Long-term results following RY Gastric By-pass

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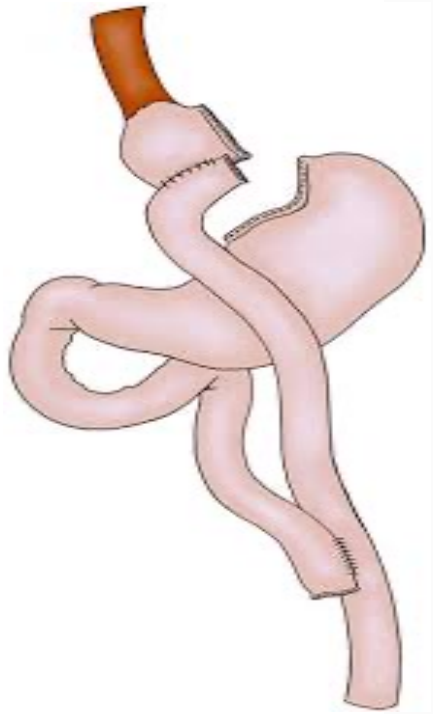
Roux en-Y Gastric By-pass

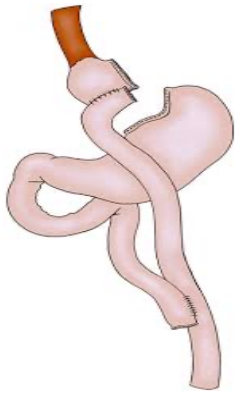


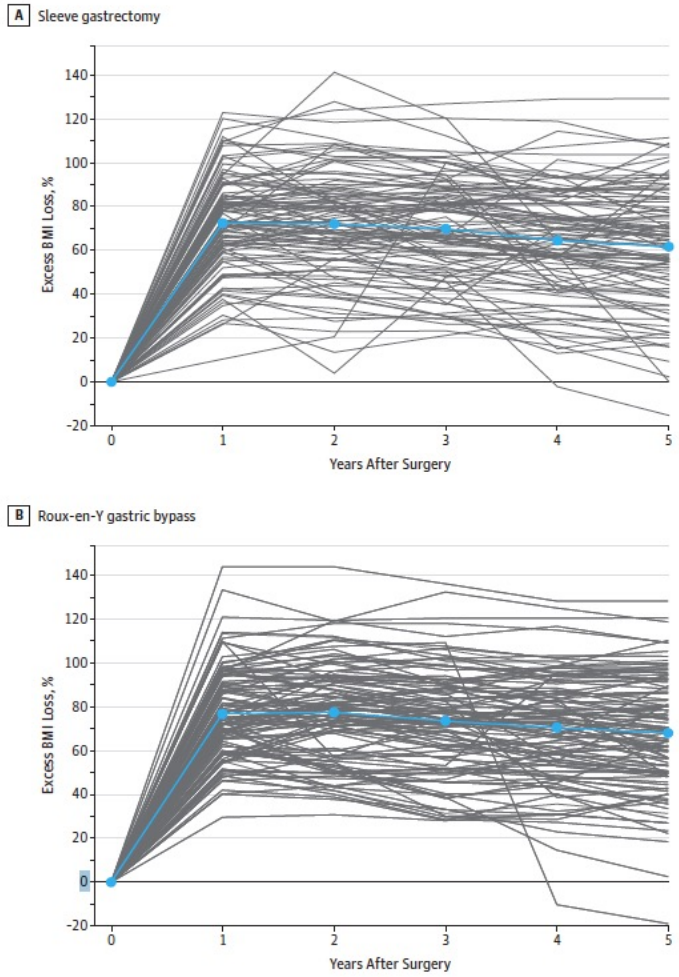
Gastric pouch (20-50 ml)
Bilio-pancreatic limb (> 70 cm)
Alimentary limb (> 100 cm)

% Excess BMI Loss over 5 years follow up

N= 107

N= 110





61,1%

Research

JAMA | Original Investigation

Effect of Laparoscopic Sleeve Gastrectomy vs Laparoscopic Roux-en-Y Gastric Bypass on Weight Loss in Patients With Morbid Obesity

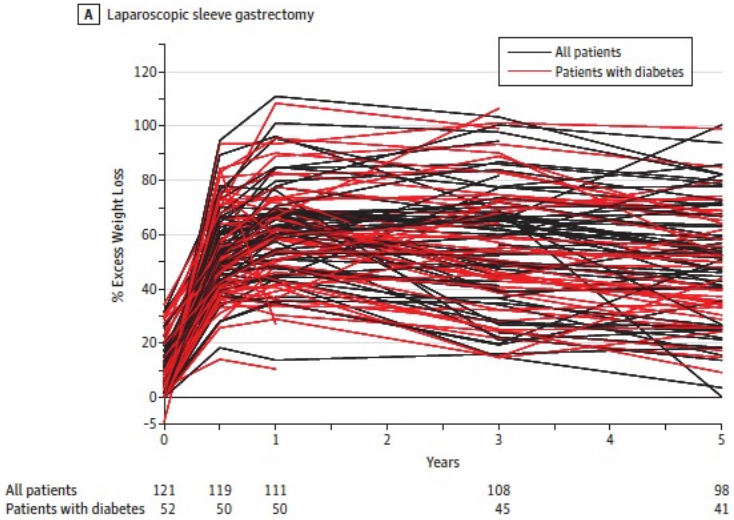
The SM-BOSS Randomized Clinical Trial

Ralph Peterli, MD; Bettina Karin Wölnerhanssen, MD; Thomas Peters, MD; Diana Vetter, MD; Dino Kröll, MD; Yves Borbély, MD; Bernd Schultes, MD; Christoph Beglinger, MD; Jürgen Drewe, MD, MSc; Marc Schiesser, MD; Philipp Nett, MD; Marco Bueter, MD, PhD

68,3%

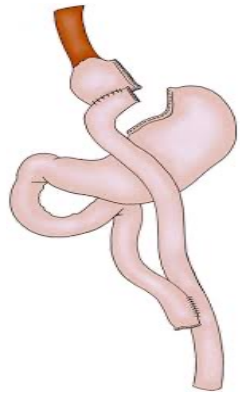
% Excess Weight Loss over 5 years follow up

