



S.I.C.O.B.

XXXII CONGRESSO
NAZIONALE SICOB

23 - 25 MAGGIO 2024
GIARDINI
NAXOS



QUALE INTERVENTO IN CASO DI GERD POST-OPERATORIO?

SEMPRE RYGB?

DR. GIACOMO PIATTO

UOC CHIRURGIA GENERALE E D'URGENZA

OSPEDALE DI MONTEBELLUNA (TV)

Obesity Surgery (2022) 32:3156–3171

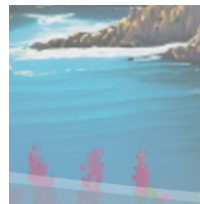
<https://doi.org/10.1007/s11695-022-06183-w>

REVIEW



Gastroesophageal Reflux Disease as an Indication of Revisional Bariatric Surgery—Indication and Results—a Systematic Review and Metanalysis

Sonja Chiappetta¹  · Panagiotis Lainas^{2,3} · Radwan Kassir^{4,5} · Rohollah Valizadeh⁶ · Alfonso Bosco¹ · Mohammad Kermansaravi⁷



OVERVIEW (2)


- 48 PAPERS, 17437 PATIENTS
- **915 PATIENTS** TREATED WITH REVISIONAL BARIATRIC SURGERY (RBS)
- PRIOR SURGERY: **87% SLEEVE**, 6.8% OAGB
- INDICATIONS: GERD 71.6%, GERD + WEIGHT ISSUES 16%, BILE REFLUX 6.2%
- OVERALL **7% OF GERD** AFTER PRIMARY SURGERY **REQUIRING RBS**
- REVISIONAL SURGERY: **73.2% RYGB**, **RYGB + HHR**, OAGB, RE-SG, SEROMYOTOMY
- RESULTS: **99% REMISSION OF GERD**



Surgical Endoscopy (2024) 38:75–84
<https://doi.org/10.1007/s00464-023-10500-4>



Revisional bariatric surgery for gastroesophageal reflux disease: characterizing patient and procedural factors and 30-day outcomes for a retrospective cohort of 4412 patients

Sarah MacVicar¹  · Valentin Mocanu¹ · Uzair Jogiat¹ · Kevin Verhoeff¹ · Jerry Dang² · Daniel Birch¹ · Shahzeer Karmali¹ · Noah Switzer¹

Received: 16 June 2023 / Accepted: 24 September 2023 / Published online: 31 October 2023

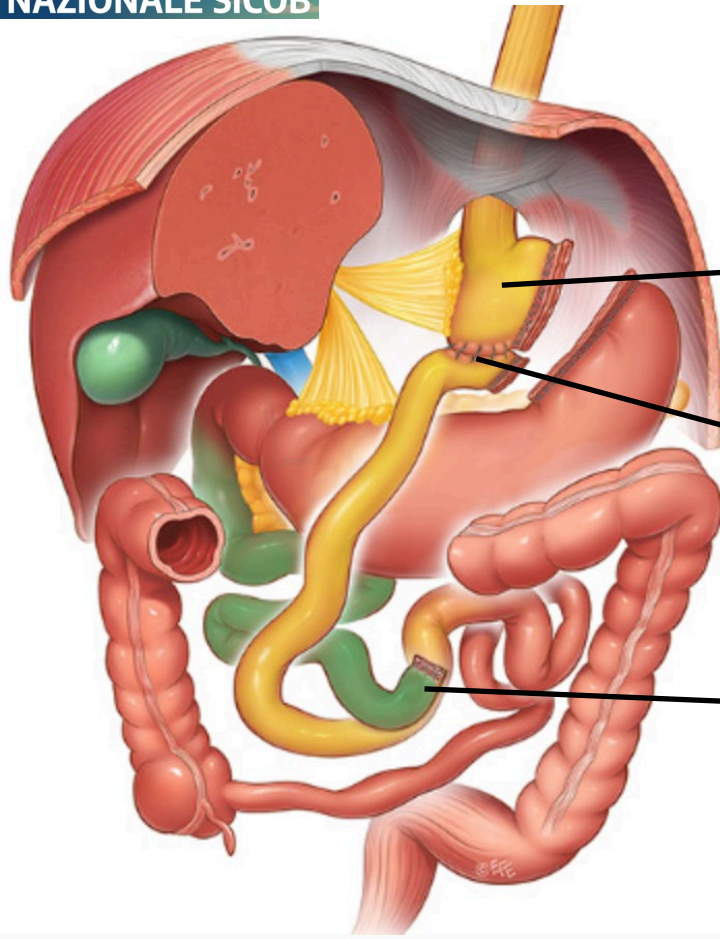
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OVERVIEW (4)

