

**S.I.C.O.B.
EVENTI**



Chirurgia del weight regain post OAGB. Caso clinico

Dott. Costantino Voglino

**SICOB CONVEGNO EMILIA-ROMAGNA
CESENA 19 - 20 Aprile 2024**

PRESIDENTE: A.M. SCHETTINO

RESP. SCIENTIFICI: S. CARIANI, V. CORSO, A. LUCCHI

**Dall'Alimento alla Chirurgia:
il Trattamento Integrato
dell'Obesità**

**Azienda Ospedaliera Universitaria Senese
Dipartimento chirurgia generale e
specialistica
UOSA Chirurgia Bariatrica
Responsabile: Dott. Giuseppe Vuolo**

Weight regain after bariatric surgery—how should it be defined?

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Definitions of weight regain collected in social media poll of IBC surgeons

Regaining weight to achieve a BMI > 35 [19]

An increase in weight of > 10 kg from nadir [11–15]

Any weight regain [16]

An increase in BMI of ≥ 5 kg/m² above the weight
loss nadir [2]

Greater than 25% EWL regain with respect to minimal
weight achieved after LSG [17,18]

IBC = International Bariatric Club; BMI = body mass index; EWL =
excess weight loss; LSG = laparoscopic sleeve gastrectomy.

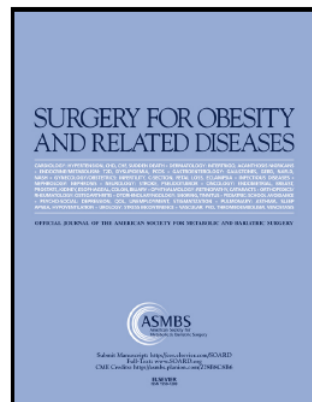


It is unacceptable that in the bariatric community more than 200 bariatric surgeons have proposed different bariatric procedures after failed sleeve gastrectomy and no consistent definition for weight regain exists. We emphasize the dire need for standardization of definitions for failure postbariatric surgery and an algorithm to clarify indications for subsequent revisional surgery procedures.

Definition determines weight regain outcomes following sleeve gastrectomy

55 pazienti

5 anni




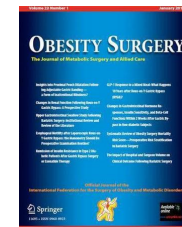
www.elsevier.com/locate/buildenv

2017

Definition	Patients with weight regain, n (%)	Patients without weight regain, n (%)
<i>An increase of more than 10kg from nadir</i>	35 (64)	20 (36)
<i>An increase of more than 25%EWL from nadir</i>	22 (40)	33 (60)
<i>An increase in BMI of 5 kg/m² from nadir</i>	29 (53)	26 (47)
<i>Any weight regain after T2DM Remission</i>	5 (9)	50 (91)
<i>Weight regain to a BMI > 35 kg/m² after successful loss</i>	11 (20)	44 (80)
<i>Any weight regain</i>	50 (91)	5 (9)

Weight Regain After Bariatric Surgery—A Multicentre Study of 9617 Patients from Indian Bariatric Surgery Outcome Reporting Group

Sarfraz J. Baig¹ · Pallawi Priya¹  · Kamal K. Mahawar² · Sumeet Shah³ · for the Indian Bariatric Surgery Outcome Reporting (IBSOR) Group



Definition 1: regain of more than 25% of lost weight from the nadir weight

Definition 2: regain of more than 10 kg from the nadir weight

Definition 3: regain of more than 5 BMI points from the nadir weight

		SG	RYGB	OAGB
% WR at 5 years	Mean ± SD	22.38 ± 21.15	13.56 ± 14.7	5.95 ± 9.05
	Median	18.60	10.67	1.98
	N	1943.00	1092.00	203.00
Weight regain at 5 years (kg)	Mean ± SD	7.60 ± 6.92	4.81 ± 5.08	2.41 ± 3.28
	Median	6.00	4.00	1.00
	N	1945.00	1092.00	203.00
BMI regain at 5 years (kg/m ²)	Mean ± SD	2.89 ± 2.63	1.81 ± 1.92	0.89 ± 1.24
	Median	2.34	1.46	0.35
	N	1938.00	1090.00	203.00
WR as per definition 1, <i>N</i> (%)		682/1943 (35.1)	159/1092 (14.6)	6/203 (3.0)
WR as per definition 2, <i>N</i> (%)		533/1945 (27.4)	129/1092 (11.8)	6/203 (3.0)
WR as per definition 3, <i>N</i> (%)		308/1938 (15.9)	55/1090 (5.0)	2/203 (1.0)

	Total inclusions	1 year, <i>N</i> (%)	2 years, <i>N</i> (%)	3 years, <i>N</i> (%)	5 years, <i>N</i> (%)
SG	5458	4418 (80.9%)	2912 (53.3%)	3316 (60.7%)	1945 (35.6%)
RYGB	2965	2478 (83.5%)	1530 (51.6%)	1830 (61.7%)	1092 (36.8%)
OAGB	1194	1053 (88.2%)	848 (71%)	643 (53.8%)	203 (17%)
Total	9617	7937 (82.5%)	5282 (54.9%)	5781 (60.1%)	3231 (33.5%)

Complications Following the Mini/One Anastomosis Gastric Bypass (MGB/OAGB): a Multi-institutional Survey on 2678 Patients with a Mid-term (5 Years) Follow-up

2017

Table 3 Late complications rate and their management

Late complications	A	B	C	Treatment	Total	Percent
5 years FU	65	226	392		683/1091	62.6
Marginal ulcer	2	5	1	3—PPI treatment 4—laparoscopic repair 1—laparotomic repair	8	1.1
DGER	3 ^a + 6	7 ^a + 4	2 ^a + (2) ^a + 4	9—RY laparoscopic conversion 3—Braun laparoscopic anastomosis 16—conservative treatment	14 ^a + 14	4.0 (0.2)
Anastomotic stenosis	1	1	1	2—endoscopic balloon treatment 1—RY laparoscopic conversion	3	0.4
Steatorrhea/excessive weight loss	1	3	1	2—conservative treatment 1—restaurative laparoscopic surgery 2—loop resizing	5	0.7
Internal hernias	0	0	(1)	1—laparoscopic repair	1	0.1
Gastric leak	0	0	1	1—conservative treatment	1	0.1
Weight regain	4 + (3)	3	1	4—laparoscopic pouch resizing 7—loop resizing	11	1.6
Anemia	0	8 + (4)	0	12—drug therapy	12	1.7
Total	20/65 30.7%	35/226 15.4%	14/392 3.5%	69	69/683	10.1

