BYPASS GASTRICO CON FUNDECTOMIA E STOMACO ESPLORABILE

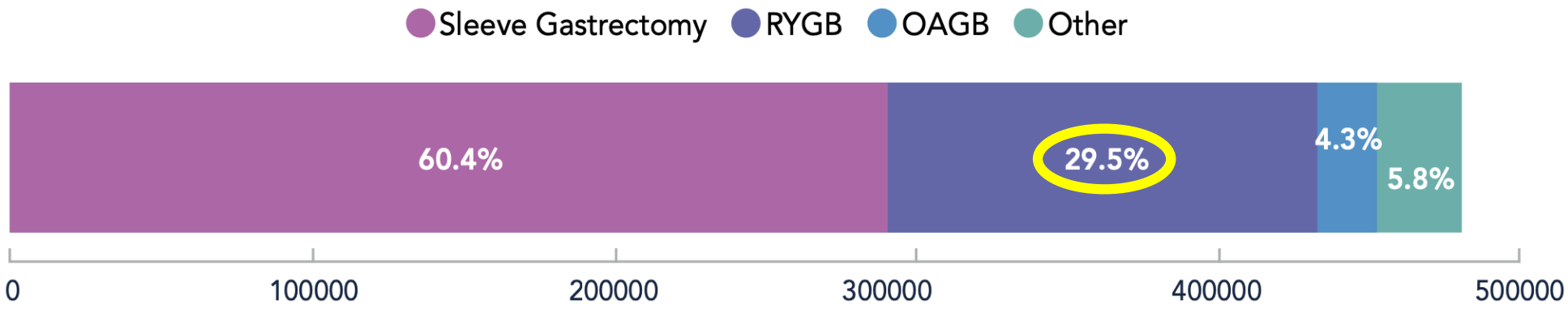
DOTT. LUIGI ROMEO

U.O. CHIRURGIA GENERALE RICCIONE

DIRETTORE DOTT. ANDREA LUCCHI

IFSO

8TH GLOBAL REGISTRY REPORT



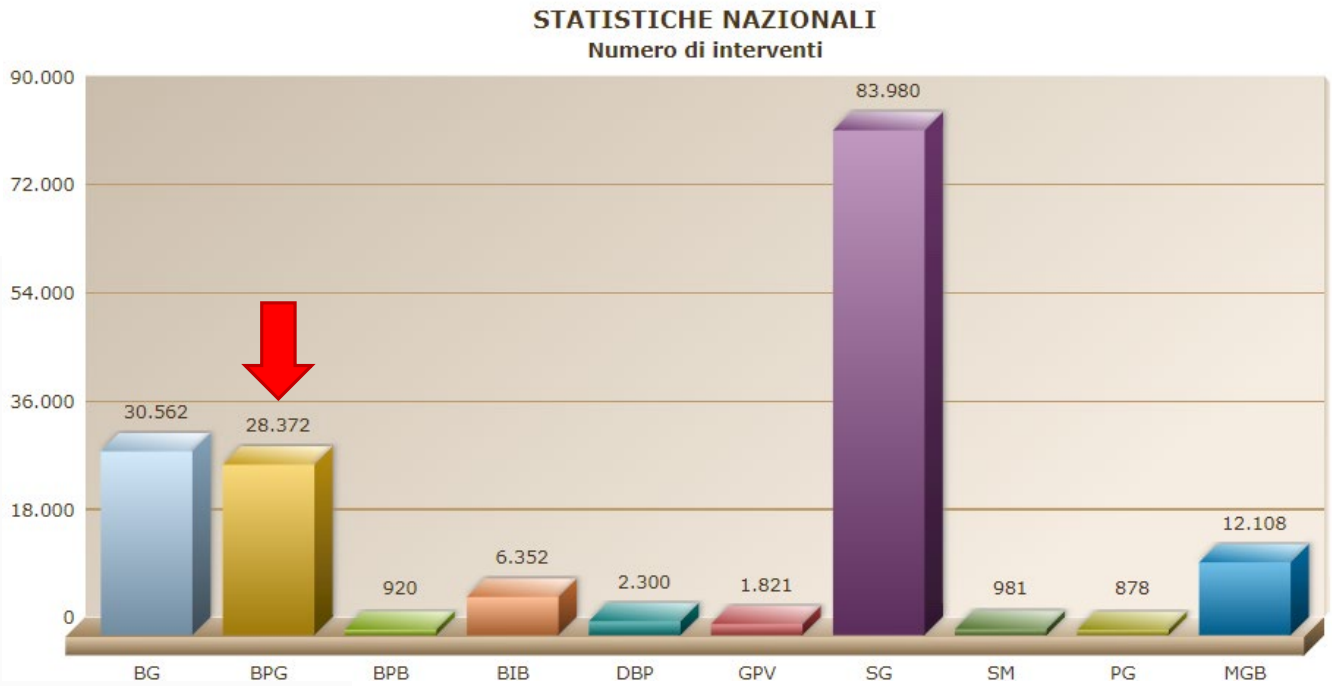
All procedure types (n=480,970).