- DATA FROM THE METABOLIC AND BARIATRIC SURGERY ACCREDITATION AND QUALITY IMPROVEMENT PROGRAM (MBSAQIP)
- INDICATION: REVISIONAL SURGERY FOR GERD IN 2020
- **4412 PATIENTS** (24% OF ENTIRE REVISIONAL PROCEDURES)
- PPI USE 84.1%
- PRIOR SURGERY: **80.1% SLEEVE**, 15.4% GASTRIC BAND
- REVISIONAL SURGERY: **89.3% RYGB**, 7.1% SLEEVE, 1.2% OAGB
- 30 DAYS OUTCOME: RE-OPERATION 3.8%, MORTALITY 0.2%



WHY ROUX-EN-Y? (1)



SMALL GASTRIC POUCH → MINIMAL
ACID PRODUCTION

ABSENCE OF PYLORUS → NO LAPLACE
EFFECT

ROUX LIMB → NO BILE REFLUX



WHY ROUX-EN Y? (2)



Surgery for Obesity and Related Diseases ■ (2023) 1–9

SURGERY FOR OBESITY
AND RELATED DISEASES

Review article

Safety and efficacy of Roux-en-Y gastric bypass as revisional bariatric surgery after failed anti-reflux surgery: a systematic review


Sonja Chiappetta, M.D.^{a,*}, Nadia de Falco, M.D.^a, Panagiotis Lainas, M.D.^{b,c},
Radwan Kassir, M.D.^{d,e}, Rohollah Valizadeh, Ph.D.^f, Mohammad Kermansaravi, M.D.^{g,*}

- **874 RYGB AFTER FAILED ANTIREFLUX SURGERY (NISSEN)**
- **GERD IMPROVEMENT 92.6% (F-UP 25 MONTHS)**

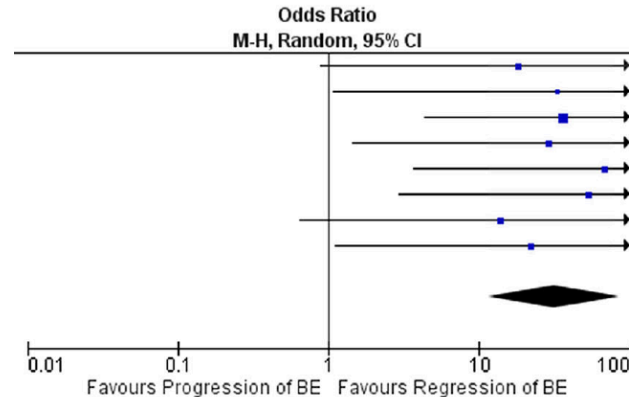




A Systematic Review and Meta-Analysis of the Effect of Roux-en-Y Gastric Bypass on Barrett's Esophagus

Md Tanveer Adil¹  · Omer Al-taan¹ · Farhan Rashid¹ · Aruna Munasinghe¹ · Vigyan Jain¹ · Douglas Whitelaw¹ · Periyathambi Jambulingam¹ · Kamal Mahawar²

- 10779 RYGB
- 117 BARRETT




Obesity Surgery (2021) 31:3936–3946
<https://doi.org/10.1007/s11695-021-05463-1>

ORIGINAL CONTRIBUTIONS



Indications and Outcomes of Conversion of Sleeve Gastrectomy to Roux-en-Y Gastric Bypass: a Systematic Review and a Meta-analysis

Reem Matar¹ • Nasser Monzer² • Veeravich Jaruvongvanich¹ • Rami Abusaleh¹ • Eric J. Vargas¹ • Daniel B. Maselli¹ • Azizullah Beran³ • Todd Kellogg⁴ • Omar Ghanem⁴ • Barham K. Abu Dayyeh¹ 

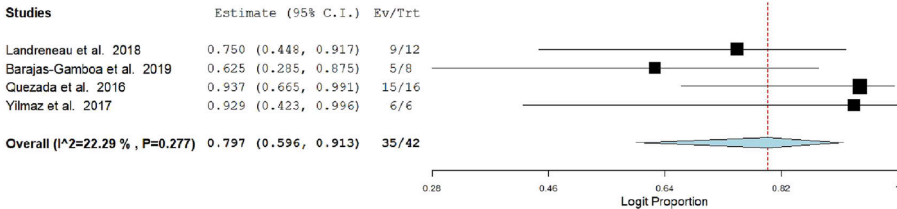
Received: 10 September 2020 / Revised: 5 May 2021 / Accepted: 5 May 2021 / Published online: 3 July 2021
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SG TO RYGB FOR GERD (2)

