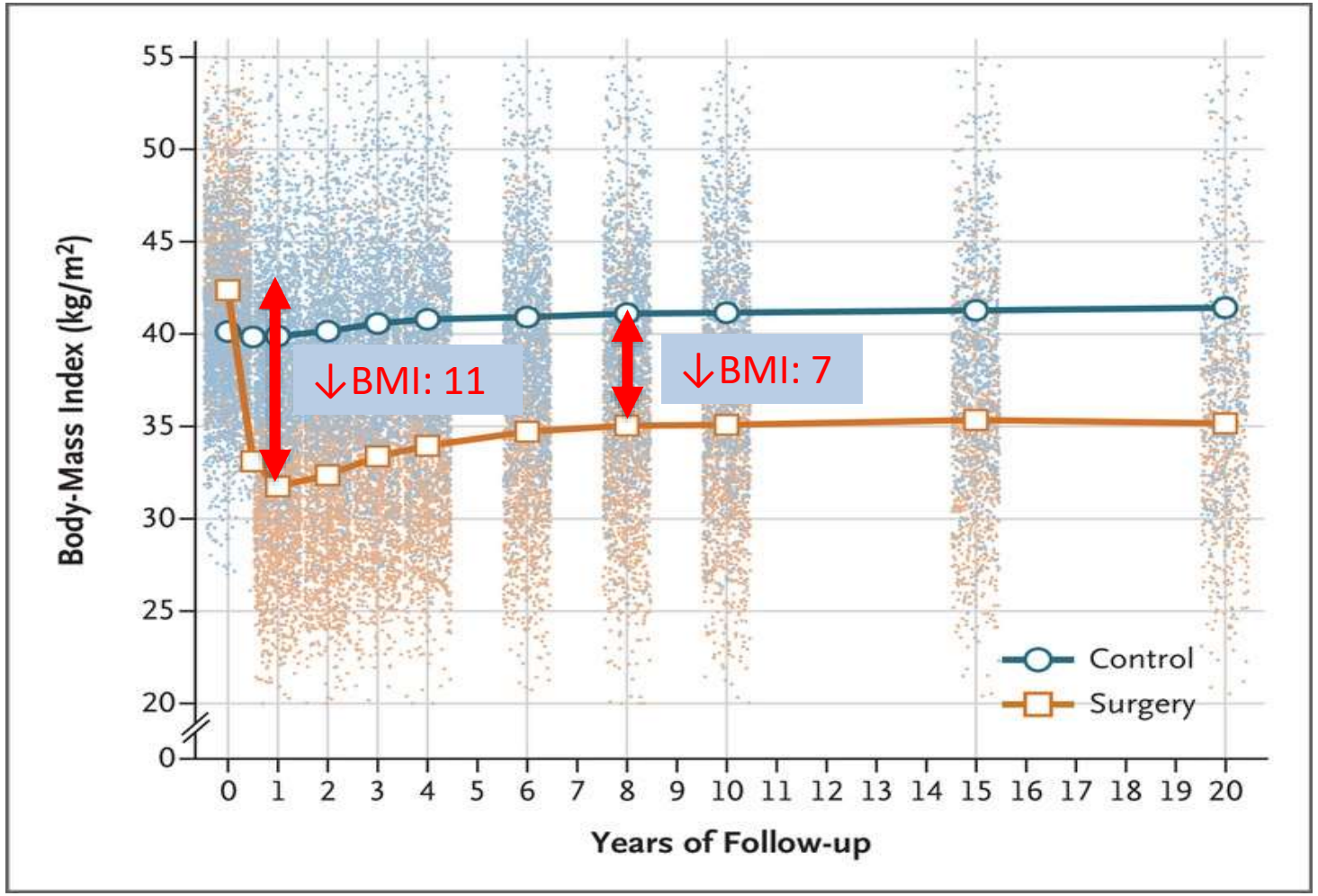
Surgery Group (N=2007) X Control Group (N=2040)