NUMERO DEI PAZIENTI INSERITI AD OGGI 157.196 SUL TERRITORIO NAZIONALE

numero di accessi del centro 191.336

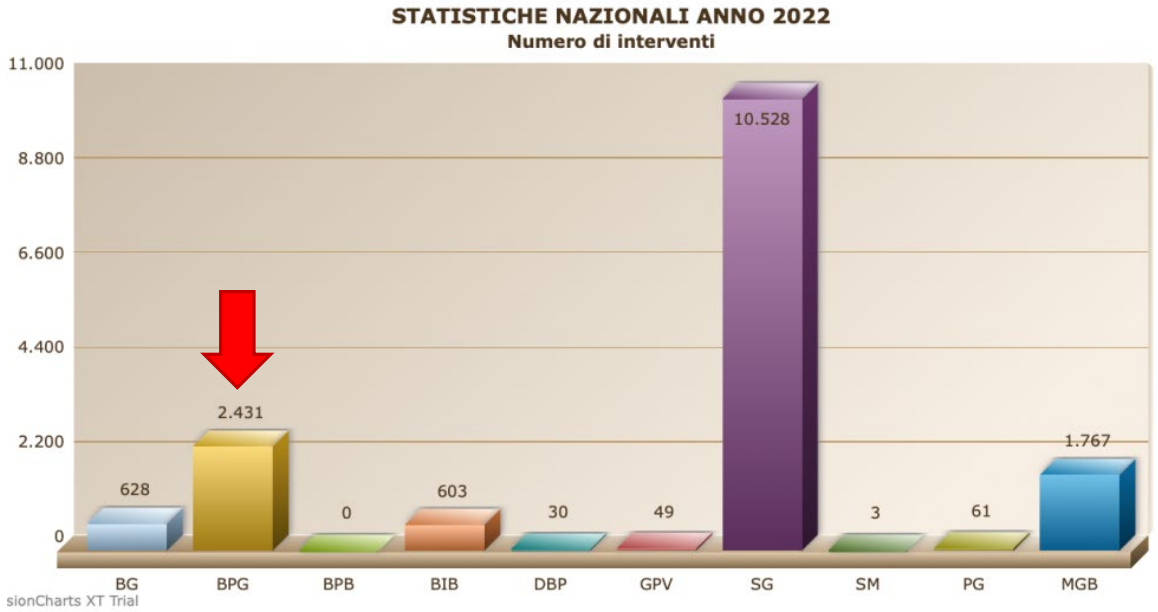
Selezionare l'anno Tutti

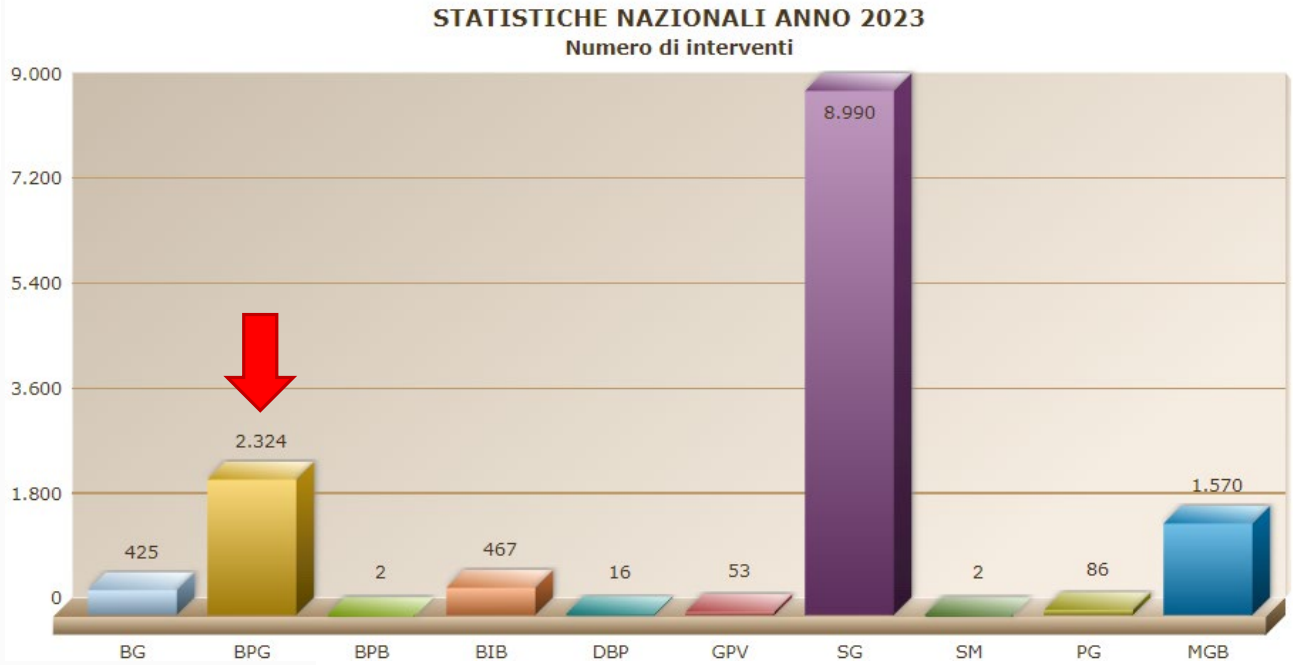
TIPO DI INTERVENTO	CASISTICA	MASCHI	FEMMINE	ETA'		
				Media	Min	Max
Bendaggio gastrico	30.562	5.778	24.783	40,13	8	78
By pass gastrico	28.372	6.720	21.652	44,56	12	79
By pass biliointestinale	920	288	632	39,11	16	68
Pallone intragastrico	6.352	2.059	4.293	39,64	8	78
Diversione biliopancr.	2.300	826	1.474	42,62	15	79
Gastroplastica verticale	1.821	292	1.529	40,46	13	70
Sleeve gastrectomy	83.980	21.888	62.090	42,53	8	79
Super Magenstrasse	981	193	788	45,11	8	78
Plicatura gastrica	878	185	693	45,23	19	75
Mini gastric bypass	12.108	3.285	8.823	45,11	8	78
TOTALI	**168.274**	**41.514**	**126.757**			



Registro Nazionale SICOB

Chirurgia dell'Obesità e delle Malattie Metaboliche

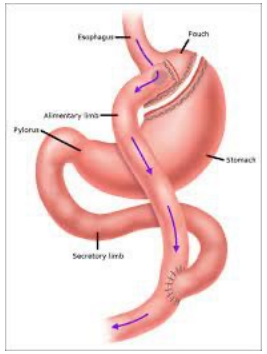




Registro Nazionale SICOB

Chirurgia dell'Obesità e delle Malattie Metaboliche

Gastric remant, duodenum, CBD after RYGB



- Neoplasie
- Coledocolitiasi
- Complicanze acute

Review paper

Epidemiology of gastric cancer: global trends, risk factors and prevention

Prashanth Rawla[1], Adam Barsouk[2]

[1]Department of Internal Medicine, SOVAH Health, Hospitalist, Martinsville, USA
[2]Hillman Cancer Center, University of Pittsburgh, PA, USA

Gastroenterology Rev 2019; 14 (1): 26–38
DOI: https://doi.org/10.5114/pg.2018.80001

American Cancer Society. https://www.cancer.org/cancer/stomach-cancer/detection-diagnosis-staging/survival-rates.html. Last Revised: March 1, 2022