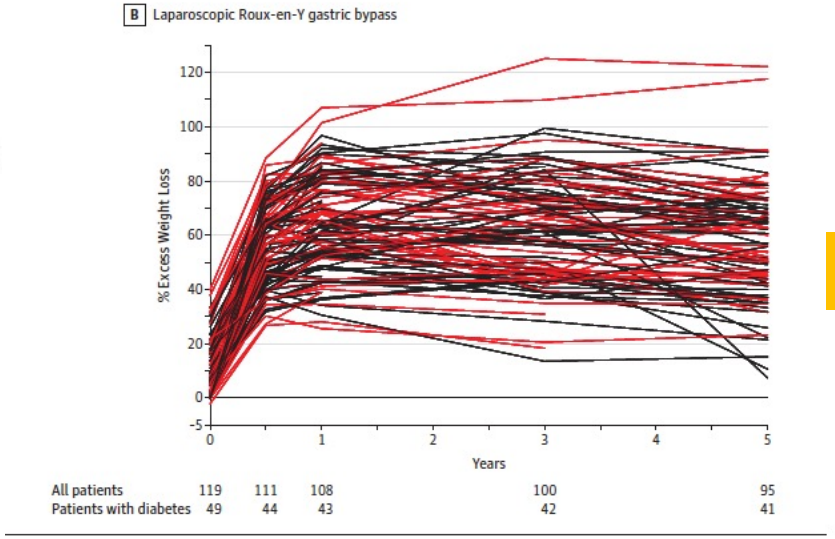
N= 121



49%

N= 119





57%

Percentage excess weight loss at time 0 represents preoperative weight loss between day of randomization and day of surgery.

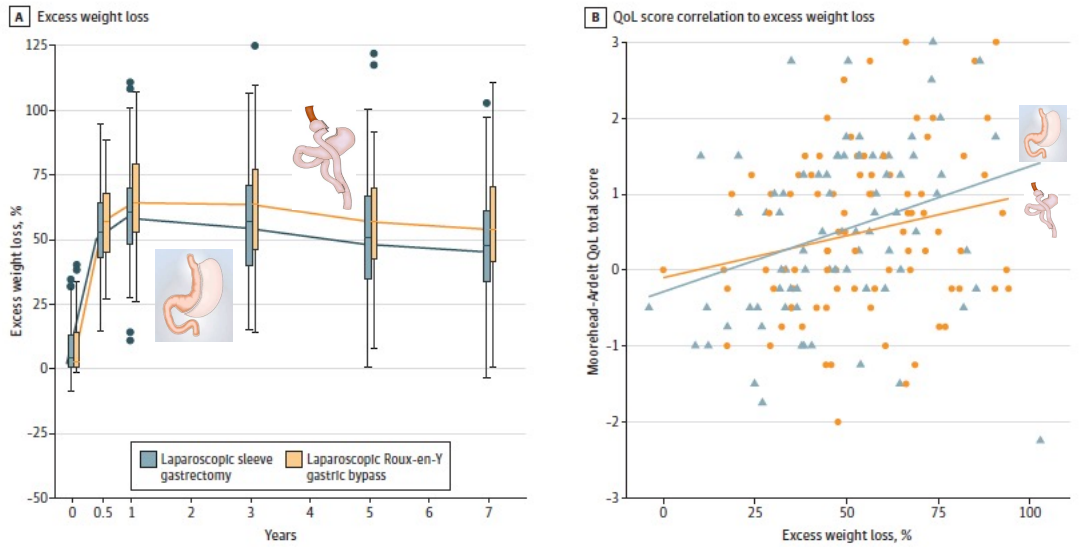
JAMA | Original Investigation

Effect of Laparoscopic Sleeve Gastrectomy vs Laparoscopic Roux-en-Y Gastric Bypass on Weight Loss at 5 Years Among Patients With Morbid Obesity

The SLEEVEPASS Randomized Clinical Trial

Paulina Salminen, MD, PhD; Mika Helmiö, MD; Jari Ovaska, MD, PhD; Anne Juuti, MD, PhD; Marja Leivonen, MD, PhD; Pipsa Peromaa-Haavisto, MD, PhD; Saija Hurme, MSc; Minna Soinio, MD, PhD; Pirjo Nuutila, MD, PhD; Mikael Victorzon, MD, PhD

% Excess Weight Loss & QoL score over 7 years follow up



A, Excess weight loss at each follow-up point. B, Moorehead-Ardelt QoL total score correlation to excess weight loss.

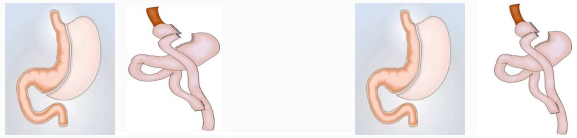
JAMA Surgery | Original Investigation

Effect of Laparoscopic Sleeve Gastrectomy vs Roux-en-Y Gastric Bypass on Weight Loss and Quality of Life at 7 Years in Patients With Morbid Obesity

The SLEEVEPASS Randomized Clinical Trial

Sofia Grönroos, MD; Mika Helmiö, MD, PhD; Anne Juuti, MD, PhD; Roosa Tiusanen, BM; Saija Hurme, MSc; Eliisa Löyttyniemi, MSc; Jari Ovaska, MD, PhD; Marja Leivonen, MD, PhD; Pipsa Peromaa-Haavisto, MD, PhD; Suvi Mäklin, MSc; Harri Sintonen, DSocSc; Henna Sammalkorpi, MD, PhD; Pirjo Nuutila, MD, PhD; Paulina Salminen, MD, PhD

The SLEEVEPASS Randomized Clinical Trial



	5 y	5 y		7 y	7 y	
n. patients	121	119		121	119	
% Weight Loss	49,0	57,0		47,0	55,0	
% Complete Diabetes remission	12.2	25,0	0.001			
% Partial Diabetes Remission	24,0	20,0				
% Diabetes Therapy Discontinuation	51,2	50,0				
% Dyslipidemia Therapy Discontinuation	47,0	60,0				
% Hypertension Therapy Discontinuation	29,0	51,0	0.02			

JAMA | Original Investigation

Effect of Laparoscopic Sleeve Gastrectomy vs Laparoscopic Roux-en-Y Gastric Bypass on Weight Loss at 5 Years Among Patients With Morbid Obesity