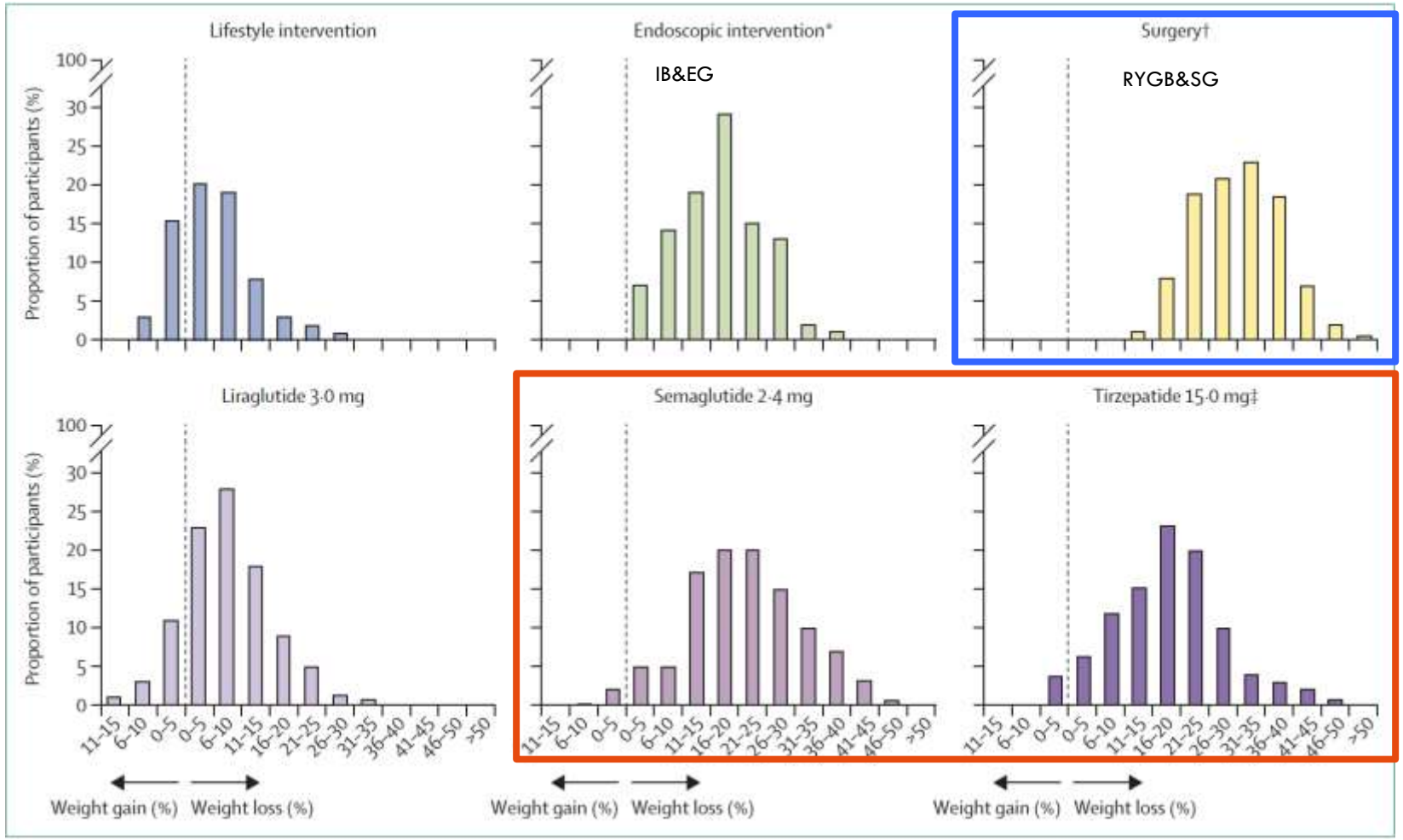
N Engl J Med 2020; 383:1535-1543

SOS: Results

Surgery Group (N=2007) X Control Group (N=2040)



N Engl J Med 2020; 383:1535-1543



The Lancet,Perdomo C,Cohen RV et al, 2023

Obesity Surgery
https://doi.org/10.1007/s11695-020-04934-1

BRIEF COMMUNICATION

Bariatric Surgery: There Is a Room for Improvement to Reduce Mortality in Patients with Type 2 Diabetes

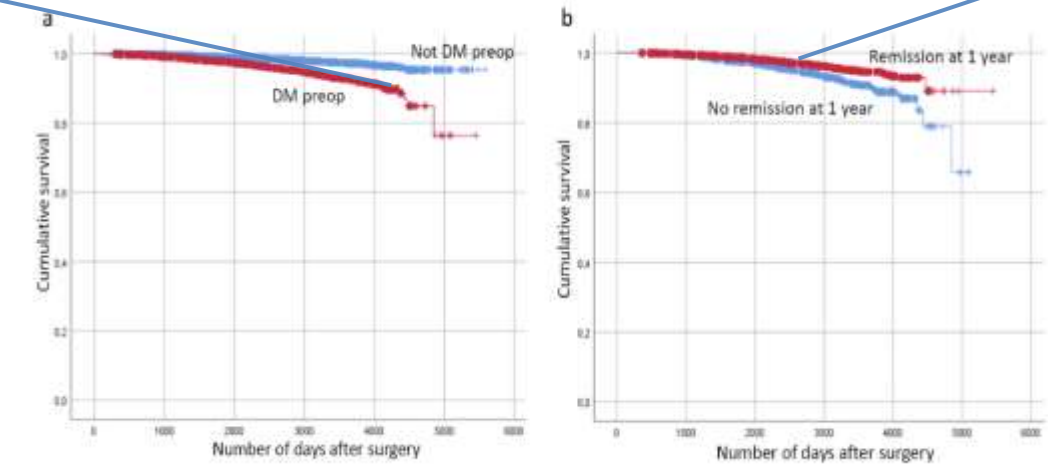
Carel W. le Roux [1] · Johan Ottosson [2,3] · Erik Näslund [2,4] · Ricardo V. Cohen [5] · Erik Stenberg [2,3] · Magnus Sundbom [2,6] · Ingmar Näslund [2,3]

Received: 6 July 2020 / Revised: 13 August 2020 / Accepted: 14 August 2020

SoReg, Scandinavian Obesity Surgery Registry
65,345 pts up tp 10y FU

Operated pts with uncontrolled T2D have higher mortality @ 1 year

Adjuvant pharmacotherapy



Gastric bypass *versus* best medical treatment for diabetic kidney disease: 5 years follow up of a single-centre open label randomised controlled trial

Ricardo V. Cohen,[a,*] Tiago Veiga Pereira,[b,c] Cristina Mamédio Aboud,[a] Tarissa Beatrice Zanata Petry,[a] José Luis Lopes Correa,[a] Carlos Aurélio Schiavon,[d] Carlos Eduardo Pompílio,[a] Fernando Nogueira Quirino Pechy,[a] Ana Carolina Calmon da Costa Silva,[a] Lívia Porto Cunha da Silveira,[a] Pedro Paulo de Paris Caravatto,[a] Helio Halpern,[a] Frederico de Lima Jacy Monteiro,[a] Bruno da Costa Martins,[a] Rogerio Kuga,[a] Thais Mantovani Sarian Palumbo,[a] Allon N. Friedman,[e] and Carel W. le Roux[f,g]

The Lancet eClin Med , online Nov 11,2022

MOMS TRIAL

100 pts

+ BMT

T2D

uACR>30 mg/g **BMI 30-35 kg/m²**

Early stage kidney disease

MOMS trial

- **Best Medical Treatment**

✓Metformin
✓**GLP1 RA**
✓**SGLT-2 i**
✓**Insulin**
✓Glitazones
✓DPP4 i
✓ACEi/ARB
✓Statins
✓Diuretics