Gastric cancer is the **third leading cause of cancer-related death worldwide**, with about **33.3% of patients having a 5-year survival** rate. One of the main reasons for the significantly low survival rates is associated with **late diagnosis.**

AIOM ASSOCIAZIONE ITALIANA ONCOLOGIA MEDICA

Roma, 2 ottobre 2022 – I principali tumori del tratto gastro-intestinale colpiscono ogni anno 78mila uomini e donne nel nostro Paese. Nello specifico si registrano **43.700 casi di tumore** del colon-retto; **14.500 allo stomaco**; 14.300 al pancreas e 5.400 colangiocarcinomi

La neoplasia gastrica rappresenta la **quarta causa di morte in Italia**, con particolare incidenza **nell' appennino tosco-romagnolo**

Obesity Surgery (2023) 33:1876–1888
https://doi.org/10.1007/s11695-023-06567-6

REVIEW

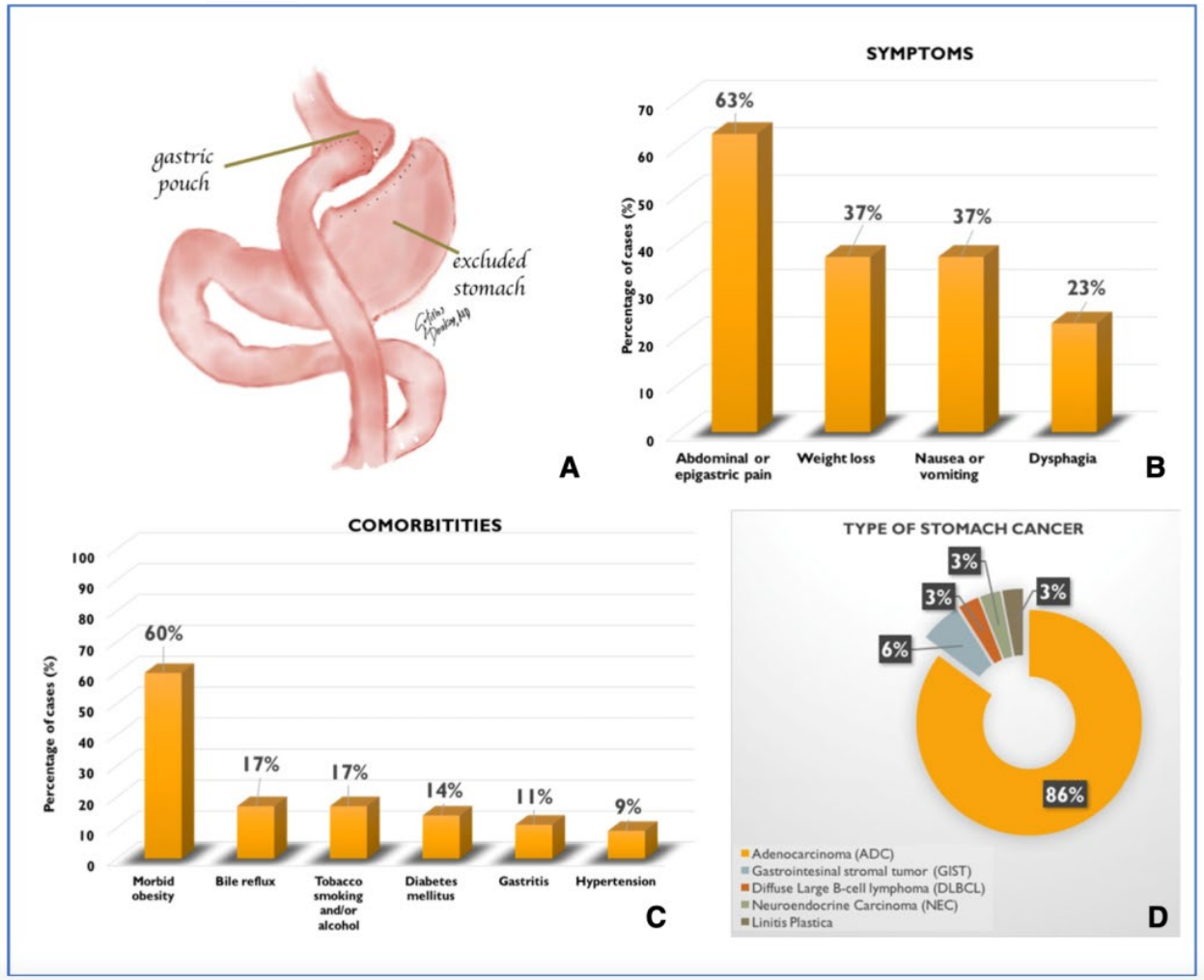
Gastric cancer after Bariatric Bypass Surgery. Do they relate? (A Systematic Review)

Sotirios G. Doukas[1] · Panagiotis G. Doukas[2] · Dimitra P. Vageli[2] · Arkady Broder[1]

Received: 13 November 2022 / Revised: 18 March 2023 / Accepted: 28 March 2023 / Published online: 11 April 2023

- 30 articles
- **35 cases, including 30 cases after RYGB.**
- **27 (77%) cases in the bypassed or excluded stomach**
- Most of the excluded stomach tumors (55%) were identified by exploratory laparotomy or laparoscopy
- Considerable proportion of tumors with **evidence of local or distant metastasis (47%).**

The mean time of tumor presentation was 10.5 years



Risk factors for gastric cancer

-H. pilory
-history fo gastric cancer
-tobacco
-bile reflux
-n-nitrosamine
-changes in gastric and intestinal microbiota following gastric bypass
-obesity (pre-malignant molecular alteration previous to weight loss)

Conclusion

Our study suggests that cancer in the excluded stomach or gastric pouch after bariatric bypass surgery might be a rare but devastating complication, particularly in patients at considerable risk for gastric cancer. Given that most of the patients were diagnosed in an advanced stage, an assessment of gastric cancer risk should be considered as part of the pre-operative assessment. Also, further studies should be made to evaluate the clinical significance of surveillance after gastric bypass surgery. Finally, the new onset of upper gastrointestinal symptoms, even years after bariatric bypass surgery, should raise the suspicion of gastric cancer and suggest further evaluation.