The SLEEVEPASS Randomized Clinical Trial

Paulina Salminen, MD, PhD; Mika Helmiö, MD; Jari Ovaska, MD, PhD; Anne Juuti, MD, PhD; Marja Leivonen, MD, PhD; Pipsa Peromaa-Haavisto, MD, PhD; Saija Hurme, MSc; Minna Soinio, MD, PhD; Pirjo Nuutila, MD, PhD; Mikael Victorzon, MD, PhD

JAMA Surgery | Original Investigation

Effect of Laparoscopic Sleeve Gastrectomy vs Roux-en-Y Gastric Bypass on Weight Loss and Quality of Life at 7 Years in Patients With Morbid Obesity

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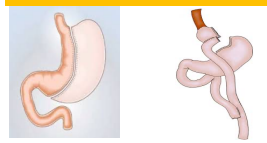
The Pisa Experience



10 y	10 y	
1604	3393	
42,0	62,0	0.02

Gastric pouch (20-50 ml)
Bilio-pancreatic limb (> 70)
Alimentary limb (> 100)

?

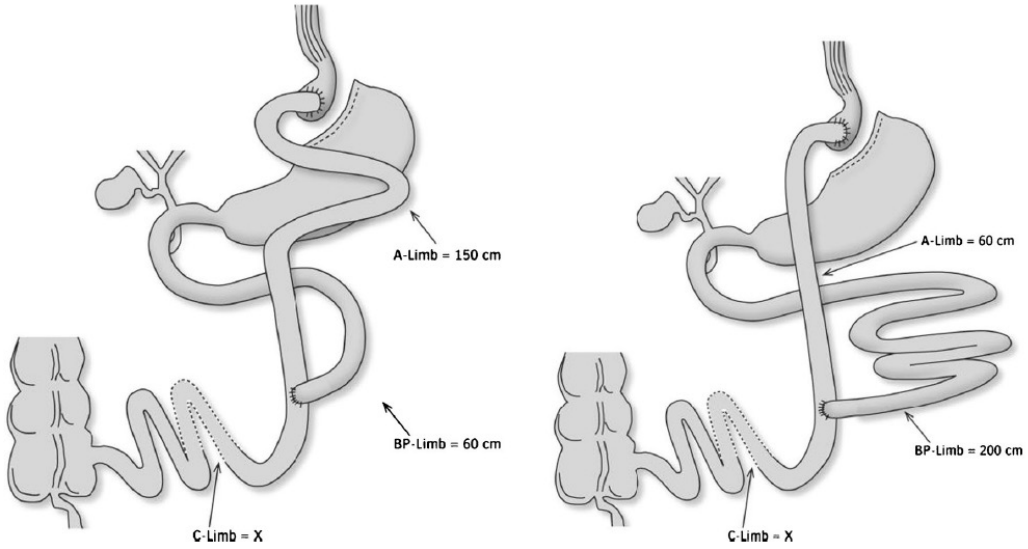
Small Gastric pouch (20 ml)
Long Bilio-pancreatic limb (> 120)
Alimentary limb (> 150)
Small gastro-jejunal anastomosis

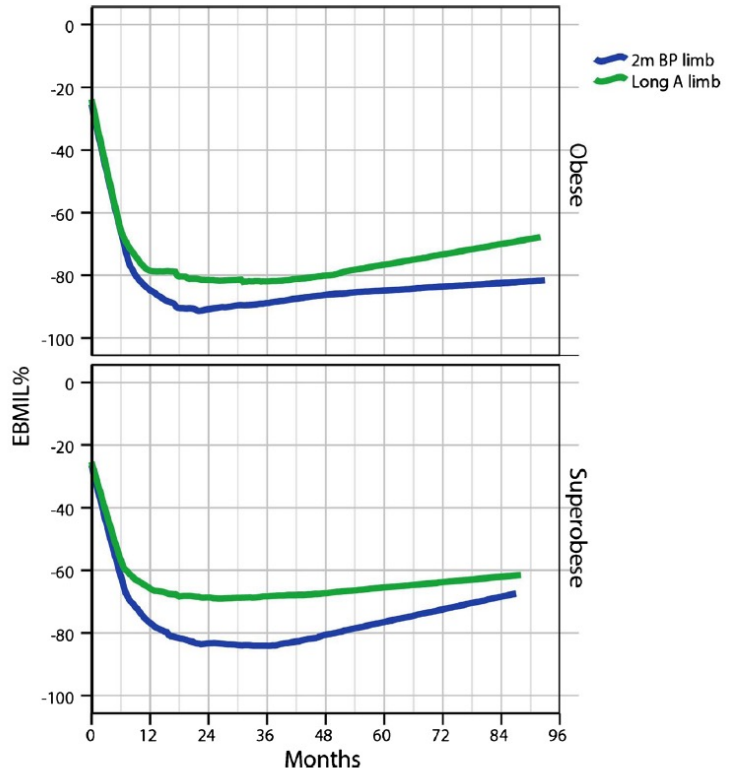
OBES SURG (2014) 24:1595–1602
DOI 10.1007/s11695-014-1245-7

ORIGINAL CONTRIBUTIONS

Gastric Bypass with Long Alimentary Limb or Long Pancreato-Biliary Limb—Long-Term Results on Weight Loss, Resolution of Co-morbidities and Metabolic Parameters

Bent Johnny Nergaard · Björn Geir Leifsson · Jan Hedenbro · Hjörtur Gislason





Review

International Journal of Surgery 76 (2020) 101–110

Comparative analysis of weight loss and resolution of comorbidities between laparoscopic sleeve gastrectomy and Roux-en-Y gastric bypass: A systematic review and meta-analysis based on 18 studies

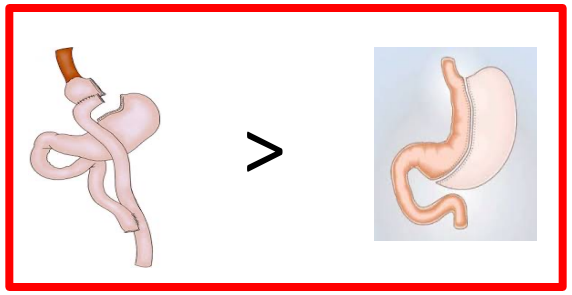
Youkui Han[a,1], Yang Jia[b,1], Honglei Wang[a], Lei Cao[a], Yongjie Zhao[a,*]

[a] Department of General Surgery, Tianjin Union Medical Center, Tianjin, 300121, China
[b] Department of Gerontology, First Teaching Hospital of Tianjin University of Traditional Chinese Medicine, Tianjin, 300193, China

The pooled results of the resolution of co-morbidities with LRYGB and LSG based on RCTs.