+

- **RYGB + BMT**

✓ACE/ARB
✓Statins
✓Metformin
✓Multivitamins

MOMS trial

MOMS trial

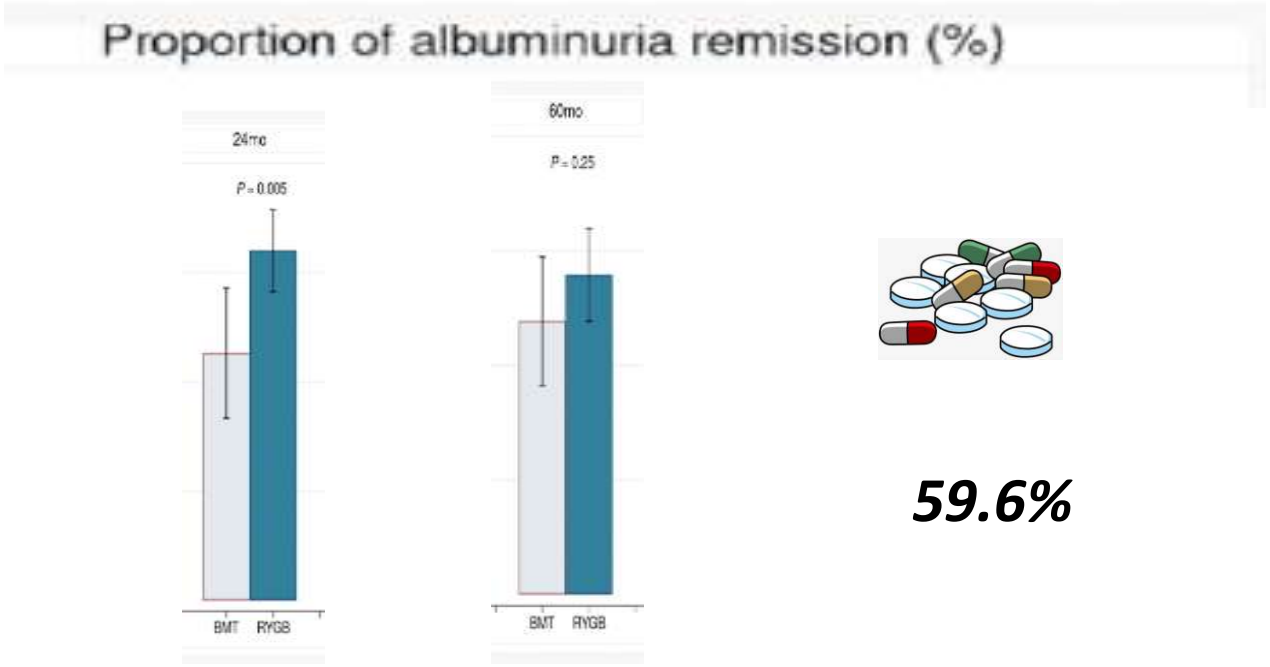
Endpoints

- **Primary endpoint**
  - ➢uACR<30 mg/g

- Secondary endpoints
  - ➢CKD remission
  - ➢Metabolic control (A1c<6%;FPG<100 mg/dl;LDL<100mg/dl (<70 if CV+);HDL>50; TG<150mg/dl; SBP<130 mmHg ;DBP<80 mmHg
  - ➢Weight-loss
  - ➢Use of T2D medications
  - ➢Neuropathy/Retinopathy
  - ➢QOL

MOMS trial – 5 years outcomes

Dicothomous primary outcome
uACR <30



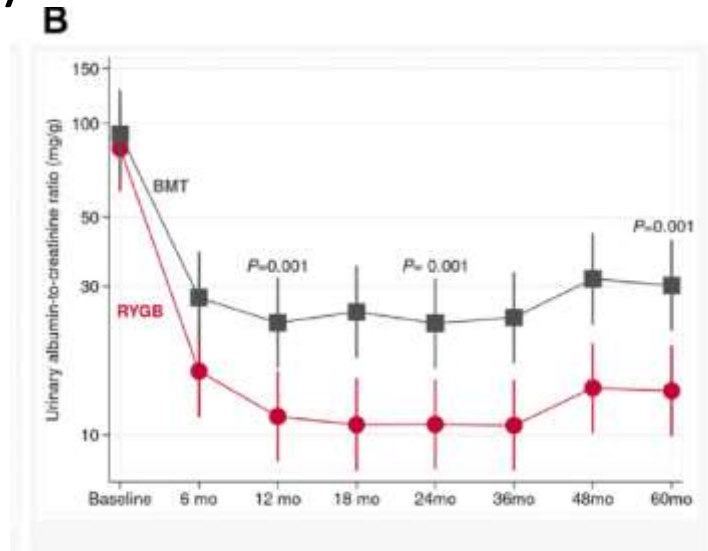
59.6% **X** **69.7%**

***p= 0.32**

MOMS trial – 5 years outcomes

Primary outcome – uACR- continuous variable

+ BMT



The geometric mean for albuminuria levels
was 46%
lower after RYGB (P = 0.001)

MOMS trial – 5 years outcomes

Early stage CKD remission

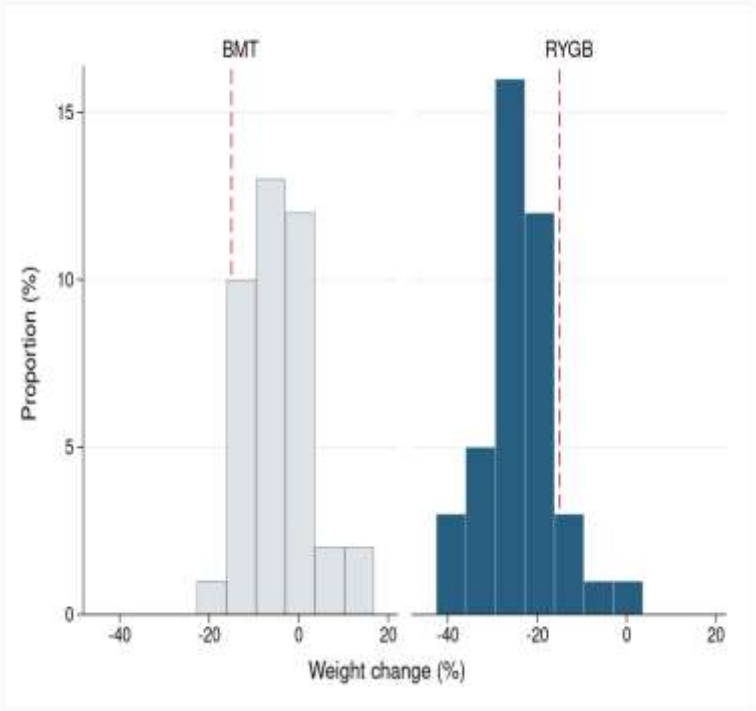
Remission of albuminuria with eGFR > 60 ml/min