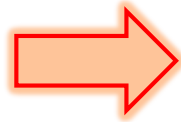
Data according to follow-up at 5 years. Six hundred eighty-three of 1091 eligible patients with follow-up at 5 years. A: Learning curve between 0 and 50 cases. B: Learning curve between 50 and 200 cases. C: Learning curve beyond 200 cases. Number in parentheses means complications occurred following revisional procedures



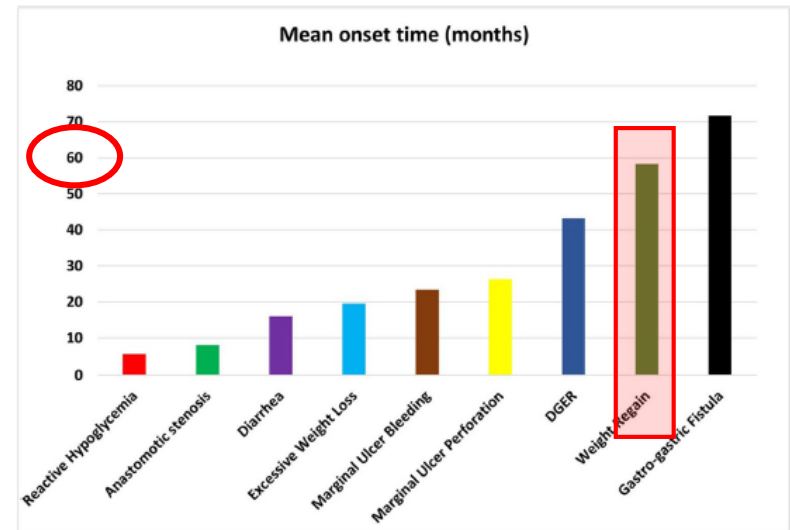
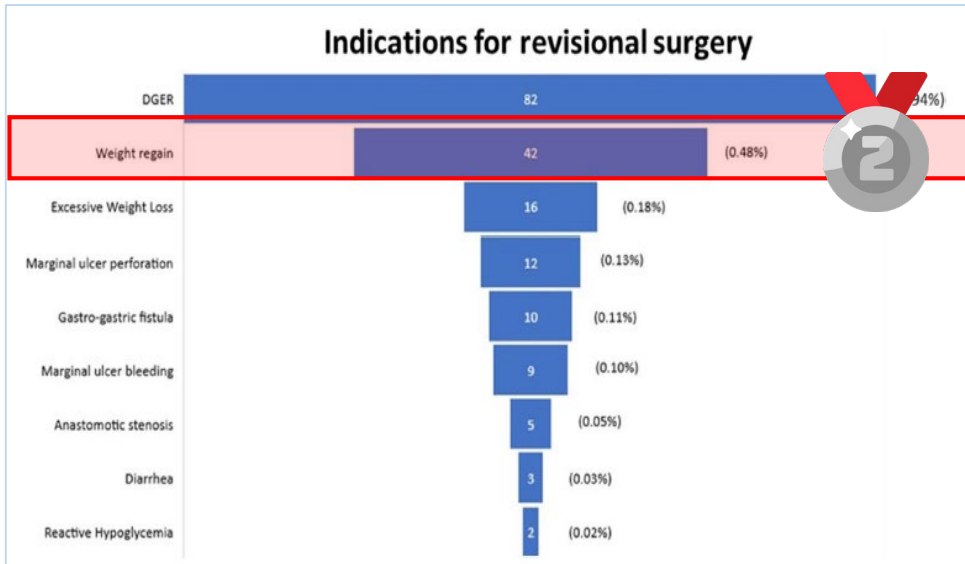
Revisional Surgery After One Anastomosis/Minigastric Bypass: an Italian Multi-institutional Survey