- 17 PAPERS
- 556 REVISIONAL RYGB (FROM SG)
- **30.4%** INDICATIONS FOR CONVERSION DUE TO GERD

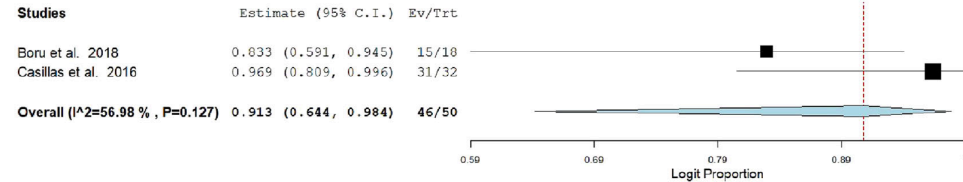
1 Year Follow-up

GERD Resolution

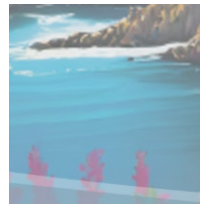
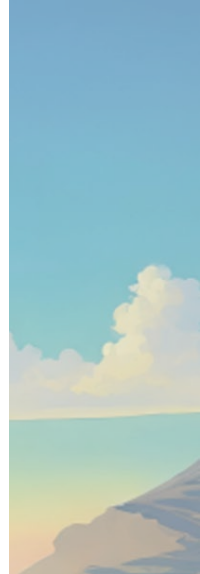


2 Years Follow-up

GERD Resolution



- **RESOLUTION OF GERD SYMPTOMS: 79.7% AT 1 YEAR, 91.3% AT 2 YEARS.**



Obesity Surgery (2023) 33:1486–1493
<https://doi.org/10.1007/s11695-023-06546-x>



ORIGINAL CONTRIBUTIONS



Conversion of Sleeve Gastrectomy to Roux-en-Y Gastric Bypass: Indications, Prevalence, and Safety

Jerry T. Dang¹  · Tiffany Vaughan² · Valentin Mocanu³ · Hadika Mubashir¹ · Juan S. Barajas-Gamboa⁴ · Ricard Corcelles Codina¹ · John Rodriguez⁴ · Shahzeer Karmali³ · Matthew Kroh¹



SG TO RYGB FOR GERD (4)

- DATA FROM THE METABOLIC AND BARIATRIC SURGERY ACCREDITATION AND QUALITY IMPROVEMENT PROGRAM (MBSAQIP)
- **13432** REVISIONAL RYGB AFTER SG IN 2020-2021
- INDICATIONS: **GERD 55.3% (!)**, WEIGHT REGAIN 24.4%
- **30 DAYS OUTCOME:** REVISIONAL RYGB ↑ RATE OF SERIOUS COMPLICATIONS COMPARED TO PRIMARY RYGB (7.2% VS 5%), NO DIFFERENCE IN MORTALITY(0.1%)




Obesity Surgery (2023) 33:4080–4102
<https://doi.org/10.1007/s11695-023-06866-y>



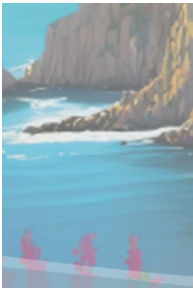
REVIEW



Does One-Anastomosis Gastric Bypass Expose Patients to Gastroesophageal Reflux: a Systematic Review and Meta-analysis

Ali Esparham¹ · Soheil Ahmadyar¹ · Tooraj Zandbaf² · Amin Dalili³ · Alireza Rezapannah³ · Robert Rutledge⁴ · Zhamak Khorgami^{5,6} 

- 27775 OAGB PATIENTS → **6% RATE OF NEW-ONSET GERD (SIMILAR TO SG!)**



OAGB VS RYGB AFTER SG FOR GERD (1)

Langenbeck's Archives of Surgery (2023) 408:440
<https://doi.org/10.1007/s00423-023-03175-x>

REVIEW

One-anastomosis gastric bypass (OAGB) versus Roux-en-Y gastric bypass (RYGB) as revisional procedures after failed laparoscopic sleeve gastrectomy (LSG): systematic review and meta-analysis of comparative studies

Antonio Vitiello¹ · Giovanna Berardi¹ · Roberto Peltrini² · Pietro Calabrese² · Vincenzo Pitone²



OAGB VS RYGB AFTER SG FOR GERD (2)