52.8%

X

63.1%

***p= 0.32**

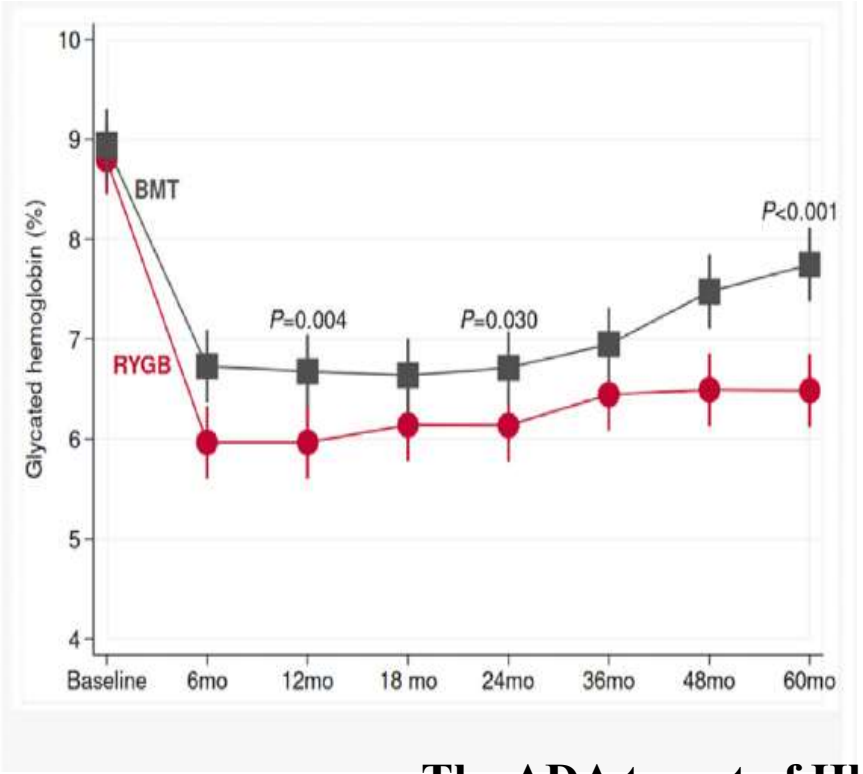


Only 22.5% BMT achieved >15% TBWL

90% RYGB >15% TBWL

NO BMT pt reached normal BMI

53% after RYGB *(P < 0.001)*



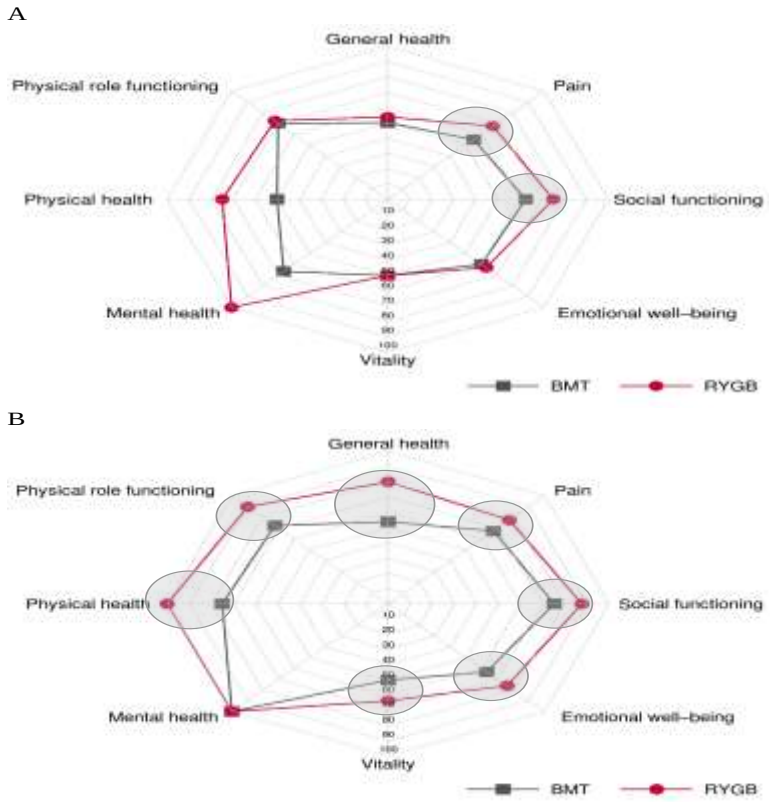
Glycemic control

The ADA target of HbA1c ≤ 6.5%

25.4% **x** **60.2%**

P < 0.001

Quality of Life
QOL



Baseline

60 mo FU

MOMS trial
AEs & Safety

Safety outcomes	RYGB (n = 46)	BMT (n = 46)	OR (95% CI)	P
Serious adverse events	11 (24)	7 (15)	1.74 (0.55-5.92)	0.80
Grade I	46 (100)	45 (98)	1.00 (0.03, +inf)	>0.99
Grade II	28 (61)	36 (78)	0.44 (0.15-1.18)	0.11
Grade III	5 (11)	2 (4.3)	2.66 (0.41-29.3)	0.43
Grade IV	2 (4.3)	2 (4.3)	1.00 (0.07, 14.4)	>0.99

Summary of treatment-emergent adverse events (safety population, 46 participants per treatment group) after 5 years of follow-up. BMT - best medical treatment; RYGB -Roux-en-Y gastric bypass.; OR - odds ratio. 95% CI denotes a 95% confidence interval. P values refer to two-sided tests based on exact logistic regression models. Grades I to IV refers to Clavien-Dindo for grading adverse events. +inf denotes that the upper bound cannot be computed (+infinity).