2022

8676 primary
MGB/OAGB



181 patients
underwent
revisional surgery

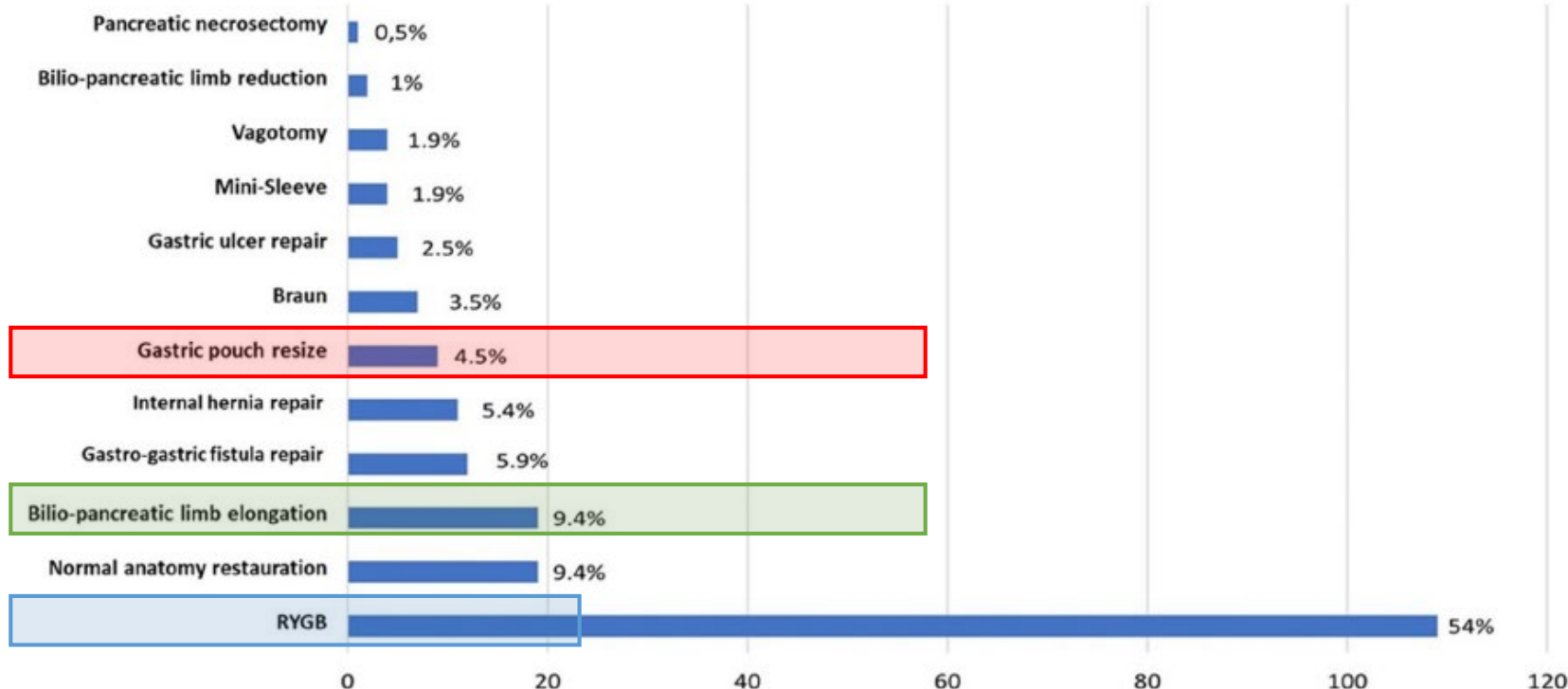




Revisional Surgery After One Anastomosis/Minigastric Bypass: an Italian Multi-institutional Survey

2022

Most common revisions and reoperations





**Weight regain after
OAGB**

Loop resizing

Elongation of BPL

Conversion to RYGB

±

Gastric pouch resizing

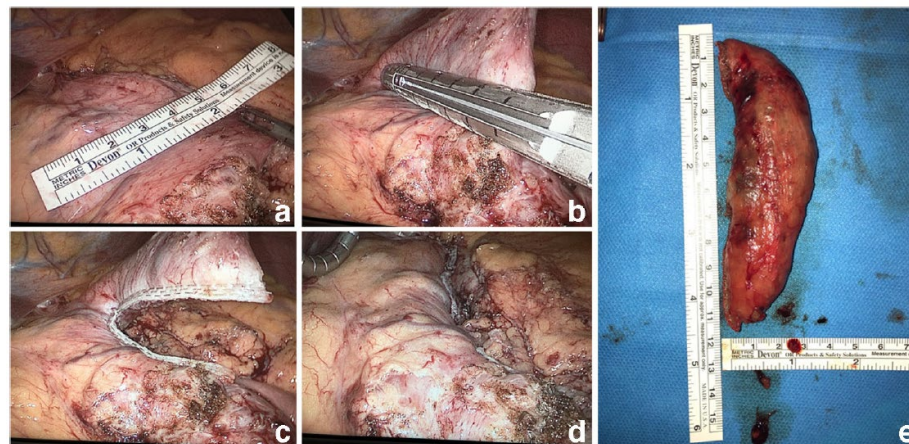
Gastric pouch resizing

Dilated Gastric Pouch Resizing for Weight Loss Failure After One Anastomosis Gastric Bypass



Adrien Faul¹ • Jean-Marc Chevallier¹ • Tigran Poghosyan¹

The gastric pouch was considered dilated when radiologic and endoscopic criteria were met: gastric pouch was considered dilated when the width was **> 4 cm** measured on CT scan after ingestion of **radio-opaque product** (Fig. 1), dilation was confirmed when **easy retrovision** was possible during endoscopy.



	At GPR	6 months	12 months	18 months	24 months
Eligible/available (n)	17/17	17/16	17/15	14/12	10/8
Lost to follow-up (%)	0%	5.8%	11,6%	14.3%	20%
BMI (kg/m ²), mean ± SD	41.5 ± 11	36.6 ± 5	35 ± 4	34.1 ± 5	33.5 ± 6
%TWL, mean ± SD	15 ± 10	22 ± 7	25 ± 9	28 ± 10	31 ± 13
%EWL, mean ± SD	36 ± 21	51 ± 14	57 ± 16	63 ± 17	69 ± 21

Resizing of the Gastric Pouch for Weight Regain after Laparoscopic Roux-en-Y Gastric Bypass and One-Anastomosis Gastric Bypass: Is It a Valid Option?

RESIZING CRITERIA

Radiological point of

3D TC Volume >200 cm³

Endoscopic point of view

Anastomoses > 40 mm

Retrovision maneuver
easily performed

Table 2. Peri-operative and postoperative outcomes.

Mean operative time	73.8 ± 21.6
Mean time between bypass and LPR (months)	77.9 ± 54.5
Mean follow up after LPR (months)	24.2 ± 16.1
Mean weight after LPR	77.9 ± 17.3 kg
Mean BMI after LPR	29.3 ± 5.8 kg/m ²
Mean %TWL after LPR	19.6 ± 9%.

11 Pazienti

LPR: laparoscopic pouch resizing; BMI: body mass index; %TWL: % total weight loss.

FU: 24.2 ± 16.1 months

Endoscopic revision of one-anastomosis gastric bypass (ER-OAGB) for weight recurrence: a case series of 17 adults

Ther Adv Gastrointest Endosc

2023, Vol. 16: 1–9

DOI: 10.1177/
26317745231210120

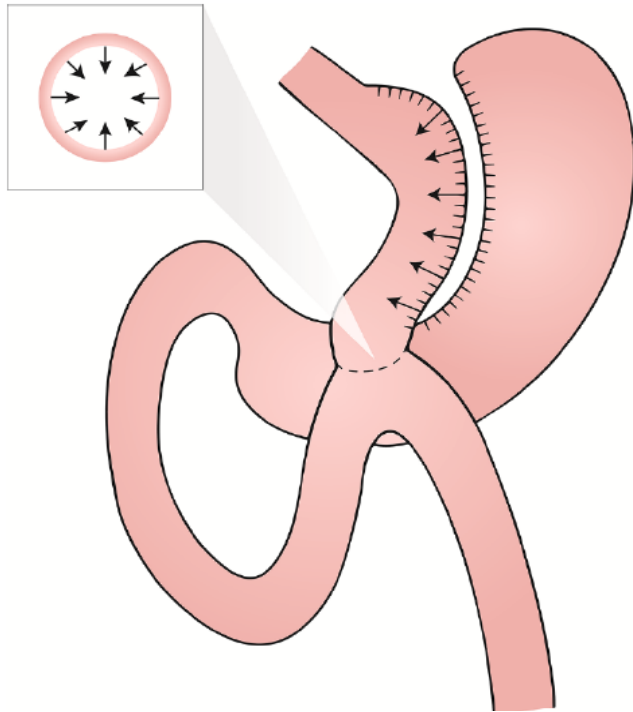


Figure 1. Endoscopic revision of the one-anastomosis gastric bypass (ER-OAGB). As indicated by the arrows, the components of ER-OAGB include circumferential narrowing of the gastrojejunal anastomosis (inset) and reduction of the sleeve-like gastric pouch, both through full-thickness endoscopic suturing.