Outcomes	No. of studies	Pooled results			heterogeneity		
		RR	95% CI	*P* value	I^2	P_h value	Analytical effect model
Dyslipidemia							
Overall remission [6,10,11,21,26]	5	1.36	1.17, 1.59	< 0.0001	40%	0.14	Fixed-effect model
Midterm remission [21,26]	2	1.13	0.93, 1.38	0.23	0%	0.72	Fixed-effect model
Long-term remission [6,10,11]	3	1.43	1.19, 1.72	0.0001	34%	0.21	Fixed-effect model
Improved [10,11,21]	3	0.67	0.47, 0.95	0.03	0%	0.40	Fixed-effect model
Unchanged [10,11,21]	3	0.50	0.16, 1.59	0.24	68%	0.05	Random-effect model
Hypertension							
Overall remission [6,10,11,21,26]	5	1.23	1.05, 1.44	0.01	1%	0.41	Fixed-effect model
Midterm remission [21,26]	2	1.23	0.71, 2.15	0.46	14%	0.28	Fixed-effect model
Long-term remission [6,10,11]	3	1.23	1.04, 1.45	0.01	22%	0.28	Fixed-effect model
Improved [10,11,21]	3	0.80	0.59, 1.10	0.17	0%	0.82	Fixed-effect model
Unchanged [10,11,21]	3	0.62	0.37, 1.04	0.07	9%	0.33	Fixed-effect model
OSAHS							
Remission [10,21]	2	0.93	0.78, 1.12	0.46	0%	0.81	Fixed-effect model
Improved [10,21]	2	1.15	0.78, 1.69	0.49	0%	0.34	Fixed-effect model
Back or Joint Pain							
Remission [10,21]	2	0.93	0.72, 1.19	0.57	0%	0.68	Fixed-effect model
Improved [10,21]	2	1.03	0.76, 1.40	0.85	52%	0.15	Fixed-effect model
Unchanged [10,21]	2	1.30	0.18, 9.27	0.79	84%	0.01	Random-effect model
Worsened [10,21]	2	0.87	0.22, 3.41	0.84	0%	0.49	Fixed-effect model
GERD							
GERD remission [10,21]	2	1.68	0.86, 3.29	0.13	79%	0.03	Random-effect model
GERD improved [10,21]	2	1.48	1.07, 2.04	0.02	7%	0.34	Fixed-effect model
GERD unchanged [10,21]	2	0.67	0.38, 1.17	0.16	0%	0.35	Fixed-effect model
GERD worsened [10,21]	2	0.16	0.06, 0.44	0.0004	0%	0.59	Fixed-effect model
de novo GERD [10,21]	2	0.33	0.15, 0.68	0.003	0%	0.86	Fixed-effect model
Hyperuricemia remission [10,21]	2	1.11	0.78, 1.59	0.55	80%	0.02	Random-effect model
Depression							
Remission [10,21]	2	0.98	0.52, 1.88	0.96	2%	0.31	Fixed-effect model
Improved [10,21]	2	2.07	0.24, 17.61	0.51	78%	0.03	Random-effect model
Unchanged [10,21]	2	0.76	0.32, 1.79	0.53	58%	0.12	Fixed-effect model

RR, risk ratio; CI, confidence intervals; OSAHS, obstructive sleep apnea hypopnea syndrome; GERD, gastroesophageal reflux disease.



Review

International Journal of Surgery 76 (2020) 101–110

Comparative analysis of weight loss and resolution of comorbidities between laparoscopic sleeve gastrectomy and Roux-en-Y gastric bypass: A systematic review and meta-analysis based on 18 studies

Youkui Han[a,1], Yang Jia[b,1], Honglei Wang[a], Lei Cao[a], Yongjie Zhao[a,*]

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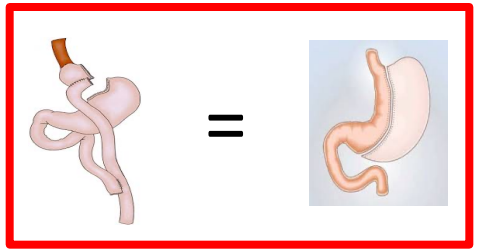
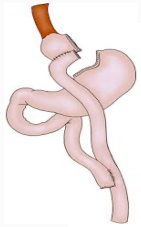


The pooled results of the comparison of T2DM resolution between LRYGB and LSG.

Groups/subgroups	No. of studies	Pooled results			Heterogeneity		
		Estimate	95% CI	*P* value	I^2	P_h value	Analytical effect model
RCTs							
T2DM remission [6,10,11,21–26]	9	RR: 1.12	0.95, 1.33	0.16	0%	0.48	Fixed-effect model
Midterm remission [21,26]	2	RR: 1.06	0.90, 1.25	0.47	0%	0.83	Fixed-effect model
Long-term remission [6,10,11,21]	4	RR: 1.18	0.94, 1.47	0.16	0%	0.71	Fixed-effect model
T2DM improved [10,21]	2	RR: 0.57	0.26, 1.24	0.16	0%	0.76	Fixed-effect model
T2DM unchanged [10,21]	2	RR: 0.93	0.21, 4.20	0.92	0%	0.54	Fixed-effect model
T2DM worsened [10,21]	2	RR: 0.42	0.03, 6.62	0.54	68%	0.08	Random-effect model
NRSI							
T2DM remission [29,30,32]	3	OR: 1.85	1.00, 3.44	0.05	0%	0.74	Fixed-effect model
Midterm remission [29,30]	2	OR: 1.92	1.03, 3.61	0.04	0%	0.65	Fixed-effect model
Long-term remission [32]	1	OR: 0.56	0.01, 24.51	0.76	–	–	–

RCT, randomized control trial; NRSI, non-randomised studies of interventions; RR, risk ratio; OR, odds ratio; CI, confidence intervals; T2DM, type 2 diabetes mellitus.