Table 3: Safety outcomes (safety population, n = 92).

- ✓ 1 surgical complication managed by endoscopy
- ✓ No serious hypoglycemia
- ✓ No malnutrition
- ✓ No excessive weight-loss

Obesity Surgery
https://doi.org/10.1007/s11695-022-06211-9

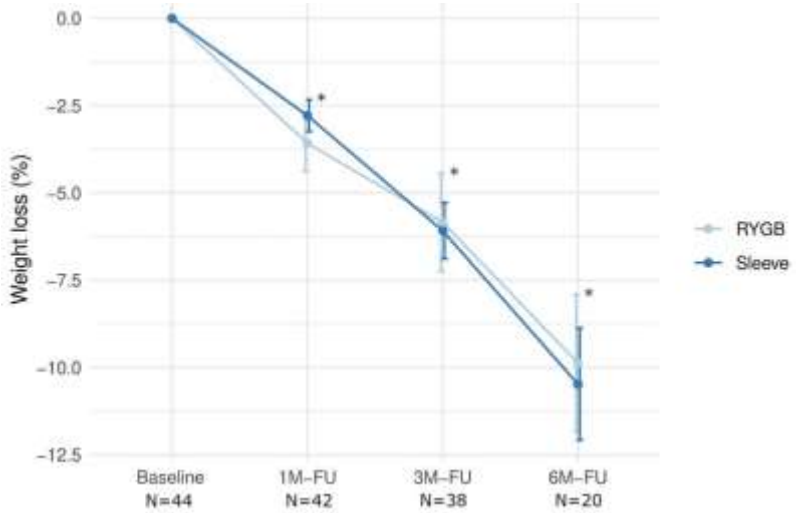
ORIGINAL CONTRIBUTIONS

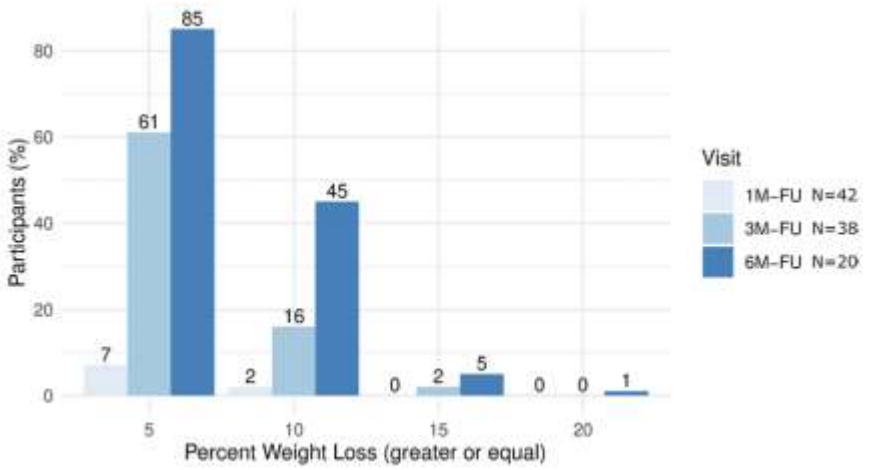
The Potential of Semaglutide Once-Weekly in Patients Without Type 2 Diabetes with Weight Regain or Insufficient Weight Loss After Bariatric Surgery—a Retrospective Analysis

Received: 24 April 2022 / Revised: 10 July 2022 / Accepted: 14 July 2022

Anne Lautenbach[1] · Marie Wernecke[1] · Tobias B. Huber[1] · Fabian Stoll[1] · Jonas Wagner[2] · Sebastian M. Meyhöfer[3,4] · Svenja Meyhöfer[3,4,5] · Jens Aberle[1]

RYGB (*N* = 15)
SG (*N* = 29)
Total (*N* = 44)





Adjunctive liraglutide treatment in patients with persistent or recurrent type 2 diabetes after metabolic surgery (GRAVITAS): a randomised, double-blind, placebo-controlled trial

Alexander Dimitri Miras, Belén Pérez-Pevida*, Madhawi Aldhwayan, Anna Kamocka, Emma Rose McGlone, Werd Al-Najim, Harvinder Chahal, Rachel L Batterham, Barbara McGowan, Omar Khan, Veronica Greener, Ahmed R Ahmed, Aviva Petrie, Samantha Scholtz, Stephen R Bloom, Tricia M Tan*

80 pts RYGB or SG with persistent or recurrent T2D

Liraglutide (n=53) or placebo (n=27)