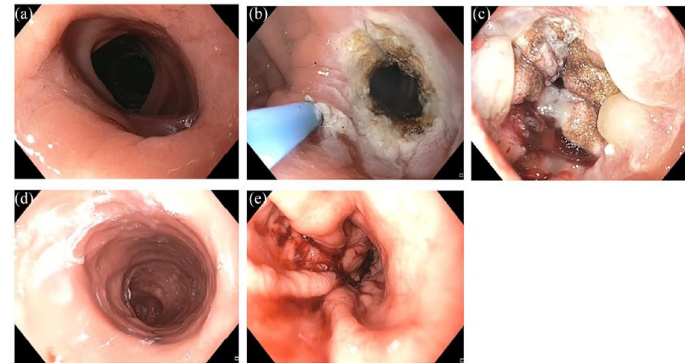
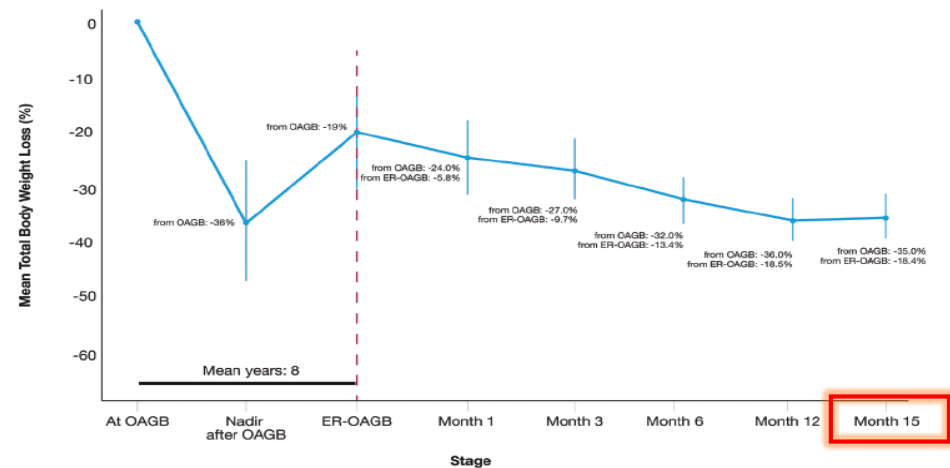
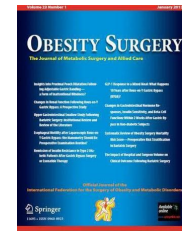


Figure 2. Steps of ER-OAGB. [a] Gastrojejunostomy [outlet] before revision. [b] Argon plasma coagulation of outlet. [c] Purse-string suture of outlet. [d] Gastric pouch before revision and [e] Endoscopic suturing to narrow pouch.

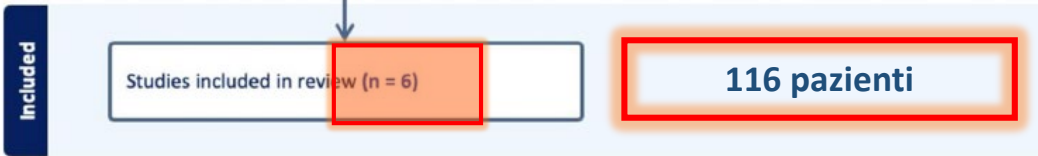


Conversion to RYGB

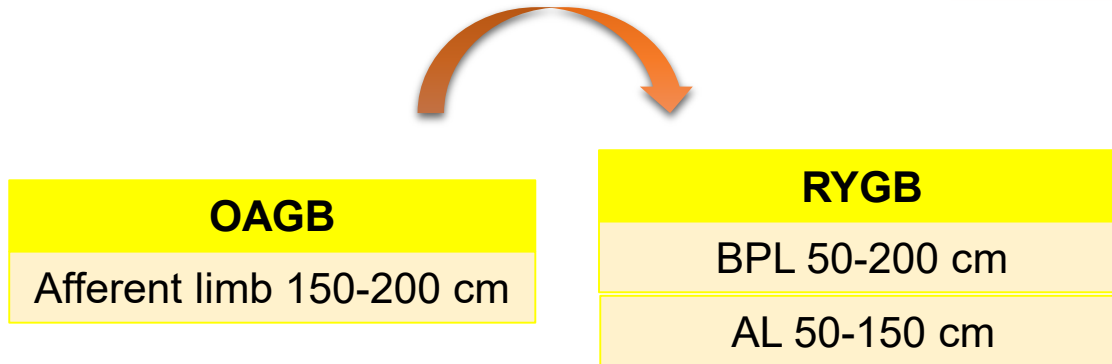
Outcomes of One-Anastomosis Gastric Bypass Conversion to Roux-en-Y Gastric Bypass for Severe Obesity: A Systematic Review and Meta-analysis



2024

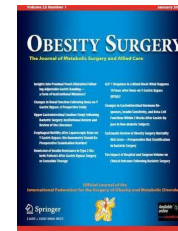


The most common indications for conversion surgery were reflux (47.8%), malnutrition (31.3%), and inadequate weight loss (8.2%). Less common indications included nausea and vomiting (6%), weight regain (2.2%), gastrogastic fistula (3%), and anastomotic leak (1.5%). The afferent limb



After revisional surgery to RYGB, there was a significant medium-term weight gain (0.61 BMI gain).