ORIGINAL ARTICLE

Endocrine Care

Roux-en-Y Gastric Bypass and Sleeve Gastrectomy: Mechanisms of Diabetes Remission and Role of Gut Hormones

M. Nannipieri, S. Baldi, A. Mari, D. Colligiani, D. Guarino, S. Camastra, E. Barsotti, R. Berta, D. Moriconi, R. Bellini, M. Anselmino, and E. Ferrannini

Department of Clinical and Experimental Medicine (M.N., S.B., D.C., D.G., S.C., E.B., D.M., R.Bel., E.F.), University of Pisa, 56126 Pisa, Italy; Consiglio Nazionale delle Ricerche Institute of Biomedical Engineering (A.M.), 35137 Padua, Italy; and Division of Bariatric Surgery (R.Ber., M.A.), Azienda Ospedaliera Universitaria Pisana, 56124 Pisa, Italy

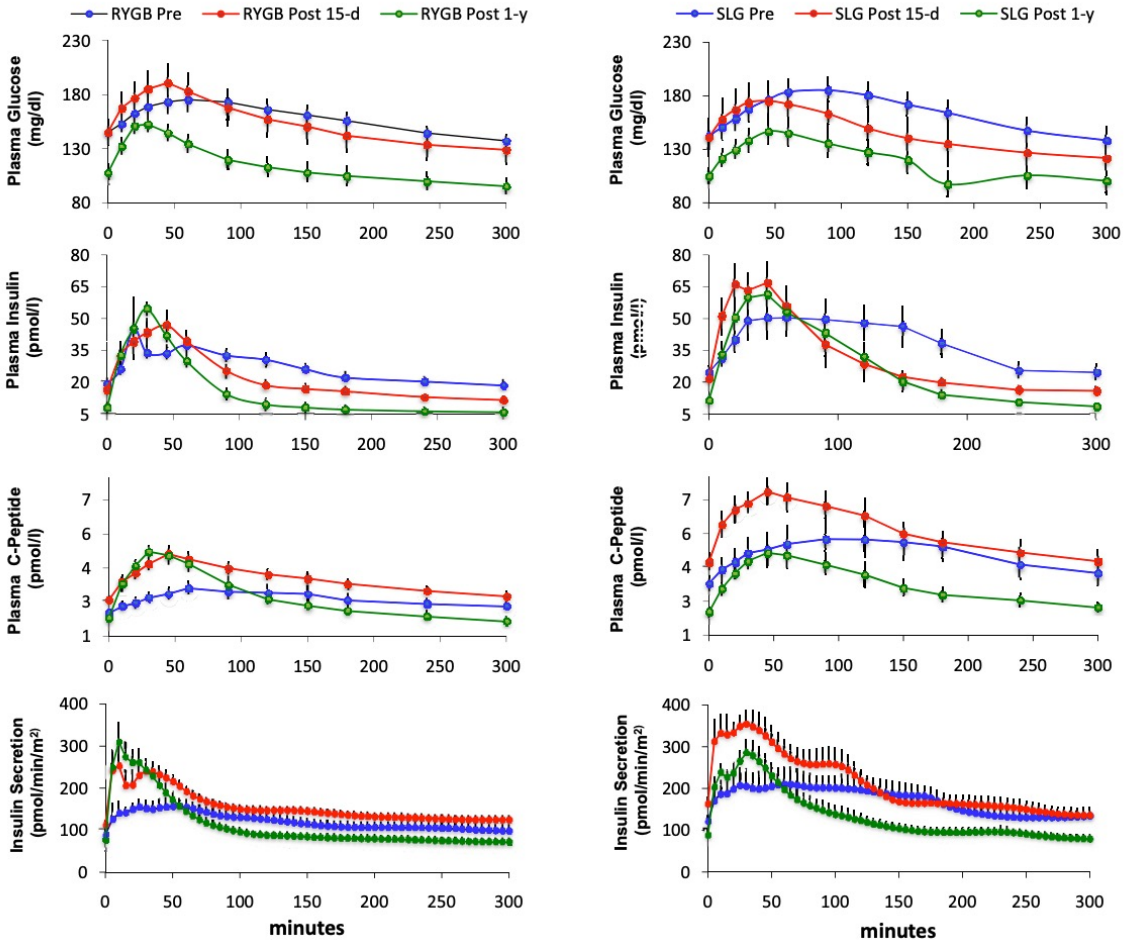


Figure 1. Plasma glucose, insulin, and C-peptide concentrations and insulin secretion during MMT in patients undergoing RYGB and SLG before and 15 days and 1 year after surgery. Plots are means ± SEM.

J Clin Endocrinol Metab 98: 4391–4399, 2013

Diabetes & Metabolism 48 (2022) 101282

Available online at ScienceDirect www.sciencedirect.com

Elsevier Masson France EM|consulte www.em-consulte.com

Original article

Predictors of type 2 diabetes relapse after Roux-en-Y Gastric Bypass: A ten-year follow-up study

D. Moriconi[a], M.L. Manca[b], M. Anselmino[c], E. Rebelos[b], R. Bellini[c], S. Taddei[b], E. Ferrannini[d], M. Nannipieri[b,*]

[a] Dpt. Surgical, Medical, Molecular Pathology and Critical Care Medicine,University of Pisa, Italy
[b] Dpt.Clinical and Experimental Medicine, University of Pisa, Via Savi 10, 56126 Pisa, Italy
[c] Bariatric Surgery Unit. Azienda Ospedaliera Universitaria Pisana, Pisa, Italy
[d] Institute of Clinical Physiology, National Research Council (CNR), Pisa, Italy