Obesity Surgery (2019) 29:2609–2613
https://doi.org/10.1007/s11695-019-03892-7

ORIGINAL CONTRIBUTIONS

Remnant Gastric Cancer After Roux-en-Y Gastric Bypass: Narrative Review of the Literature

Stefania Tornese[1] · Alberto Aiolfi[1] · Gianluca Bonitta[1] · Emanuele Rausa[1] · Guglielmo Guerrazzi[2] · Piero Giovanni Bruni[1] · Giancarlo Micheletto[2] · Davide Bona[1]

17 pazienti da 38 a 71 anni
Tumor location:
- 12 (70.5%) Antro
- 2 (11.7%) Corpo gastrico
- 1 (5.9%) Fondo
- 2 (11.7%) Linite plastica

ADC istotipo più frequente (88.2%), Linfoma Gastrico (5.9%), GIST (5.9%).

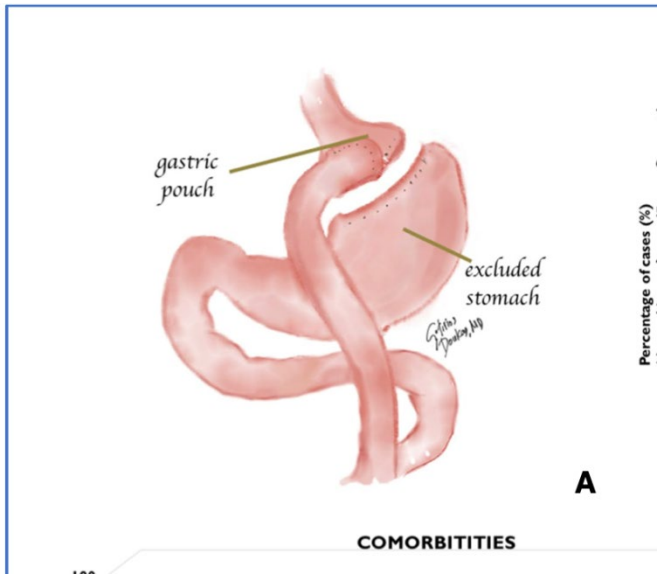
Stadio riportato in 15 pazienti: Tis 13.3%, Stadio IA in 6.6%, Stadio IIB in 6.6%, Stadio IIIB in 33.3%, Stadio IV in 40% of patients.
At the operation, 7 patients had an unresectable tumor and underwent palliative chemotherapy (41%).

Gastric remnant diagnosis

Percutaneous endoscopic gastrostomy (PEG),
Percutaneous endoscopic transgastric jejunostomy (PEG-J)
Direct percutaneous endoscopic jejunostomy (DPEJ)
Double balloon enteroscopy
Intragastric single-port surgery (IGS) accesses the gastric remnant

Exploring the Excluded Stomach: A Case Series of Novel Endoscopic Techniques to Diagnose Gastric Cancer in the Excluded Stomach After Roux-en-Y Gastric Bypass Surgery

Saeed Ali [1], Abdelkader Chaar [2], Wesam Frandah [3], Rola Altoos [4], Zeeshan Sattar [5], Muhammad Hasan [6]



Choledocholithiasis management after RYGB

Alta incidenza di colelitiasi nei pazienti sottoposti a chirurgia bariatrica (rapido calo di peso e alterazione del ricircolo degli acidi biliari)

Meta-Analysis > Surg Endosc. 2022 Sep;36(9):6868-6877.
doi: 10.1007/s00464-022-09018-y. Epub 2022 Jan 18.

Management of choledocholithiasis after Roux-en-Y gastric bypass: a systematic review and pooled proportion meta-analysis

Matthew Connell [1], Warren Y L Sun [2], Valentin Mocanu [1], Jerry T Dang [1], Janice Y Kung [3], Noah J Switzer [1], Daniel W Birch [1], Shahzeer Karmali [1]

Affiliations + expand

PMID: 35041054 DOI: 10.1007/s00464-022-09018-y

> Endosc Int Open. 2023 May 26;11(5):E529-E537. doi: 10.1055/a-2057-5984.
eCollection 2023 May.

Endoscopic ultrasound-directed transgastric ERCP (EDGE): A multicenter US study on long-term follow-up and fistula closure

Prashant Kedia [1], Sardar Shah-Khan [2], Amy Tyberg [3], Monica Gaidhane [1], Avik Sarkar [1], Haroon Shahid [1], Eric Zhao [1], Shyam Thakkar [4], Mason Winkie [4], Matthew Krafft [5], Shailendra Singh [5], Eugene Zolotarevsky [6], Jeremy Barber [6], Mitchelle Zolotarevsky [6], Ian Greenberg [1], Dhiemeziem Eke [1], David Lee [1], Frank Gress [7], Iman Andalib [8], Gregory Bills [9], Patrick Carey [9], Moamen Gabr [10], Michael Lajin [11], Enrique Vazquez-Sequeiros [12], Douglas Pleskow [13], Neal Mehta [13], Allison Schulman [14], Richard Kwon [15], Kevin Platt [16], John Nasr [4], Michel Kahaleh [2]

Affiliations + expand

PMID: 37251793 PMCID: PMC10219784 DOI: 10.1055/a-2057-5984

laparoscopy-assisted ERCP (LAERCP)
balloon-assisted enteroscopy (BAE)
ultrasound-directed transgastric ERCP (EDGE)
laparoscopic common bile duct exploration (LCBDE)
EUS-guided intra-hepatic puncture with antegrade clearance (EGHAC)
percutaneous trans-hepatic biliary drainage (PTHBD),
rendezvous guidewire-associated (RGA) ERCP.

Acute remnant complications after RYGB: management

Obesity Surgery (2021) 31:1280–1289
https://doi.org/10.1007/s11695-020-05123-w

REVIEW

Ulcer Disease in the Excluded Segments after Roux-en-Y Gastric Bypass: a Current Review of the Literature

Gabriel Plitzko[1] · Grégoire Schmutz[1] · Dino Kröll[1] · Philipp C. Nett[1] · Yves Borbély[1]

Incidence of Gastritis and Predictors of PUD

Studies evaluating the gastric remnant after RYGB are rare. Among 53 patients with RYGB, remnant gastritis was found in 87% of patients with a normal mucosa in the pouch, indicating a harmful effect of unbuffered acid on the gastric remnant [31]. Elsewhere, in more than half of patients taking PPI, endoscopy of the gastric remnant revealed peptic changes [30].