Outcomes of One-Anastomosis Gastric Bypass Conversion to Roux-en-Y Gastric Bypass for Severe Obesity: A Systematic Review and Meta-analysis



2024

Included

Studies included in review (n = 6)

Conclusion

The results of this study have demonstrated that revisional surgery from OAGB to RYGB is an effective treatment in patients with post-OAGB refractory biliary reflux which was the most common indication for OAGB revision to RYGB leading to complete resolution of symptoms. However, it is associated with weight regain, albeit this may be acceptable to patients to treat biliary reflux as the weight gain is small over medium term. Alternative options for revisional surgery should be explored for patients who have failed to lose weight after OAGB as conversion to RYGB may lead to further weight gain. Hence, this data does not suggest that performing a RYGB for failure to lose weight or weight would be recommended.

... for conversion surgery on (31.3%), and inadequate indications included nau-egan (2.2%), gastrogastic k (1.5%). The afferent limb

A

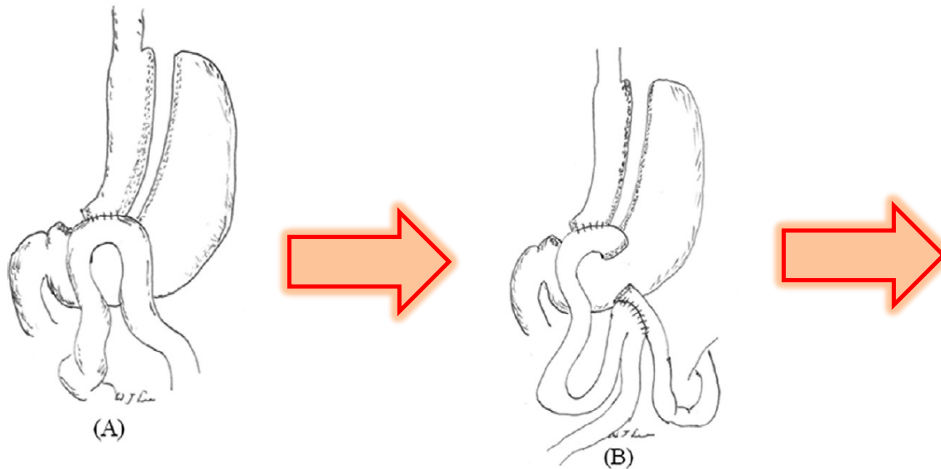


... was a significant medium-term weight gain (0.61 BMI gain).

Revisional surgery for laparoscopic minigastric bypass

Wei-Jei Lee, M.D., Ph.D.^{a,*}, Yi-Chih Lee, Ph.D.^{a,c}, Kong-Han Ser, M.D.^a,
Shu-Chun Chen, R.N.^b, Jung-Chien Chen, M.D.^a, Yen-How Su, M.D.^a

8/1322



(13.0%; Table 2). Two patients underwent repeat revision surgery because they had regained body weight after the first revision surgery. One patient underwent conversion to duodenal switch and one to biliopancreatic diversion, both

Enteroenterostomy was then performed to measure the alimentary limb to 150 cm in patients with inadequate weight loss

**Gastric pouch
resizing**

+

BPL elongation

Combined laparoscopic pouch and loop resizing as a revisional procedure for weight regain after primary laparoscopic one-anastomosis gastric bypass

2023

Christian Mouawad, Houssam Dahboul, Bilal Chamaa, Daniel Kazan, Michael Osseis, Roger Noun, Ghassan Chakhtoura

8 pazienti (7 WR, 1 IWL)

FU 2,2 anni

Pouch resizing
+
lengthening the BPL by 1 m

	At the time of OAGB	Nadir before LPLR	At the time of LPLR	2 years after LPLR
Weight (kg)	150.25±40.73	89.5±28.85	116.12±29.03	88.25±21.89
BMI (kg/m ²)	48.68±11.74	28.78±7.47	37.63±8.27	28.44±4.82
% FWI	-	75.07±21.62	41.57±12.99	74.51±16.54
% EBMIL	-	82.49±21.23	48.54±16.08	85.23±19.03

Caso clinico

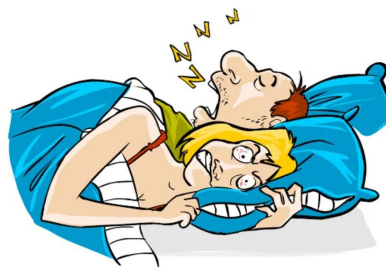


39 anni

BMI 48,6



Cardiomiopatia dilatativa
familiar complicata da
scompenso cardiaco cronico
(classe NYHA II-III, FE 32%)



OSAS di grado severo in
trattamento con CPAP

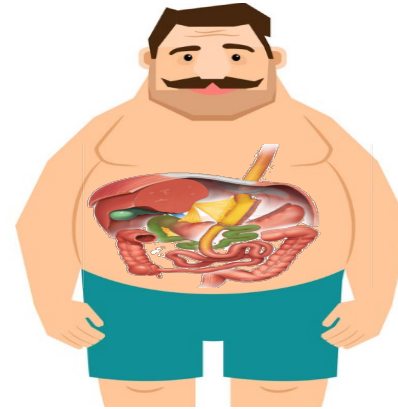
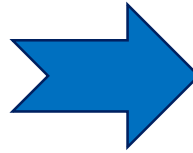