- 6 COMPARATIVE STUDIES
- 739 PATIENTS, 373 OAGB, 366 RYGB
- **GERD REMISSION: 68.6% AFTER OAGB VS 80.6% AFTER RYGB** ($p=0.19$)
- **DE NOVO GERD: 6.3% AFTER OAGB VS 0.5% AFTER RYGB** ($p=0.16$)
- (WIDE HETEROGENEITY)



Obesity Surgery (2022) 32:4057–4065
<https://doi.org/10.1007/s11695-022-06301-8>



REVIEW



Surgical Management of Gastro-oesophageal Reflux Disease After One Anastomosis Gastric Bypass — a Systematic Review

Rachel Xue Ning Lee¹  · Nayer Rizkallah¹ · Sonja Chiappetta² · Christine Stier³ · Sjaak Pouwels⁴ · Nasser Sakran^{5,6} · Rishi Singhal⁷ · Kamal Mahawar^{8,9} · Brijesh Madhok¹



OAGB TO RYGB FOR GERD (2)

- 21 STUDIES
- 13658 OAGB
- **230 (1.6%)** TREATED FOR GERD AFTER OAGB
- SURGICAL **REVISION**: 211 (**91.7%**) **RYGB**
- GERD **RESOLUTION**: 48.6%, (NOT REPORTED IN 45.6%)



SICOB SURVEY (1)

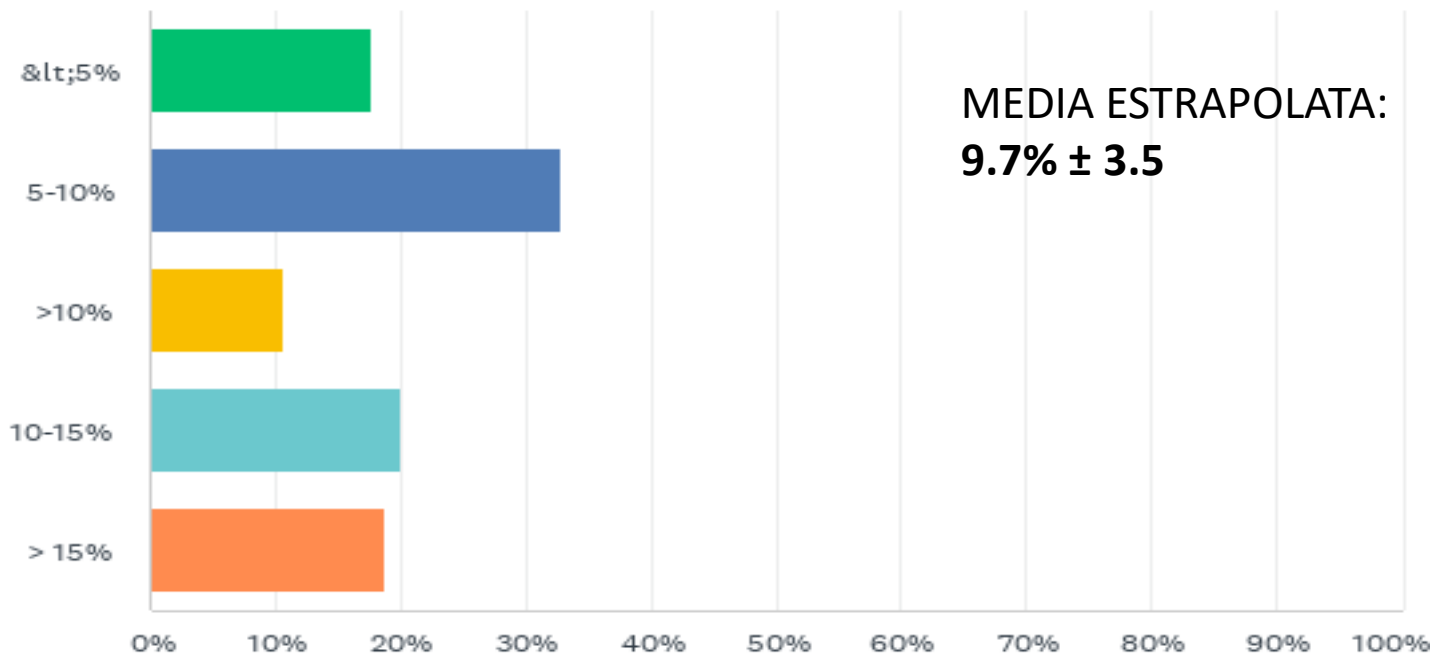
- NELLA TUA ESPERIENZA, QUANTI SONO GLI INTERVENTI DI CHIRURGIA DI REVISIONE EFFETTUATI OGNI ANNO?
- FRA GLI INTERVENTI DI CHIRURGIA DI REVISIONE CHE EFFETTUI, QUANTI SONO QUELLI PER GERD?
- IN CHE PERCENTUALE LA TUA PROCEDURA DI SCELTA È RAPPRESENTATA DA RYGB (O SUE VARIANTI)
- IN CHE PERCENTUALE TALE INTERVENTO RISOLVE IL GERD
- **85 PARTECIPANTI**