Obesity Surgery (2020) 30:2637–2641
https://doi.org/10.1007/s11695-020-04537-w

ORIGINAL CONTRIBUTIONS

Management of Acute Gastric Remnant Complications After Roux-en-Y Gastric Bypass: a Single-Center Case Series

Pouya Iranmanesh[1] · Naveen V. Manisundaran[1] · Kulvinder S. Bajwa[1] · Nirav C. Thosani[1] · Melissa M. Felinski[1] · Erik B. Wilson[1] · Shinil K. Shah[1,2]

Published online: 11 March 2020

Table 2 Type of complication, management, and outcomes

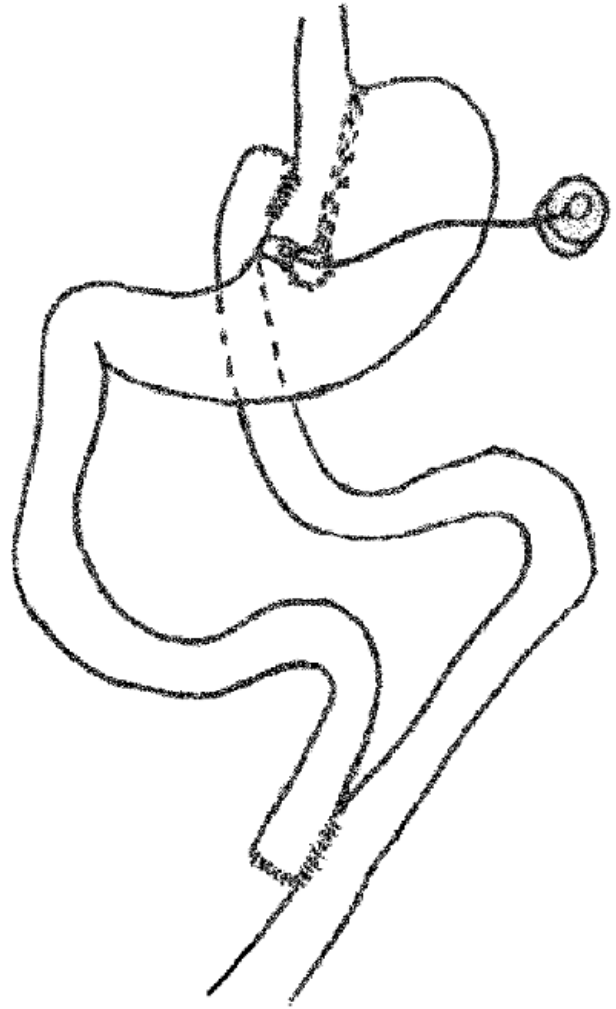
	Patient 1	Patient 2	Patient 3	Patient 4	Patient 5	Patient 6	Patient 7
Type of gastric remnant complication	Perforated ulcer	Bleeding	Perforated ulcer	Perforated ulcer	Necrosis	Bleeding	Bleeding
Type of management	Laparoscopic modified Graham's patch repair	Balloon enteroscopy and hemostasis with metallic clips	Laparoscopic modified Graham's patch repair	Open modified Graham's patch repair and gastrostomy tube	Laparoscopic remnant gastrectomy and laparoscopic-assisted endoscopy	Proton pump inhibitors	Balloon enteroscopy and hemostasis with metallic clips
Postoperative complication	None	None	None	New onset atrial fibrillation, pleural effusion	None	None	None
Length of hospital stay (days)	12	5	3	8	4	3	3

Obesity Surgery, **13**, 788-791

A Functional Roux-en-Y Gastric Bypass to Avoid Gastric Exclusion: 1-Year Results

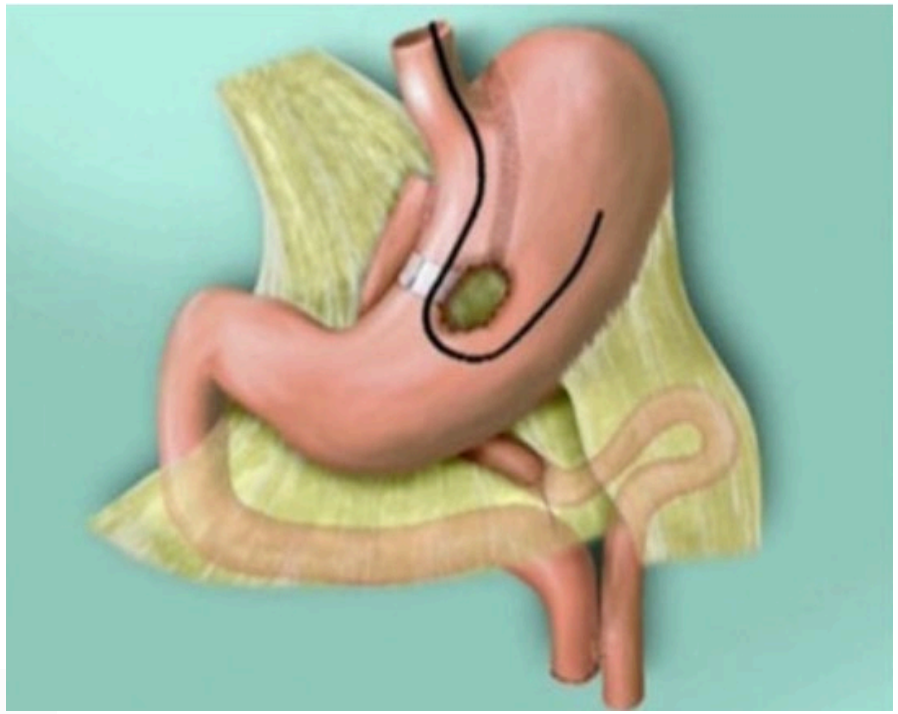
Stefano Cariani, MD; Giovanni Vittimberga, MD; Sergio Grani, MD; Andrea Lucchi, MD; Manuela Guerra, MD; Enrico Amenta, MD

Dipartimento di Scienze Chirurgiche ed Anestesiologiche, Centro Studi di Terapia Chirurgica dell'Obesità Patologica, Università degli Studi di Bologna, Italy