Ipertrigliceridemia



Maracata epatomegalia con
steatosi di grado severo

Caso clinico



2015

DESCRIZIONE INTERVENTO

Tipologia di Intervento ELEZIONE

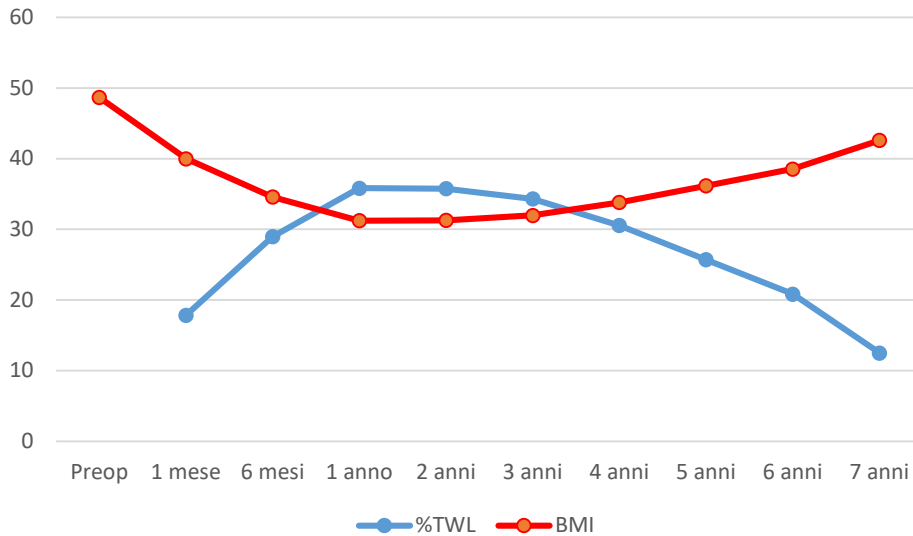
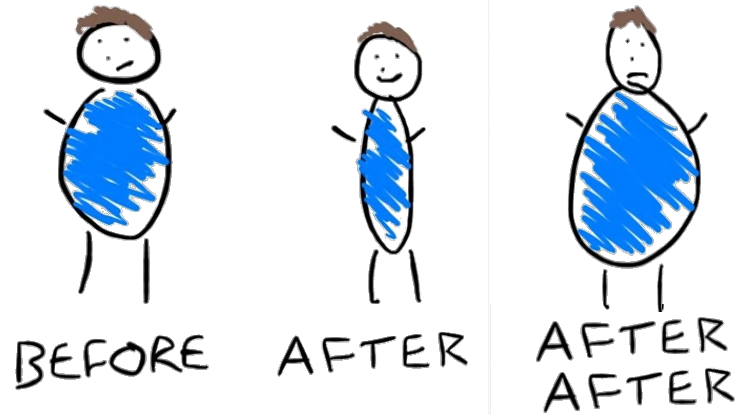
Esame Istologico IntraOperatorio SI

Lateralità NESSUNA

Induzione di pneumoperitoneo con trocar ottico. Si posizionano altri 3 trocars a rombo. Quadro di obesità viscerale importante. Accesso alla retrocavità degli epiploon in sede dell'angolus e preparazione della tasca gastrica sulla guida di sonda orogastrica da 36 Fr con Echelon 45 flex carica blu. Per la presenza di un accesso difficile all'angolo di His per la cardiomegalia e per il tessuto adiposo si decide di praticare fundectomia di necessità previa liberazione della grande curvatura gastrica fino alla visualizzazione del pilastro diaframmatico sx. Misurazione di circa 2 m dal Treitz e confezionamento di gea LL sulla parete ant. della tasca gastrica con Echelon 45 flex carica blu. Passaggio del sig transanastomotico e chiusura della tomie in duplice strato con vloc 000. Duplice prova al blu di metilene al primo ed al secondo passaggio con la sutura: negative entrambe per spandimenti. Posizionamento di clips emostatiche lungo tutta la rima di sezione della tasca gastrica e di tabotamp fibrillare. Due drenaggi: il dx retroanatomotico, e lungo lo stomaco, il sx nello scavo pelvico. Estrazione dei tre quarti sotto visione. Assenza di sanguinamenti e di fistole assutti.

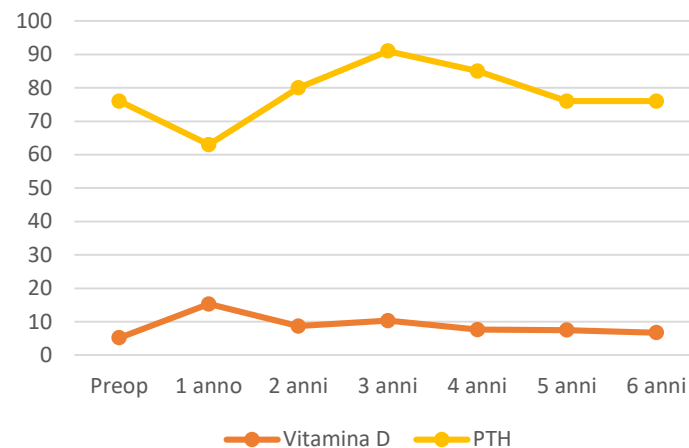
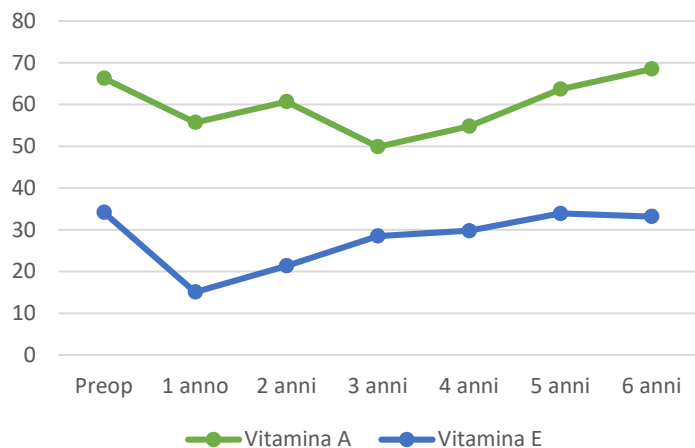
OAGB

Caso clinico

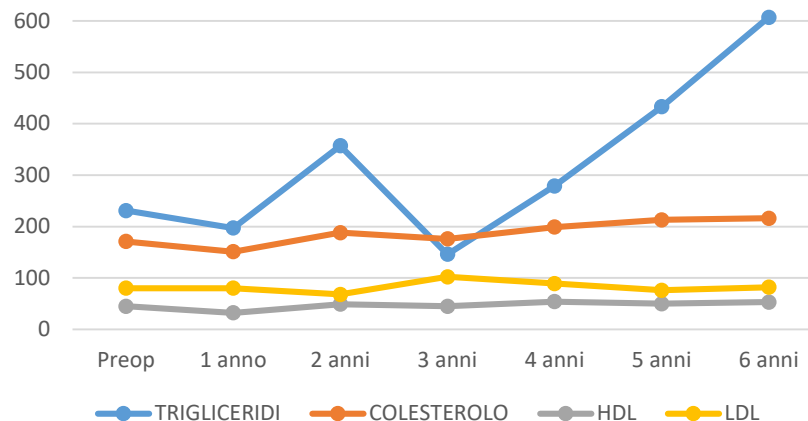


	%TWL	BMI
Preop		48,67496
1 mese	17,84722	39,98783
6 mesi	28,95833	34,5795
1 anno	35,83333	31,2331
2 anni	35,76389	31,2669
3 anni	34,30556	31,97674
4 anni	30,55556	33,80206
5 anni	25,69444	36,1682
6 anni	20,83333	38,53434
7 anni	12,5	42,59059