SICOB SURVEY (2)

D1: NELLA TUA ESPERIENZA, QUANTI SONO GLI **INTERVENTI** DI CHIRURGIA DI **REVISIONE** EFFETTUATI OGNI ANNO?

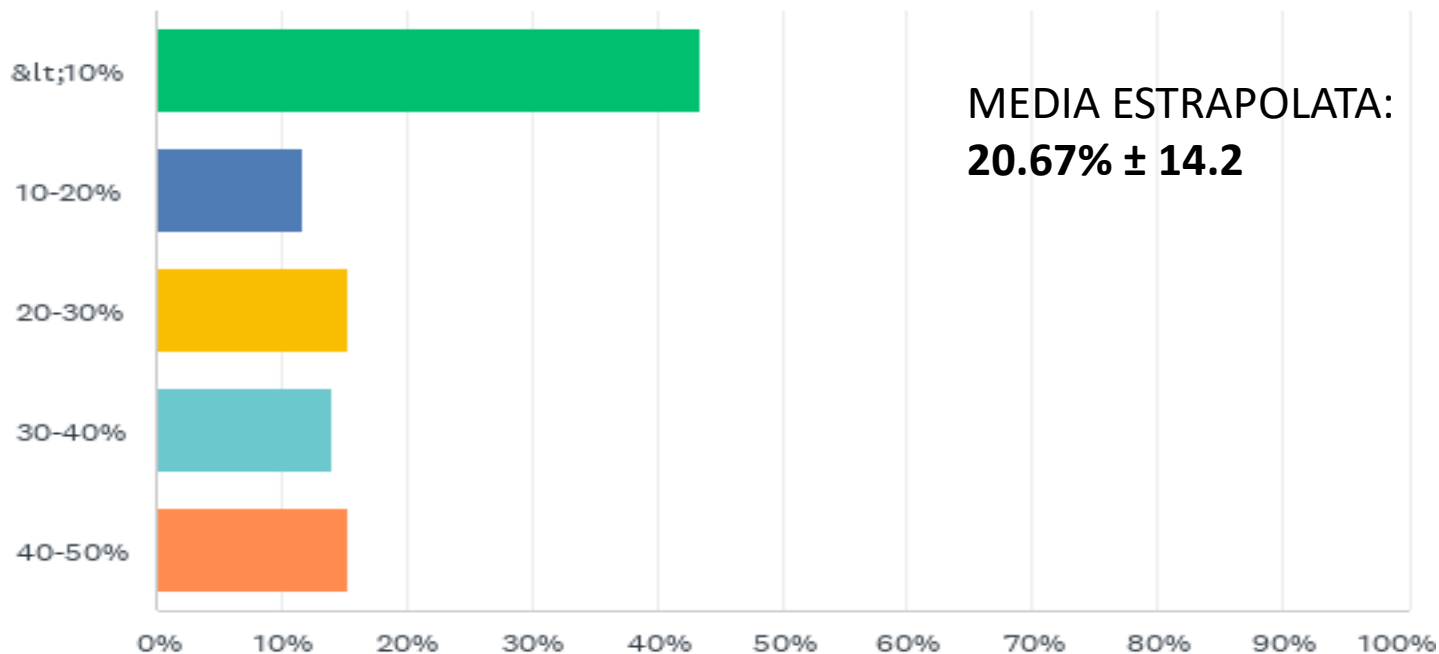
Risposte: 85 Saltate: 0



SICOB SURVEY (3)