At least 1 year after surgery

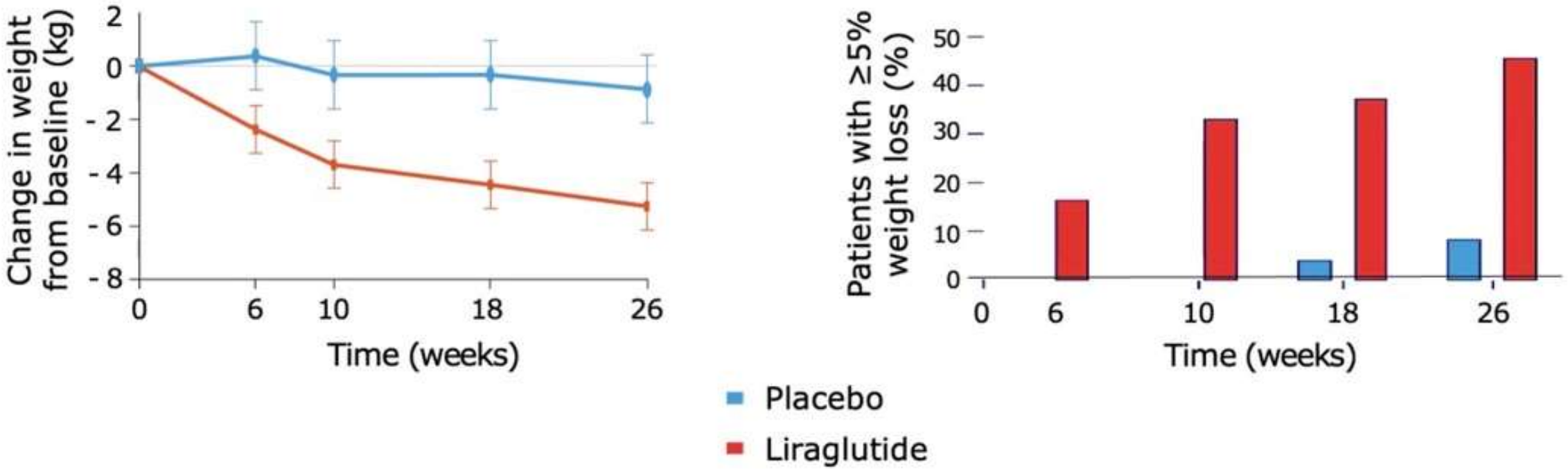
Follow-up: 24 weeks

Published **Online** June 4 2019

Postoperative pharmacotherapy augments surgical weight loss

GRAVITAS Study

Liraglutide after Gastric Bypass in T2D



Miras AD *et al.*, *Lancet Diabetes Endocrinol* 2019

JAMA Surgery | Original Investigation

Safety and Efficacy of Liraglutide, 3.0 mg, Once Daily vs Placebo in Patients With Poor Weight Loss Following Metabolic Surgery
The BARI-OPTIMISE Randomized Clinical Trial

Aug 2023

Jessica Mok, BMBS, MPhil; Mariam O. Adeleke, PhD; Adrian Brown, PhD; Cormac G. Magee, MBBChir, MA; Chloe Firman, MRes; Christwishes Makahamadze, MRes; Friedrich C. Jassil, PhD; Parastou Marvasti, PhD; Alisia Carnemolla, PhD; Kalpana Devalia, MBBS, MS; Naim Fakih, MD; Mohamed Elkalaawy, MRCSEd, MS, MD; Andrea Pucci, MD, PhD; Andrew Jenkinson, MBBS, MS; Marco Adamo, MD; Rumana Z. Omar, PhD; Rachel L. Batterham, MBBS, PhD; Janine Makaronidis, MBChB, PhD

POPULATION

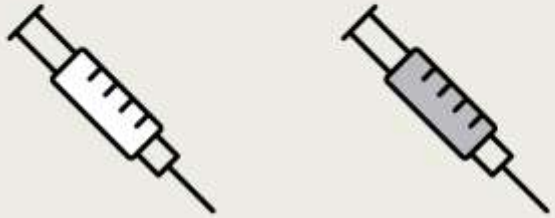
18 Men,
52 Women

Adults ≥1 y after metabolic surgery with poor weight loss (≤20%) and a suboptimal GLP-1 response

Mean age, 47.6 y

INTERVENTION

70 Patients randomized,
57 Analyzed



31 Liraglutide, 3.0 mg
Self-administration once daily of a subcutaneous injection of liraglutide, 3.0 mg, for 24 wk

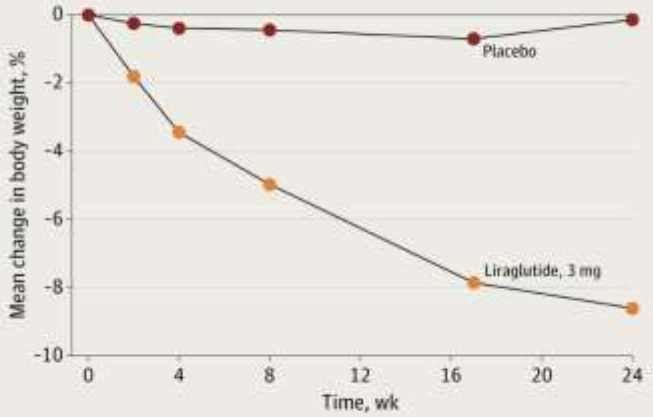
26 Placebo
Self-administration once daily of placebo saline solution for the same period

PRIMARY OUTCOME

Change in percentage body weight from baseline to end of 24-wk study period

FINDINGS

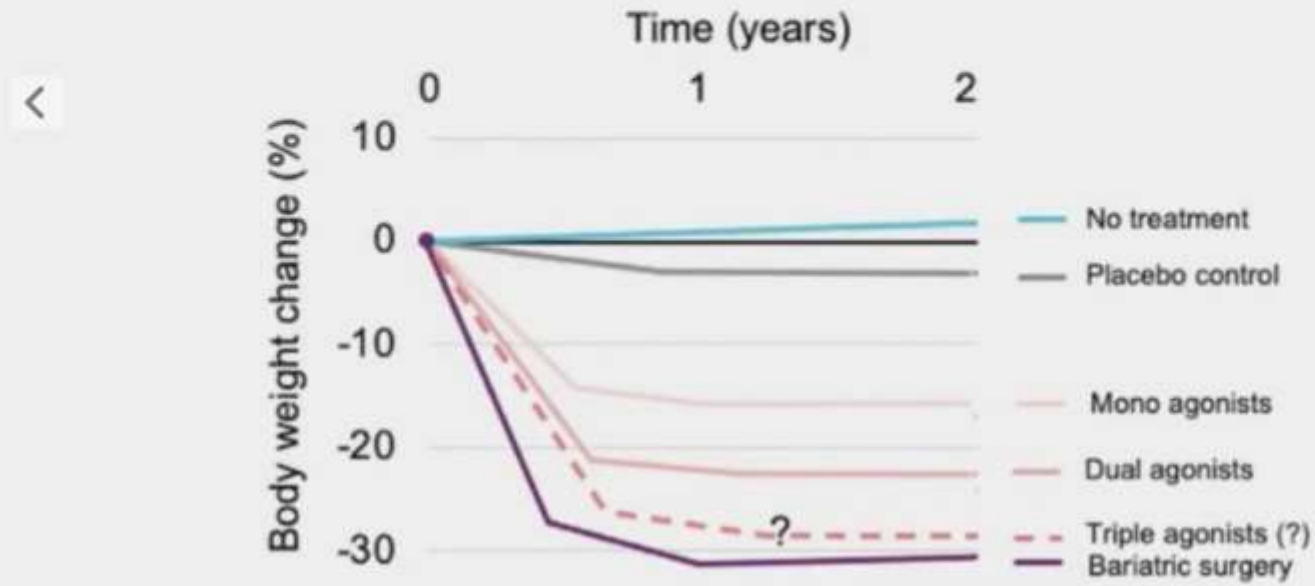
Liraglutide, 3.0 mg once daily, resulted in a significantly greater reduction in body weight from baseline to week 24 compared with placebo