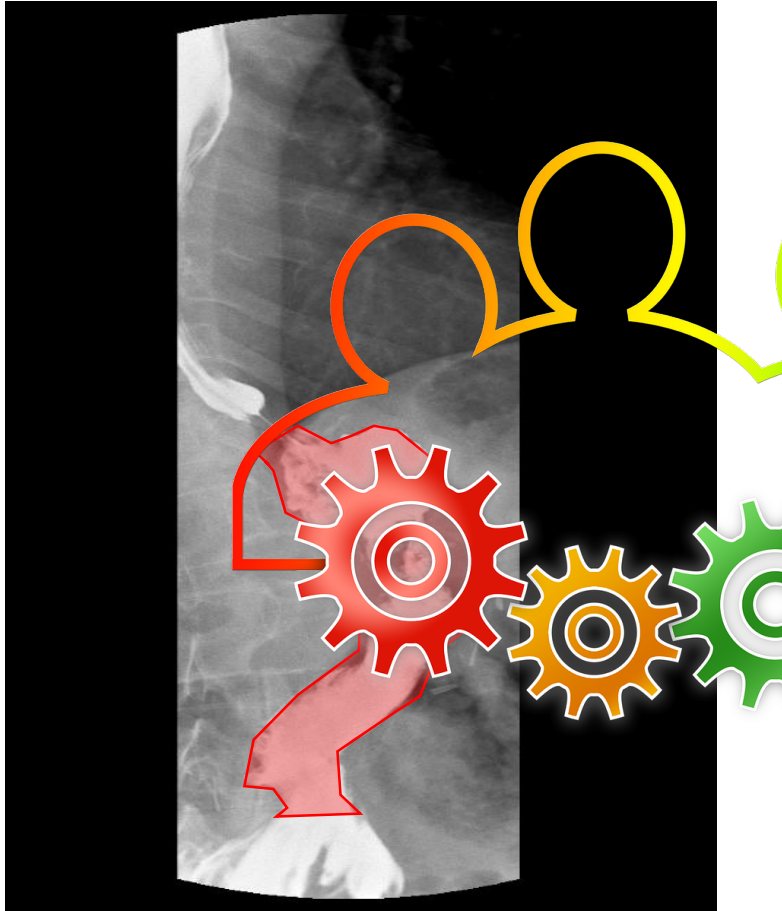
Caso clinico



	Proteine totali	Albumina	Prealbumina
Preop	7,6	3,7	26,8
1 anno	6,8	3,8	28,3
2 anni	7,4	4,2	48,2
3 anni	7	3,9	31,4
4 anni	6,7	3,4	28,8
5 anni	7,2	3,6	28,4
6 anni	7,4	3,8	32,1



Caso clinico



Caso clinico



A New Concept in Bariatric Surgery. Single Anastomosis Gastro-Ileal (SAGI): Technical Details and Preliminary Results

Maurizio De Luca¹ • Jacques Himpens² • Luigi Angrisani³ • Nicola Di Lorenzo⁴ • Kamal Mahawar⁵ • Cesare Lunardi¹ • Natale Pellicanò¹ • Nicola Clemente¹ • Scott Shikora⁶

DESCRIZIONE INTERVENTO

Tipologia di Intervento ELEZIONE

Inizio Intervento 09.30

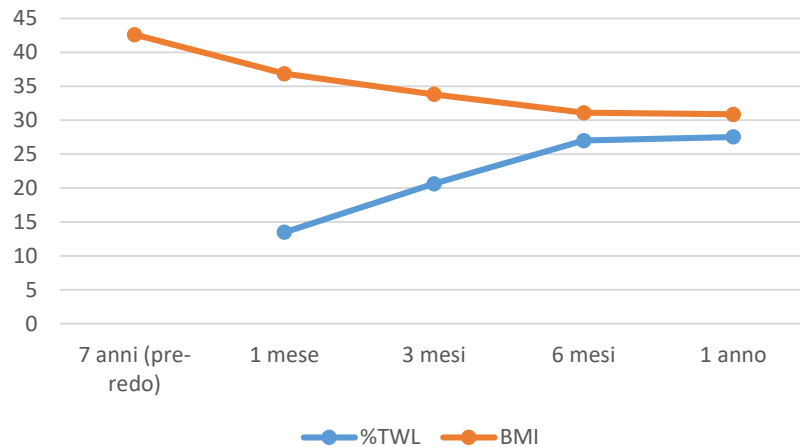
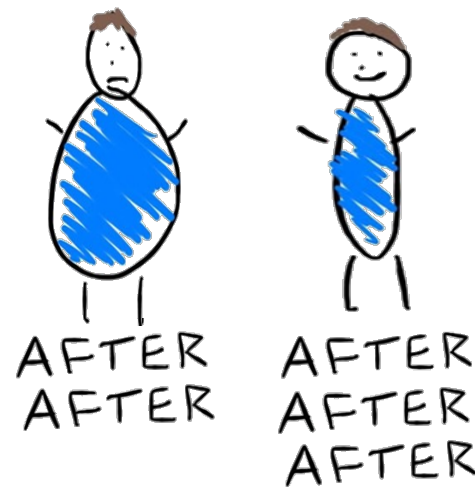
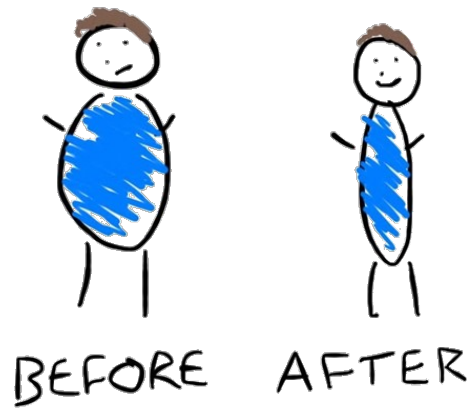
Fine Intervento 10.55

Esame Istologico IntraOperatorio NO

Lateraltà NESSUNA

Utente(VOGLINOC): Weight regain in paziente già sottoposto a bypass gastrico ad unica anastomosi (minigastric bypass). Incisione sovraombelicale paramediana sinistra ed introduzione di trocar ottico. Posizionamento di ulteriori 3 trocar sotto visione. Isolamento della progressa GEA previa lisi di aderenze. Si procede a misurazione del tratto biliopancreatico (circa 150 cm) e del tratto comune (circa 650 cm). Sezione della GEA a mezzo di Echelon 60 cariche verdi. Buono il calibro e il lume dell'ansa separata. Affidamento della linea di sutura con continua in Stratafix. Identificazione di ansa intestinale a 300 cm dalla valvola ileo-cecale e confezionamento di nuova GEA a mezzo di Echelon 60 carica blu (anastomosi 4 cm). Emostasi e suo perfezionamento con Tabotamp ed ancume clips metalliche. Estrazione dei trocar sotto visione. Sitesi per strati.