D2: FRA GLI INTERVENTI DI **CHIRURGIA DI REVISIONE** CHE EFFETTUI, **QUANTI SONO QUELLI PER GERD?**

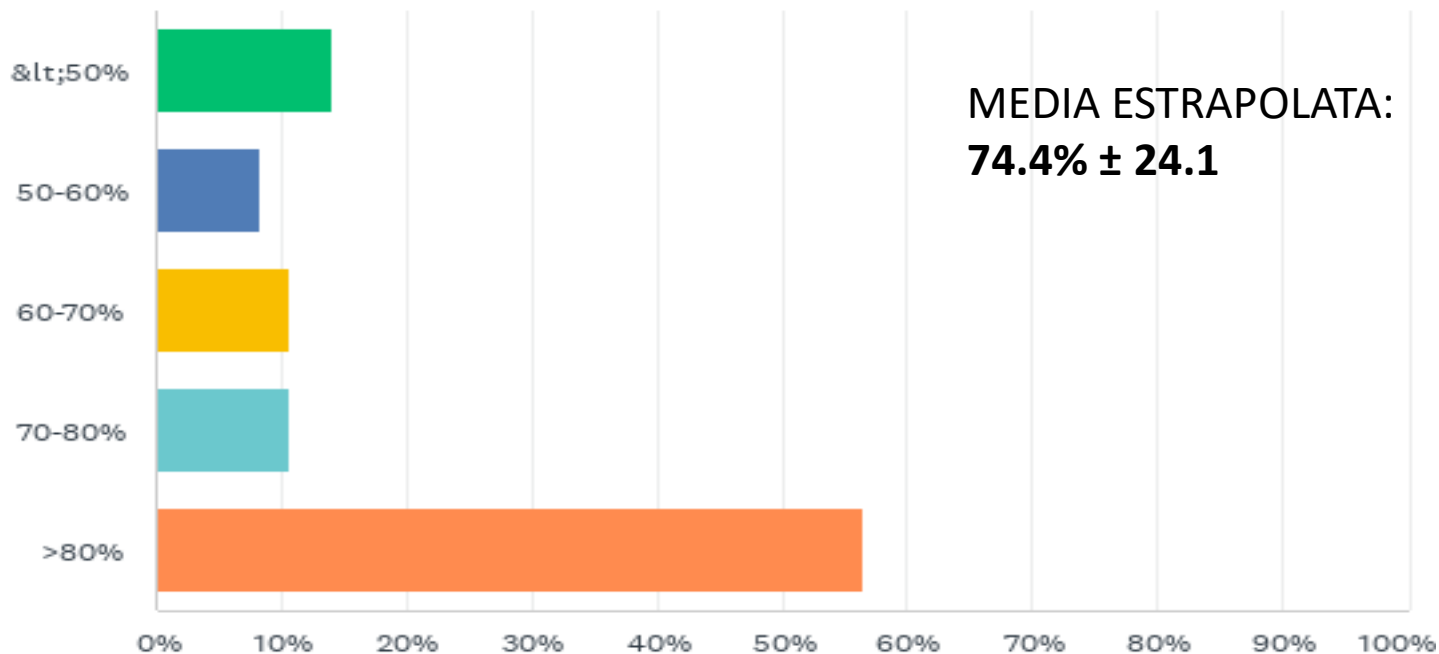
Risposte: 85 Saltate: 0



SICOB SURVEY (4)

D3: IN CHE **PERCENTUALE** LA TUA PROCEDURA DI SCELTA È RAPPRESENTATA DA **RYGB**
(O SUE VARIANTI)