Obesity Surgery, **17**, 1312-1318

Three-Year Results of Roux-en-Y Gastric Bypass-on-Vertical Banded Gastroplasty: an Effective and Safe Procedure which Enables Endoscopy and X-Ray Study of the Stomach and Biliary Tract



Stefano Cariani, MD; Enrico Amenta, MD

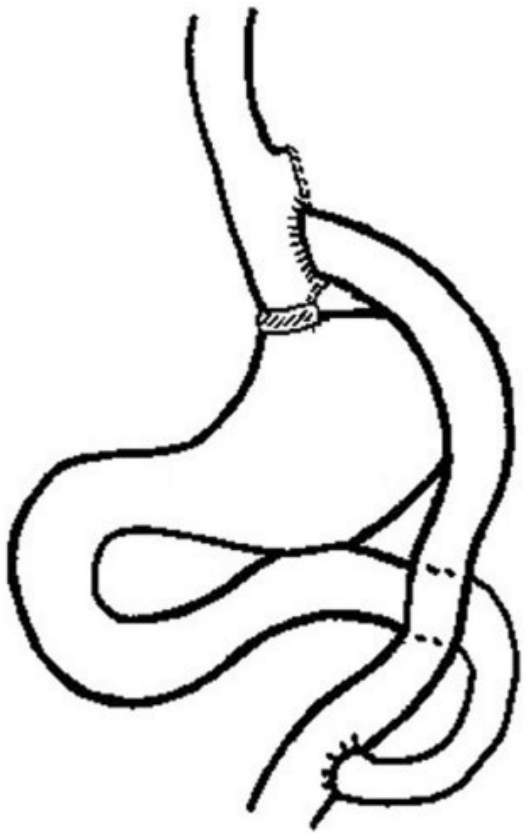
Dipartimento Emergenza/Urgenza, Chirurgia Generale e dei Trapianti (prof. B. Cola), Unità Operativa semplice di Terapia Chirurgica dell'Obesità Patologica (prof. E. Amenta), Azienda Ospedaliero-Universitaria di Bologna, Italia

OBES SURG (2017) 27:2145–2150
DOI 10.1007/s11695-017-2620-y

ORIGINAL CONTRIBUTIONS

Vertical Gastric Bypass with Fundectomy: Feasibility and 2-Year Follow-Up in a Series of Morbidly Obese Patients

Marco Antonio Zappa[1] · Alberto Aiolfi[1] · Cinzia Musolino[1] · Maria Paola Giusti[1] · Giovanni Lesti[2] · Andrea Porta[1]



postoperative leak rate compared to the circular stapler [23]. It has been proven that the gastric fundus plays a significant role on ghrelin secretion and metabolism. Ghrelin physiology is characterized by a rise during fasting periods and a rapid postprandial fall. In obese patients, fasting ghrelin levels are elevated and dynamics are altered with a missing postprandial inhibition [24–26]. The reductions of ghrelin secretion together with its serum concentration are achieved after the vertical gastric bypass with fundectomy [27].

Fundectomy and Ghrelin

Obesity Surgery (2020) 30:3046–3053
https://doi.org/10.1007/s11695-020-04650-w

ORIGINAL CONTRIBUTIONS

Impact of Functional Laparoscopic Gastric Bypass with Fundectomy and Gastric Remnant Exploration (LRYGBfse) on Patients' Quality of Life: Trajectory and 5-Year Follow-up Result

Giovanni Lesti[1] · Davide Bona[2] · Andrea Sozzi[2] · Francesco Lesti[1] · Gianluca Bonitta[2] · Marco Antonio Zappa[3] · Alberto Aiolfi[2]

Published online: 12 May 2020

The overall procedure-related morbidity rate was 1.1% (95% CI 0.4–2.3%). In two patients, the postoperative course was complicated by gastric anastomosis bleeding successfully managed with endoscopic clipping. In another patient, a significant intra-abdominal bleeding occurred and an emergent laparotomy was performed without finding the source of bleeding. In two cases, a postincisional trocar site hernia required a laparoscopic revision, respectively, in the 8th and 61st postoperative days. In two other cases, a small bowel intestinal occlusion related to an internal hernia required a laparoscopic revision 7 and 174 days after the index operation. No anastomotic leak, venous thromboembolism, pulmonary complications, or surgical site infections were observed. The median postoperative in-hospital length of stay was 4 days (range 2–10) and median ICU length of stay was 1 (range 1–2). None of the patients required postoperative mechanical ventilator assistance. The overall mortality was 0% (95% CI 0.0–0.4%).

Table 3 Body mass index (BMI) and percentage of total body weight loss (%TBWL) and excess weight loss (%EWL) at baseline and different follow-ups

	BMI (kg/m^2)	%TBWL	%EWL
Baseline	46.2 (9.8)	------	------
1-year follow-up	29.4 (5.9)	33.6 (4.7)	75.5 (15.1)
2-year follow-up	28.3 (4.7)	33.9 (4.2)	80.3 (12.4)
3-year follow-up	28.9 (5.2)	33.7 (5.0)	77.8 (14.3)
5-year follow-up	30.2 (6.2)	31.4 (5.9)	74.2 (16.9)

Table 4 Gastrointestinal Quality of Life Index (GIQLI). Comparisons were made for each follow-up point compared with baseline. No statistically significant differences were found comparing 1-, 2-, 3-, and 5-year follow-up results. Values are reported as median (IQR). *GI symptoms*, gastrointestinal symptoms

	Baseline	1-year	2-year	3-year	5-year
GIQLI total score	80.5 (14.9)	108.7 (19.9)*	113.8 (17.1)*	114.6 (15.5)*	106.9 (17.7)*
GIQLI subscores					
GI symptoms	52.4 (14.0)	63.1 (15.3)*	61.2 (15.1)*	59.9 (13.7)*	57.7 (13.8)*
Physical function	7.8 (3.3)	18.2 (6.3)*	23.2 (6.1)*	23.8 (4.1)*	20.5 (7.6)*
Emotional function	7.6 (3.4)	14.8 (5.5)*	15.9 (5.3)*	14.1 (4.8)*	13.4 (4.8)*
Social function	8.6 (3.7)	12.3 (5.8)*	14.2 (6.5)*	14.4 (5.8)*	12.7 (4.5)*
Medical treatment	2.8 (1.4)	3.2 (1.1)*	3.3 (1.2)*	3.4 (0.9)*	3.0 (1.5)**

*p value > 0.001; **p value = 0.024.