Mean difference: -8.0%; 95% CI, -10.4 to -5.7; *P* <.001

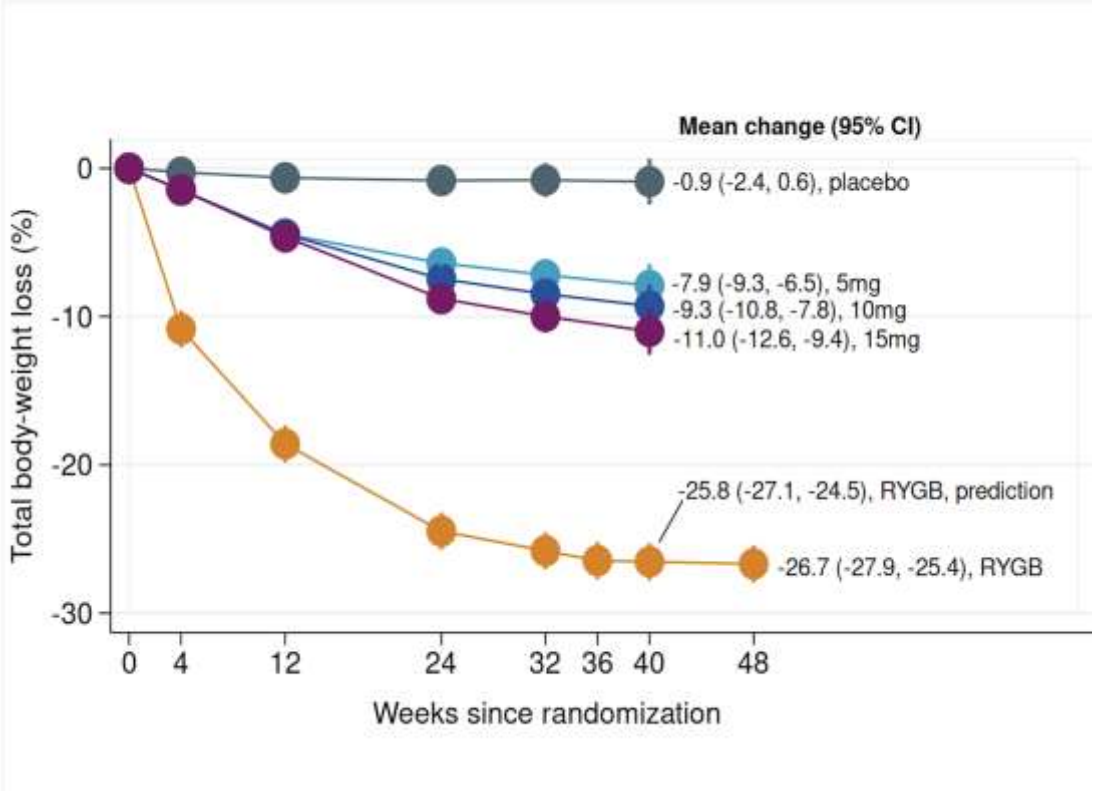
Controlling Obesity with Multi Receptor Drugs

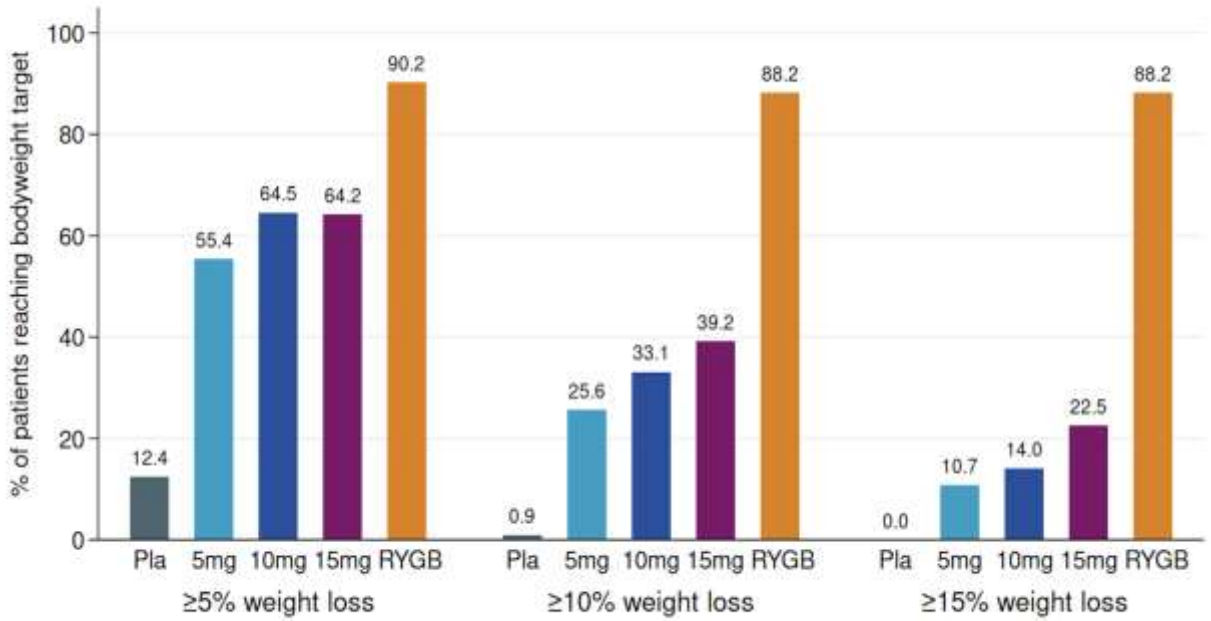
Closing the Gap



MOMS X SURPASS 1

(Tirzepatide in people with obesity and T2D)