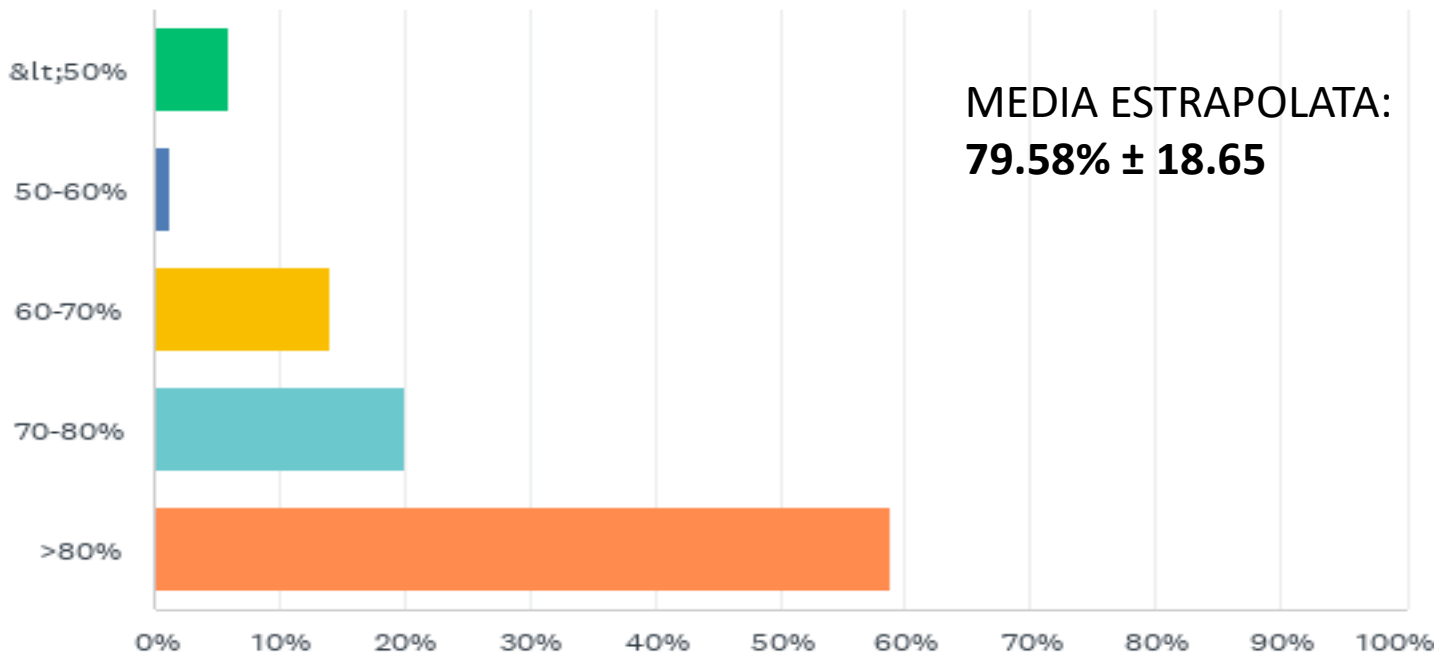
Risposte: 85 Saltate: 0



SICOB SURVEY (5)

D4: IN CHE PERCENTUALE TALE INTERVENTO RISOLVE IL GERD

Risposte: 85 Saltate: 0



CONCLUSIONS

- **GERD AFTER BARIATRIC SURGERY: MAJOR CONCERN, UP TO 50% OF INDICATION FOR REVISION (FIRST CAUSE OF RBS?).**
- **SG MAIN CAUSE OF POST-OPERATIVE GERD (UP TO 80% OF PRIOR OPERATION)**
- **RYGB REPRESENTS THE PROCEDURE OF CHOICE, UP TO 89% OF RBS FOR GERD**
- **R-RYGB ↑ RISK OF COMPLICATIONS (7.2% VS 5% RYGB), NO DIFFERENCE IN MORTALITY**
- **RATE OF GERD RESOLUTION UP TO 90% WITH RYGB**





GRAZIE!

DOTT. GIACOMO PIATTO

**U.O.C. CHIRURGIA GENERALE E D'URGENZA
OSPEDALE "SAN VALENTINO"
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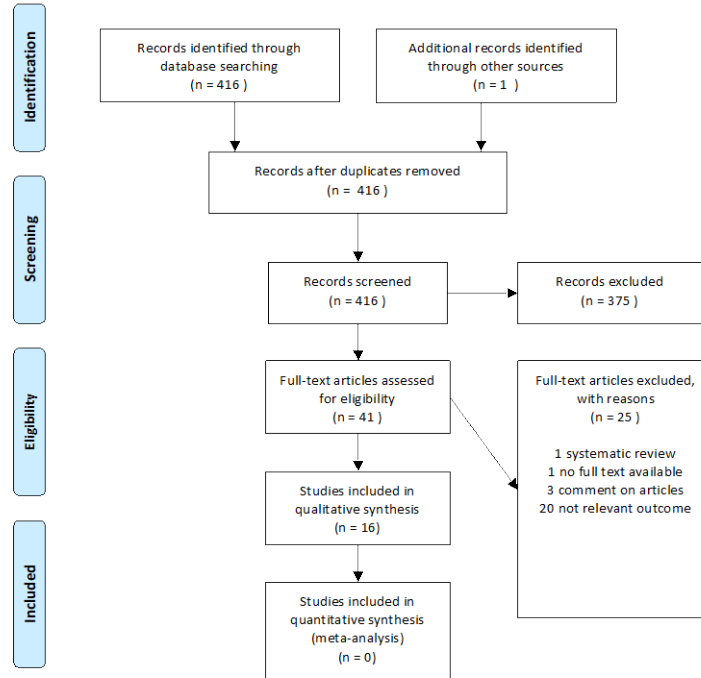
ADDITIONAL MATERIAL (1)