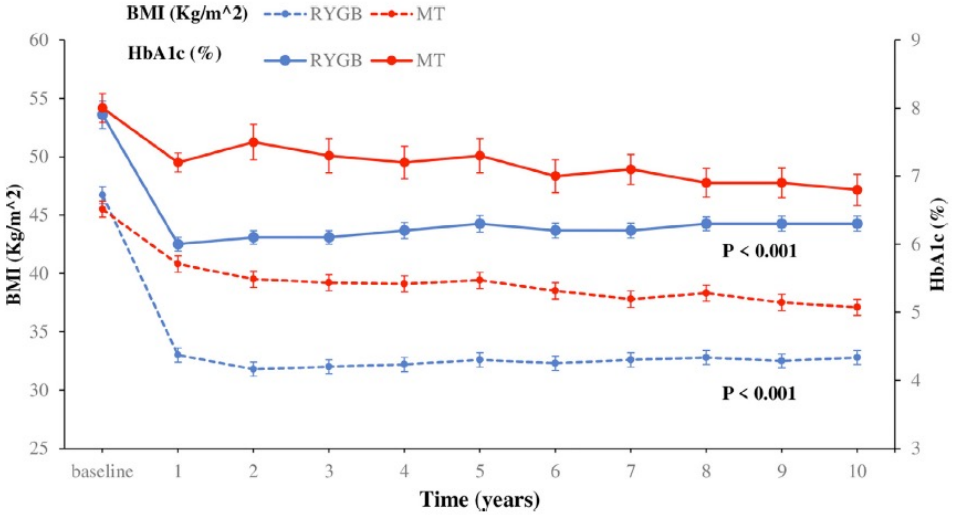
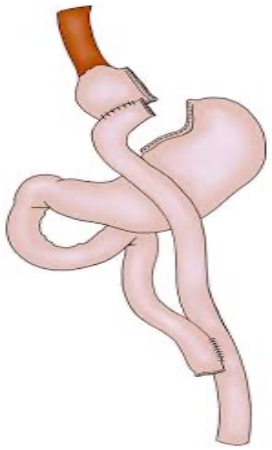


Fig 1. Time course of glycated haemoglobin and BMI over the 10-year follow-up in RYGB vs MT groups. The values are expressed as average ± SEM. Repeated measures ANOVA was performed to compare the groups. Full lines denote HbA1c in MT (red line) and RYGB (blue line). Dotted lines represent BMI in MT (red line) and RYGB (blue line). (For interpretation of the references to color in this figure legend, the reader is referred to the web version of this article.)



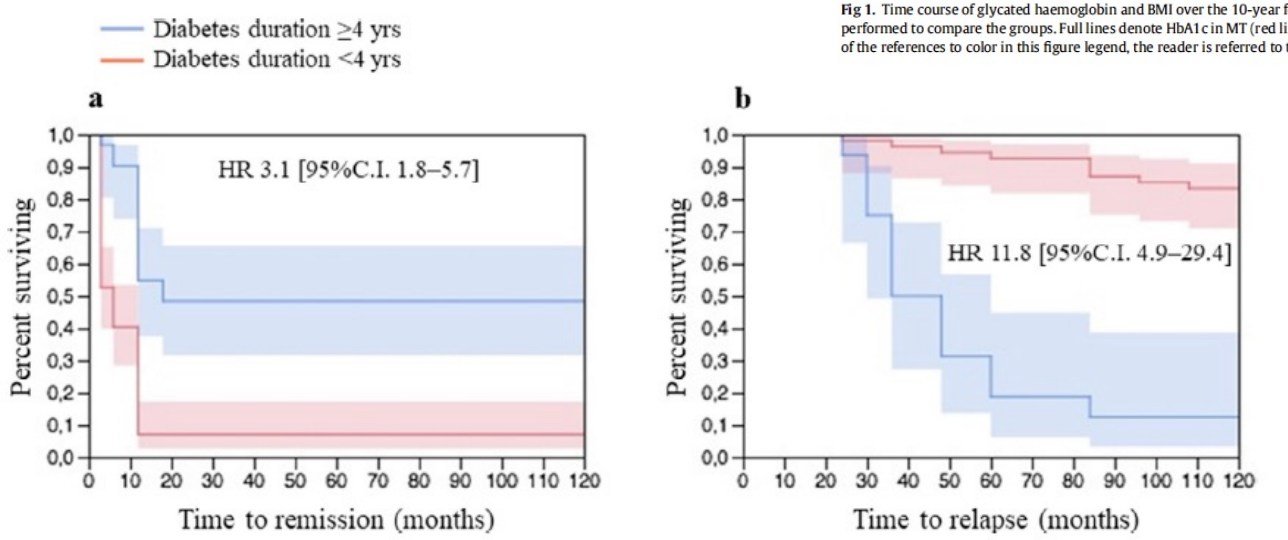
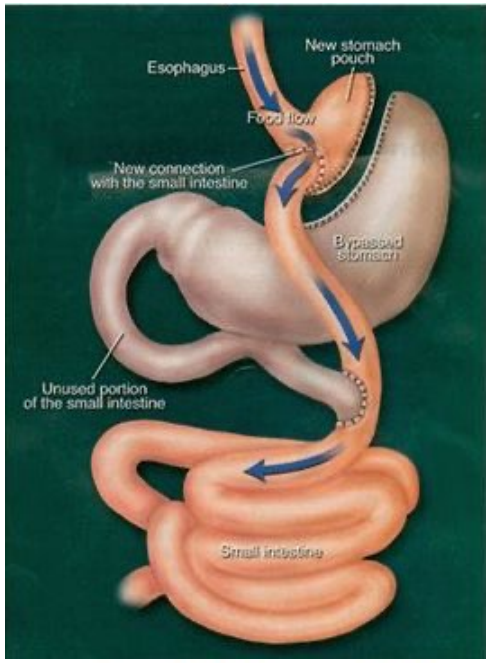


Fig 2. Kaplan-Meier curves for remission-free survival (A) and relapse-free survival (B), in the group of patients with diabetes duration ≥ 4 years (blue line) and in the group of patients with diabetes duration < 4 years (red line). (For interpretation of the references to color in this figure legend, the reader is referred to the web version of this article.)

79% of T2DM Remission



Diabetologia (2019) 62:178–186
https://doi.org/10.1007/s00125-018-4737-5

ARTICLE

Postprandial hypoglycaemia after Roux-en-Y gastric bypass in individuals with type 2 diabetes

Daniela Guarino [1,2] · Diego Moriconi [1] · Andrea Mari [3] · Eleni Rebelos [1] · Daria Colligiani [1] · Simona Baldi [1] · Marco Anselmino [4] · Ele Ferrannini [2] · Monica Nannipieri [1]

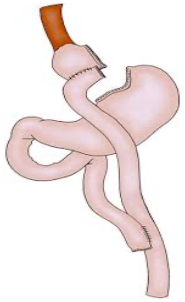
Received: 10 April 2018 / Accepted: 9 August 2018 / Published online: 12 October 2018

14: Rapid delivery of undigested carbohydrates to the small intestine might result in high concentrations of glucose that induce a hyperinsulinaemic response, resulting in subsequent hypoglycaemia and related late dumping syndrome.