Caso clinico



	%TWL	BMI
7 anni (pre-redo)		42,59059
1 mese	13,49206	36,84424
3 mesi	20,63492	33,80206
6 mesi	26,98413	31,09789
1 anno	27,53968	30,86128

Conclusioni



The first consensus statement on revisional bariatric surgery using a modified Delphi approach

2020


Serial No.	Statements	First round voting results (%), N=70	Second round voting results (%), N=70	Consensus
31	Prolongation of bilio-pancreatic limb is an acceptable RBS option after OAGB	62.8 (44/70)	72.8 (51/70)	Consensus Agreement
32	Secondary banding using a fixed band is an acceptable RBS option after OAGB	31.4 (22/70)	14.3 (10/70)	Consensus Disagreement
33	Secondary banding using an adjustable band is an acceptable RBS option after OAGB	<u>27.1 (19/70)</u>	10.0 (7/70)	Consensus Disagreement
34	BPD is an acceptable RBS option after OAGB	34.3 (24/70)	14.3 (10/70)	Consensus Disagreement
35	Surgeons should measure the total small bowel length while prolonging bilio-pancreatic Limb for patients needing RBS after RYGB or OAGB	94.3 (66/70)	NA	Consensus Agreement



Conclusioni

ORIGINAL CONTRIBUTIONS

Omega Loop Gastroileal Bypass (OLGIBP/SAGI) Versus One Anastomosis Gastric Bypass (OAGB): Medium-Term Results

Radwan Kassir^{1,2,3}  • Xavier Giudicelli¹ • Patrice Lointier⁴ • Christophe Breton⁵ • Pierre Blanc⁵

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Table 3 Outcomes of patients (data on follow up and complications)

	OAGB (N = 23)	OLGIBP (N = 17)
% TWL at 3 years	43.6 ± 6.2	48.2 ± 7.4
Bile reflux at 3 years	5 (21.7%)	3 (17.6%)
Conversion en RYGB	2 (8.7%)	1 (5.9%)
Malnutrition (albumin)	0 (0%)	0 (0%)
Vitamin deficiency	1 (4.3%)	1 (5.9%)



Tailoring limb length based on total small bowel length in one anastomosis gastric bypass surgery (TAILOR study): study protocol for a randomized controlled trial

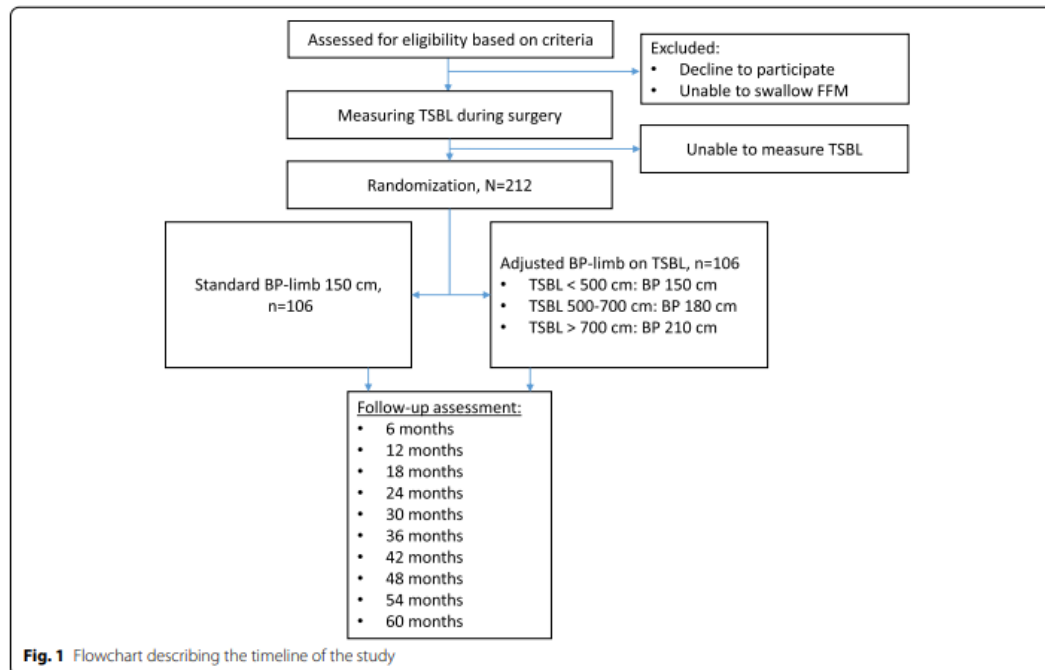


Fig. 1 Flowchart describing the timeline of the study

Laparoscopic reversal of mini-gastric bypass to original anatomy for severe postoperative malnutrition

Laurent Genser¹ · Antoine Soprani² · Malek Tabbara³ · Jean-Michel Siksik¹ · Jean Cady² · Sergio Carandina⁴

**A 10 year
retrospective study**

**26/2934 severe
malnutrition required
surgery**

RMGB surgery and postoperative results

There were no intraoperative complications, conversion to open surgery, and postoperative mortality. Intraoperative biliary limb length measurement was completed in 12 patients and revealed a loop misconstruction in 8 (66%) of them with a mean 320 ± 63.9 cm [230–400] length corresponding to a mean error of 120 ± 63.9 cm [30–200] and $60 \pm 32\%$ [15–100], respectively, based on the 200 cm normal standard.

**S.I.C.OB.
EVENTI**



**SICOB CONVEGNO EMILIA-ROMAGNA
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**Dall'Alimento alla Chirurgia:
il Trattamento Integrato
dell'Obesità**

**GRAZIE PER
L'ATTENZIONE**