| Query | Results |
|--|------------|
| <p>Search: ((sleeve) AND (gastric bypass)) AND (conversion OR revisional) Filters: from 2019 - 2024</p> <p>("sleeve"[All Fields] OR "sleeved"[All Fields] OR "sleeves"[All Fields] OR "sleeving"[All Fields]) AND ("gastric bypass"[MeSH Terms] OR ("gastric"[All Fields] AND "bypass"[All Fields]) OR "gastric bypass"[All Fields]) AND ("conversion"[All Fields] OR "conversions"[All Fields] OR "revisional"[All Fields])) AND (2019:2024[pdat])</p> <p>Translations</p> <p>sleeve: "sleeve"[All Fields] OR "sleeved"[All Fields] OR "sleeves"[All Fields] OR "sleeving"[All Fields]</p> <p>gastric bypass: "gastric bypass"[MeSH Terms] OR ("gastric"[All Fields] AND "bypass"[All Fields]) OR "gastric bypass"[All Fields]</p> <p>conversion: "conversion"[All Fields] OR "conversions"[All Fields]</p> | <p>416</p> |

ADDITIONAL MATERIAL (2)



PRISMA Flow Diagram (sleeve to RYGB for GERD)

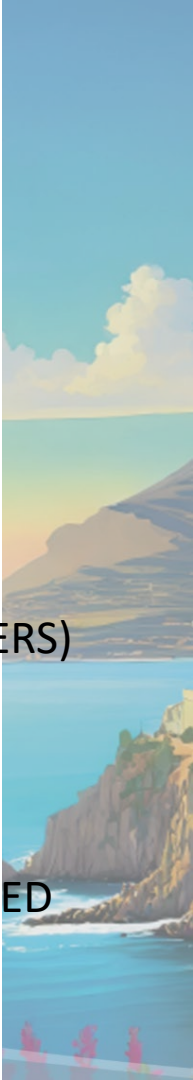


WARNING!
20 PAPERS
FOCUSED ON WL
EVEN IF
INDICATION WAS
GERD: EXCLUDED

ADDITIONAL MATERIAL (3)

RESULTS (1)

- **16 PAPERS**
- **18060 R-RYGB AFTER SG FOR GERD**
- **433 R-RYGB AFTER SG FOR GERD WITH MEAN F-UP 26.7 ± 16.18 MONTHS (13 PAPERS)**
FOCUSED ON **GERD** OUTCOME
- **17627 R-RYGB AFTER SG FOR GERD WITH 30 DAYS F-UP (MBSAQIP Registry) FOCUSED**
ON **COMPLICATIONS** (3 PAPERS)



ADDITIONAL MATERIAL (4)

RESULTS (2)

- TYPE OF **ASSESSMENT OF GERD BEFORE REVISION** (AFTER SG):
 - SYMPTOMS (+ PPI USAGE): 100%
 - ENDOSCOPY: 75.3% (WIDE ETEROGENITY 0-100%)
 - UGI SERIES: 40.4% (WIDE ETEROGENITY 0-100%)
 - pH-METRY: 8.5%
 - MANOMETRY: 17.1%



ADDITIONAL MATERIAL (5)

RESULTS (3)

- **GERD RESOLUTION: COMPLETE 83.7%**
- **TYPE OF ASSESSMENT OF GERD AFTER REVISION (AFTER R-RYGB):**
 - **NOT REPORTED IN 23% STUDIES (3/13)**
 - SYMPTOMS (+ PPI USAGE): 100%
 - ENDOSCOPY: 32.9%
 - UGI SERIES: 6%
 - pH-METRY: 11.2%
 - MANOMETRY: 12.1%



ADDITIONAL MATERIAL (6)

CONCLUSIONS (1)

- **PREOPERATIVE** ASSESSMENT OF GERD AFTER SG → MAINLY **SYMPTOMS** AND ENDOSCOPY (POOR ROLE OF PH-MANOMETRY)
- **POSTOPERATIVE** ASSESSMENT OF GERD AFTER R-RYGB → ALMOST EXCLUSIVELY **SYMPTOMS!**
- **ABSENCE** OF STANDARDIZED **PRE-REVISION** PROTOCOLS
- **ABSENCE** OF STANDARDIZED **POST-REVISION** PROTOCOLS



ADDITIONAL MATERIAL (7)

CONCLUSIONS (2)

- **SG → MOST PERFORMED BARIATRIC PROCEDURE WORLDWIDE**
- **INTRACTABLE GERD AFTER SG IS A MAJOR CONCERN, UP TO 50% OF INDICATIONS OF REVISION**
- **R-RYGB RESOLVES UP TO 83% OF GERD, BUT..**
- **STRONG NEED OF PRE- AND POST-REVISION ASSESSMENT PROTOCOLS (APPROVED BY SURGICAL SOCIETIES)**