Table 3 Body mass index (BMI) and percentage of total body weight loss (%TBWL) and excess weight loss (%EWL) at baseline and different follow-ups

	BMI (kg/m^2)	%TBWL	%EWL
Baseline	46.2 (9.8)	------	------
1-year follow-up	29.4 (5.9)	33.6 (4.7)	75.5 (15.1)
2-year follow-up	28.3 (4.7)	33.9 (4.2)	80.3 (12.4)
3-year follow-up	28.9 (5.2)	33.7 (5.0)	77.8 (14.3)
5-year follow-up	30.2 (6.2)	31.4 (5.9)	74.2 (16.9)

Lesti-Zappa

ANDAMENTO DEI PARAMETRI ANTROPOMETRICI DEI 153.689 PAZIENTI INSERITI DAI CENTRI

numero di accessi nazionali 185.574

Selezionare la tipologia di intervento da consultare: By pass gastrico

FOLLOW UP	NUMERO CASI	PESO			BMI			EWL		
		MED	MIN	MAX	MED	MIN	MAX	MED	MIN	MAX
Ricovero	**26.996**	**118,52**	50,00	276,00	**43,61**	14,14	158,00	**0,00**		8,54
3 mesi	**8.956**	**96,49**	47,00	217,00	**35,73**	17,86	73,48	**37,26**	-800,00	736,36
6 mesi	**16.730**	**90,53**	47,00	235,00	**33,30**	14,77	79,15	**48,66**	-1.200,00	741,30
12 mesi	**14.744**	**82,39**	47,00	210,00	**30,32**	16,98	71,75	**62,25**	-1.080,00	736,75
18 mesi	**5.092**	**79,38**	49,80	177,20	**29,41**	17,30	66,12	**66,66**	-720,00	1.240,00
2 anni	**11.081**	**79,90**	43,00	213,00	**29,39**	16,80	68,10	**66,23**	-750,00	731,95
3 anni	**5.243**	**81,04**	46,00	175,00	**29,85**	16,54	62,81	**64,97**	-320,00	500,00
4 anni	**3.541**	**81,83**	49,90	189,00	**30,23**	17,53	64,21	**62,86**	-640,00	742,86
5 anni	**5.514**	**82,46**	50,00	185,00	**30,31**	17,34	69,42	**62,27**	-1.150,00	766,67
6 anni	**1.538**	**84,22**	50,00	210,00	**31,19**	17,08	54,66	**59,25**	-171,43	633,33
7 anni	**1.141**	**84,77**	50,00	168,00	**31,44**	18,31	64,81	**58,72**	-114,29	566,67
8 anni	**842**	**86,21**	47,00	189,00	**31,94**	17,99	65,92	**57,15**	-142,86	143,87
9 anni	**544**	**85,34**	50,00	163,00	**31,82**	17,30	56,63	**56,37**	-151,35	116,13
10 anni	**460**	**86,55**	50,00	175,00	**31,72**	17,07	56,50	**56,32**	-116,13	121,43
11 anni	**227**	**86,70**	50,00	134,50	**31,97**	19,05	52,70	**56,67**	-103,23	114,81
12 anni	**209**	**86,19**	50,00	180,00	**32,10**	19,70	58,11	**55,73**	-219,35	325,00

RYGB

S.I.C.OB.

Contents lists available at ScienceDirect

International Journal of Surgery Case Reports

journal homepage: www.casereports.com

Gastric cancer after gastric bypass with fundectomy: The possibility for early diagnosis

Marco Antonio Zappa [a], Maria Paola Giusti [b], Elisa Galfrascoli [a,*]

[a] Department of General Surgery, Fatebenfratelli Hospital, Piazzale Principessa Clotilde, 3, 20121, Milano, MI, Italy
[b] Department of General Surgery, Fatebenefratelli Hospital, Via fatebenefraatelli 20, 22036, Erba, CO, Italy

A B S T R A C T

Introduction: Roux-an-Y gastric bypass (RYGP) is one of the most important bariatric procedures and its results are well known in terms of weight loss and comorbid improvement. The major limitation of this technique is the difficult exploration of the excluded stomach and duodenum. Some Authors are performing the gastric bypass with fundectomy and, according to Literature, it is feasible and effective, with major advantage of explorable gastric pouch.

Presentation of case: We report the case of a 54-year-old woman affected by obesity (BMI 49 kg/m^2). After a pre-operative multidisciplinary evaluation and gastroscopy, she underwent a laparoscopic RYGB with fundectomy in October 2016.

One year after surgery she contacted the department for vomiting, pyrosis and weakness.

Thanks to the characteristics of the surgical technique it was possible to easily perform an OGD that detected an antral ulcer. The byopsy revealed a gastric adenocarcinoma.

A degastroresection was performed and the istological finding was a gastric adenocarcinoma pT1b N0 G3.

Discussion: Early diagnosis is essential in gastric tumors to ensure a good prognosis and the gold standard is performing gastroscopy with biopsies.