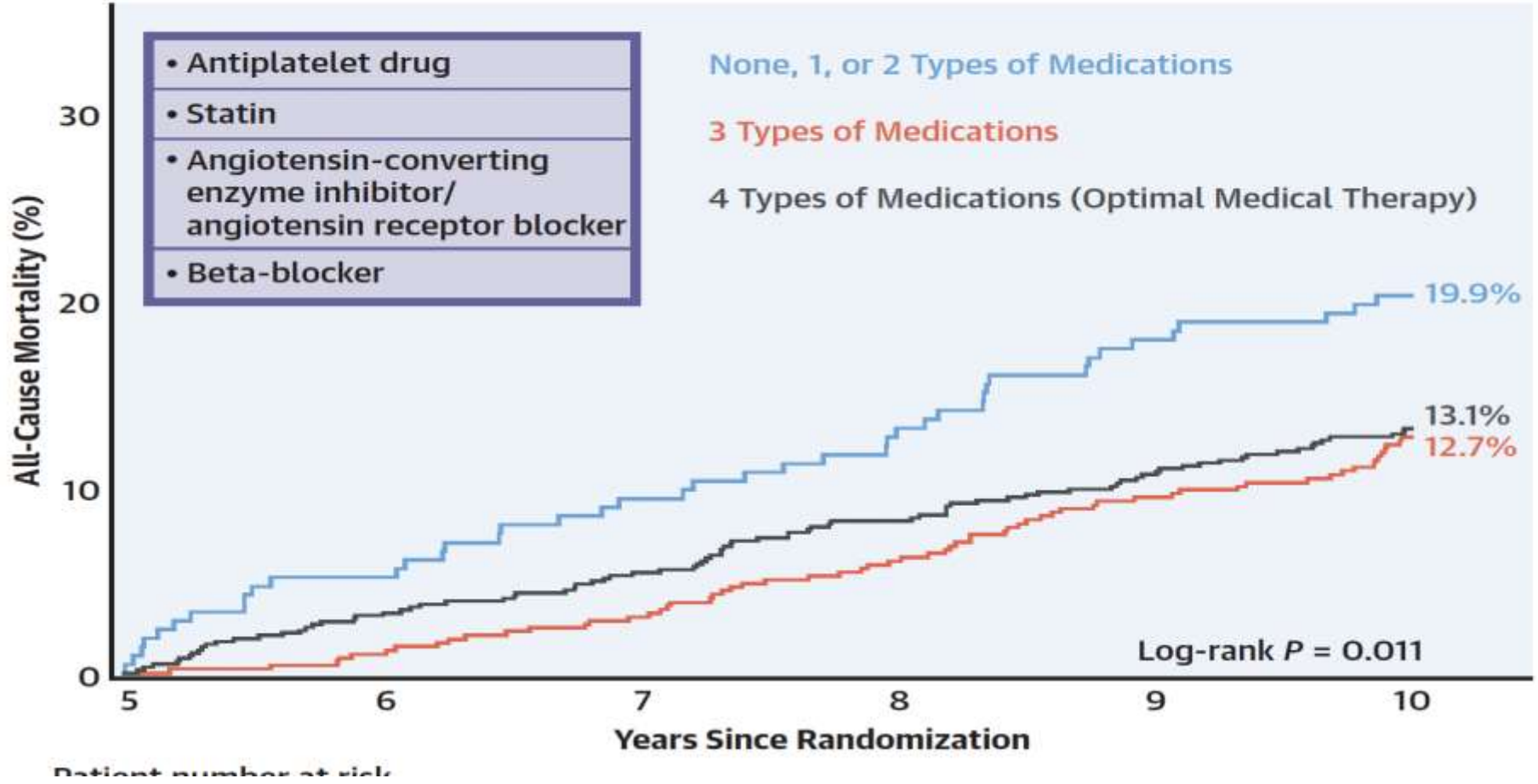
JOURNAL OF THE AMERICAN COLLEGE OF CARDIOLOGY
© 2021 BY THE AMERICAN COLLEGE OF CARDIOLOGY FOUNDATION
PUBLISHED BY ELSEVIER

VOL. 78, NO. 1, 2021

Impact of Optimal Medical Therapy on 10-Year Mortality After Coronary Revascularization

Hideyuki Kawashima, MD,[a,b] Patrick W. Serruys, MD, PhD,[a,c] Masafumi Ono, MD,[a,b] Hironori Hara, MD,[a,b] Neil O'Leary, PhD,[d] Michael J. Mack, MD,[e] David R. Holmes, MD,[e] Marie-Claude Morice, MD,[f] Stuart J. Head, MD, PhD,[g] Arie Pieter Kappetein, MD, PhD,[g] Daniel J.F.M. Thuijs, MD, PhD,[g] Milan Milojevic, MD, PhD,[g,h] Thilo Noack, MD,[i] Friedrich-Wilhelm Mohr, MD, PhD,[j] Piroze M. Davierwala, MD,[j] Faisal Sharif, MD, PhD,[k] John W. McEvoy, MB, BCh, MHS,[a] Yoshinobu Onuma, MD, PhD,[a] on behalf of the SYNTAX Extended Survival Investigators

CENTRAL ILLUSTRATION Kaplan-Meier Curves of All-Cause Mortality From 5 to 10 Years




Surgery + Medical Treatment


ricardo.cohen@haoc.com.br
@rvcohen(twitter)
Thank you
Hospital Alemão
OSWALDO CRUZ