- Statement endorsed.
- Overall agreement 100%: A+ 80%, A 20%, A– 0%, D– 0%, D 0%, D+ 0%.
- Grade A.

25-35% of diabetic patients experience episodes of late dumping which persist despite therapy in the long term (> 10 y) in less than 3% of patients

Anemia after Roux en-Y Gastric By-pass



Obesity Surgery (2019) 29:2790–2794
https://doi.org/10.1007/s11695-019-03920-6

IFSO

ORIGINAL CONTRIBUTIONS

Check for updates

Anemia Before and After Roux-en-Y Gastric Bypass: Prevalence and Evolution on Long-Term Follow-up

Roberto de Cleva [1] · Lilian Cardia [1] · Daniel Riccioppo [1] · Miwa Kawamoto [2] · Newton Kanashiro [2] · Marco Aurelio Santo [1]

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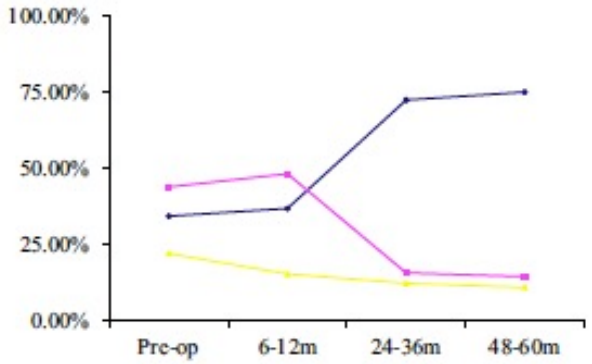
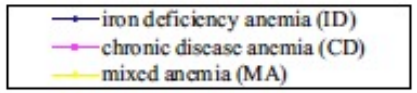


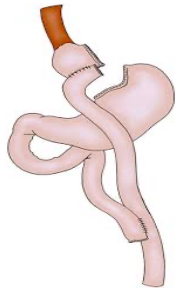


	Preop, % (*n*) (*N* = 831)	6–12 months, % (*n*) (*N* = 431)	24–36 months, % (*n*) (*N* = 221)	48–60 months, % (*n*) (*N* = 116)
Anemia	8.8 (73)	18.3 (79)	26.2 (58)	24.1 (28)
Mild	93.2 (68)	87.4 (69)	67.3 (39)	53.6 (15)
Moderate	6.8(5)	10.1 (8)	17.2 (10)	46.4 (13)
Severe	–	2.5 (2)	15.5 (9)	–
Iron deficiency	34.3 (25)	36.7 (29)	72.4 (42)	75.0 (21)
Chronic disease	43.8 (32)	48.1 (38)	15.5 (9)	14.3 (4)
Mixed anemia	21.9 (16)	15.2 (12)	12.1 (7)	10.7 (3)

Importance of Vit. B12, vit. C and Iron supplementation

Poor QoL following RYGBP due to Internal Herniation

Chronic abdominal pain

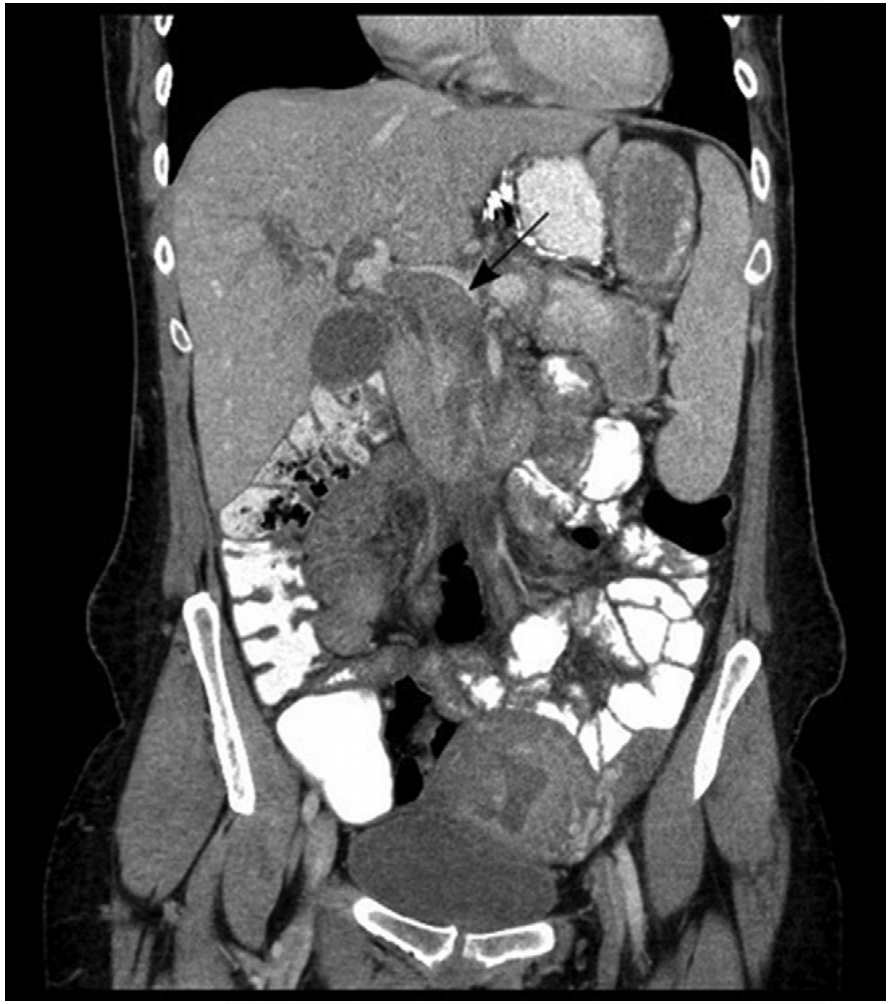


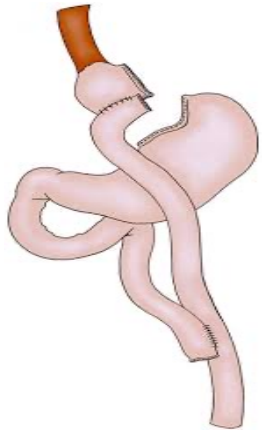
- A jejunojejunostomy displaced to the right side of the midline which suggests torsion of the mesenteric root.