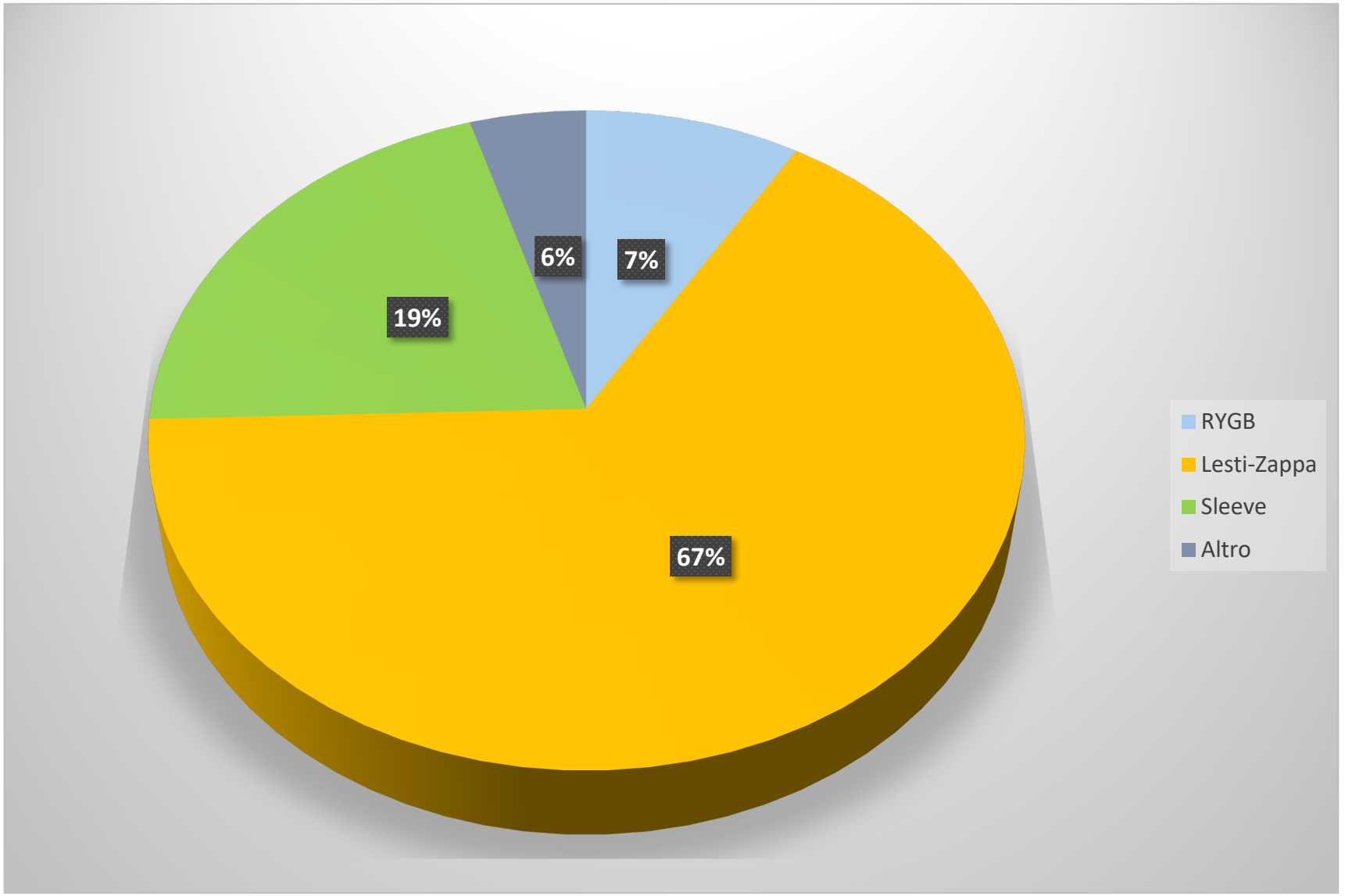
With the standard technique is very challenging to perform an OGD and the cancer stage is likely to be advanced at diagnosis, with a bad prognosis for the patient.

Conclusion: From the clinical case described and the analysis of the Literature, the advantages of this technique are clear, allowing for an easy endoscopic evaluation of gastric walls with the possibility of diagnosing early stage tumors with a better outcome for patients.

SERVIZIO SANITARIO REGIONALE
EMILIA-ROMAGNA
Azienda Unità Sanitaria Locale della Romagna

Chirurgia Generale Riccione

Da luglio 2021 a Maggio 2024: **200 interventi**



Chirurgia Riccione: bypass gastrico con fundectomia e stomaco esplorabile

- Maggio ‘22 – Maggio ‘24: **134 interventi**
- (113 F, 21 M)
- Età media 47
- 100 primo intervento, 34 redo
- BMI medio pre 41.17
- Peso medio pre 113 kg
- Degenza media 2.8 gg
- Tempo operatorio medio: 135 minuti
- 1 conversione
- EW preop 54 kg
- EWL 1 mese 16.4 (123 pz)
- EWL 3 mesi 32.2 (93 pz)
- EWL 6 mesi 48.1 (68 pz)
- EWL 1 anno 60.1 (31 pz)

Solo primo intervento **100 pz**

EWL 1 mese 17.2 (93 pz)
EWL 3 mesi 33.5 (72 pz)
EWL 6 mesi 49.3 (56 pz)
EWL 1 anno 59.7 (26 pz)

Chirurgia Riccione: bypass gastrico con fundectomia e stomaco esplorabile

Complicanze < 30 gg. 10/134 (7.4%)

- -1 deiscenza sutura verticale (IIIa)
- -1 torsione anastomosi piede d'ansa (IIIb)
- -2 insufficienza resp acuta al risveglio (I)
- -3 infezione accesso trocar (II)
- -1 ernia ombelicale strozzata (IIIb)
- -1 necrosi parziale dell'omento (IIIb)

Complicanze >30 gg 2/98 (2%)

- 1 ernia interna Petersen a 1 anno (IIIb)
- 1 melena da esofagite grado C (IIIa)
- 1 subocclusione (I)

Readmission

- <30 gg 8/134 (5.9%) (3 dolore addominale, 1 febbre, 1 suboccusionel, 1 deiscenza sutura verticale, 1 disidratazione, 1 necrosi omentale)
- >30 gg 3/134 (2.2%) (1 nausea, 1 Enia di Petersen, 1 Melena)

ERABS

-no SBG
-no CV
-no drenaggi di routine
-mobilizzazione nel pomeriggio
-dieta semiliquida alla sera dell'intervento
-RX TD in 1 POD (solo a scopo documentale…)
-dimissione al pomeriggio di 2 POD
-consulto telefonico tutti i giorni fino al 1 controllo ambulatoriale in 7 POD

Bypass gastrico con fundectomia e stomaco eplorabile

vantaggi

-stomaco, duodeno e via biliare esplorabili (pz giovani!)
-calo ponderale > RYGB
-risultati in termini di risoluzione comorbilità e qualità di vita uguali o superiori rispetto a RYGB
-complicanze e mortalità non superiori al RYGB

svantaggi

-tecnicamente piu complesso
-tempo operatorio piu lungo
-costi superiori rispetto al RYGB (piu ricariche e benderella)

Perché non preferirlo al RYGB?


S.I.C.OB.
XXXII CONGRESSO
NAZIONALE SICOB
23 - 25 MAGGIO 2024
GIARDINI
NAXOS

Grazie