(In the normal situation the jejunojejunostomy should be located on the left side of the abdomen).

Displacement of JJ to right side

Superior mesenteric venous thrombosis related to torsion of the mesenteric root





Long-term (> 7 y) complications after Roux en-Y Gastric By-pass

	RCT	Meta-analysis	Pisa Experience (n= 3393)
Abdominal pain /Internal Herniation	0,8%	5,5%	67 (1.97%)
Marginal ulcers	1,7%	2,0%	33 (0.97%)
Candy cane/blind loop	0,8%	n.c.	83 (2.44%)
Late Dumping	2,5%	3,1%	99 (2,91%)
Anemia – Iron deficiency	6%	11%	244 (7.19%)
Vitamin deficiencies (B12 -Folate)	7%	6,8%	189 (5.57%)

Super Obesity

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https://doi.org/10.1007/s11695-021-05464-0

ORIGINAL CONTRIBUTIONS

Long-Term Efficacy of Bariatric Surgery for the Treatment of Super-Obesity: Comparison of SG, RYGB, and OAGB

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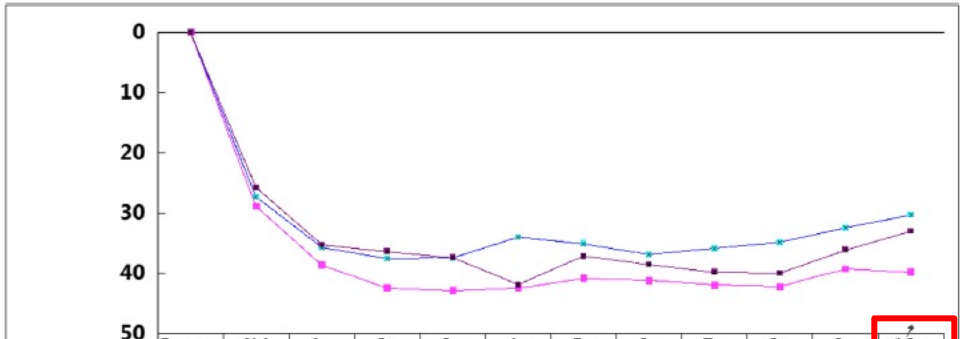


	Pre-op	6M	1y	2y	3y	4y	5y	6y	7y	8y	9y	10y
OAGBWL%	0	28.9	38.7	42.4	42.8	42.4	40.8	41.2	41.9	42.2	39.3	39.8
SGWL%	0	27.3	35.7	37.6	37.5	34	35.1	36.9	35.9	34.9	32.5	30.3
RYWL%	0	25.8	35.3	36.4	37.4	41.9	37.2	38.6	39.8	40	36.1	33
OAGB N	246	222	220	212	188	176	128	111	101	86	72	49
RY N	62	55	55	44	35	29	32	18	16	14	11	9
SG N	190	181	170	155	128	123	99	21	19	12	9	7

Long-term results after Roux en-Y Gastric By-pass

Conclusions I

- Roux-en-Y GBP is still fashioned with too variable pouch volumes and limb lenghts
- As a consequence bias occur in weight loss measurements and, above all, during co-morbidities resolution/amelioration calculation
- In RCT studies when compared to SG the long-term weight loss (> 7 y) is greater for Roux-en-Y GBP (55% vs 47%) even if not statistically different when the values of %EWL are adjusted to 95% confidence intervals. This in not always true in the retrospective studies where Roux-en-Y GBP seems to be more effective.
- Nevertheless Roux-en-Y GBP remains the first choice operation in obese with GER and Type 2 diabetes expecially with < 4 y disease duration where, at 10 y, the resolution amounts to 95% and 79% respectively
- Complications such as internal herniation, anastomotic ulcers, vitamin and iron deficiencies are rare but can affect patients in the long-term follow-up

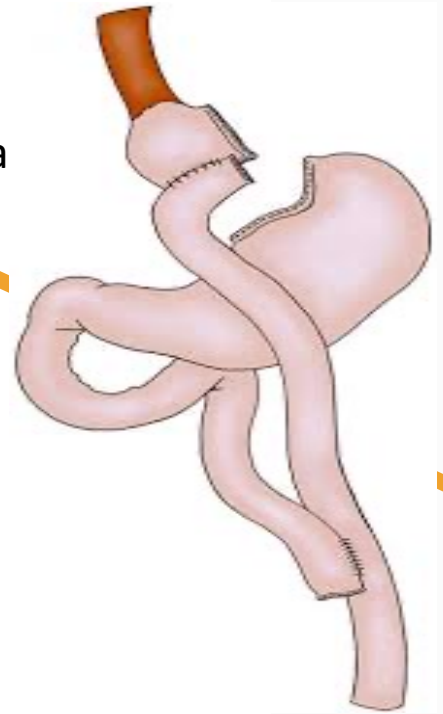
Conclusions II

Long-term Results after Roux en-Y Gastric By-pass

QUALE INTERVENTO CHIRURGICO PER QUALE PAZIENTE? UNA SCELTA CHE DIVIDE

Obesita' Centrale
GERD
DM tipo II
Ipertensione severa
Dislipidemia severa

Sindrome Metabolica



Gastric pouch (20-50 ml)
Bilio-pancreatic limb (> 70 cm)
Alimentary limb (> 100 cm)

Small Gastric pouch (20 ml)
Long Bilio-pancreatic limb (> 120 cm)
Alimentary limb (> 150 cm)
Small gastro-jejunal anstomosis (1,5-2 cm)

Conclusions III

Revisional Surgery for Failed or Complicated Roux en-Y Gastric Bypass.

A problem not to underestimate

……sometimes a real hard fighting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Presidente del Congresso
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