



COME DIAGNOSTICARE IL GERD DOPO CHIRURGIA

PROF PAOLA IOVINO

GASTROENTEROLOGIA UNIVERSITÀ DI SALERNO



Disclosure of Conflicts of Interest

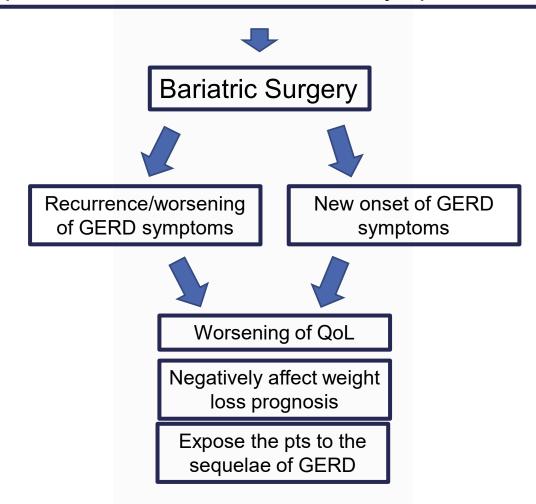
I herewith declare the following paid or unpaid consultancies, business interests or sources of honoraria payments for the past three years, and anything else which could potentially be viewed as a conflict of interest:

Aboca, Alfasigma, Norgine, Dr Falk.





Preoperative assessment of GERD symptoms and HH







KEY POINTS

- **©**Preoperative GERD diagnosis with its variables
- **©**Intraoperative HH diagnosis
- **6** Hiatal hernia repair and choice of the proper operation
- **©**recurrence of GERD symptoms or their new-onset after surgery



1° STEP AFTER SURGERY

CLINICAL EVALUATION





GERD OR NOT????



- ➤ The label "GERD" started to be associated with a long list of signs and symptoms, sometimes without proven evidences, resulting in frequent misdiagnosis and misuse of medical therapies.
- > Therefore, it has become more and more important to diagnose or to exclude GERD with enough confidence.

Recent advances in clinical practice



Modern diagnosis of GERD: the Lyon Consensus

C Prakash Gyawali, ¹ Peter J Kahrilas, ² Edoardo Savarino, ³ Frank Zerbib, ⁴ Francois Mion, ^{5,6,7} André J P M Smout, ⁸ Michael Vaezi, ⁹ Daniel Sifrim, ¹⁰ Mark R Fox, ^{11,12} Marcelo F Vela, ¹³ Radu Tutuian, ¹⁴ Jan Tack, ¹⁵ Albert J Bredenoord, ⁸ John Pandolfino, ² Sabine Roman ^{5,6,7}

DIAGNOSTIC PITFALLS



Expert history by a gastroenterologist 70% sensitivity 67% specificity

(when compared with objective evidence of GERD defined by pH-metry)

GERD questionnaires: accuracy less than 70%





Updates to the modern diagnosis of GERD: Lyon consensus 2.0

C Prakash Gyawali , Rena Yadlapati, Ronnie Fass, David Katzka, John Pandolfino, Edoardo Savarino, Daniel Sifrim , Ystuart Spechler, Frank Zerbib , Mark R Fox , Nark Refox , Staurt Spechler, Viving Cho, Daniel Cisternas, Lie Chien-Lin Chen , Scharles Cock, Labis Hani, Sose Maria Remes Troche, Niglan Xiao, Michael F Vaezi, Sabine Roman , Park Chien-Lin Chen , Stabine Roman , Stabin



Recent advances in clinical practice

UNPROVEN GERD
ENDOSCOPY, WIRELESS pH STUDY, 24 HOUR pH OR pH IMPEDANCE, HRM
off therapy

PROVEN GERD ENDOSCOPY, 24 HOUR pH IMPEDANCE on therapy

ENDOSCOPY

pH or pH-IMPEDANCE

HRM

ENDOSCOPY pH-IMPEDANCE

CONCLUSIVE EVIDENCE FOR PATHOLOGIC REFLUX LA grades B, C&D esophagitis Biopsy proven Barrett's mucosa Peptic esophageal stricture

AET>6% on 24 hour studies AET>6% on ≥2 days on wireless studies LA grades B, C&D esophagitis Peptic esophageal stricture AET>4%, reflux episodes>80

BORDERLINE OR INCONCLUSIVE EVIDENCE

LA grade A esophagitis

AET 4-6% on 24 hour studies
AET 4-6% on ≥2 days on
wireless studies
Total reflux episodes 40-80/day

LA grade A esophagitis
AET 1-4%
Total reflux episodes 40-80/day
MNBI 1500-2500 Ω

ADJUNCTIVE OR SUPPORTIVE EVIDENCE* Hiatus hernia
Histopathologic scoring systems
Electron microscopy of biopsies

Reflux-symptom association Total reflux episodes >80/day MNBI<1500 Ω Hypotensive EGJ Hiatus hernia IEM/absent contractility Hiatus hernia MNBI <1500 Ω Reflux symptom association

EVIDENCE AGAINST PATHOLOGIC REFLUX AET<4% each day of study** Total reflux episodes<40/day MNBI>2500 Ω

AET<1% Total reflux episodes <40/day MNBI>2500 Ω

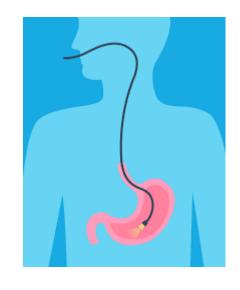
^{*} factors that increase confidence for presence of pathologic reflux when evidence is otherwise borderline or inconclusive

^{**} wireless pH monitoring: <4% on all days; pH-impedance: all criteria should be met.



2° STEP AFTER SURGERY

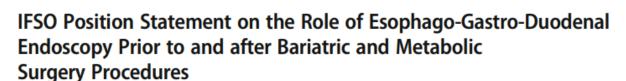
ENDOSCOPIC EVALUATION





REVIEW





Wendy A. Brown 1 • Yazmin Johari Halim Shah 1 • George Balalis 1 • Ahmad Bashir 1 • Almino Ramos 1 • Lilian Kow 1 • Miguel Herrera 1 • Scott Shikora 1 • Guilherme M. Campos 1 • Jacques Himpens 1 • Kelvin Higa 1

- EGD should be undertaken routinely for all patients after bariatric surgery at 1 year and then every 2– 3 years for patients who have undergone LSG or OAGB to enable early detection of Barrett's esophagus or upper GI malignancy until more data is available to confirm the incidence of these cancers in practice.
- EGD should be performed following AGB and RYGB on the basis of upper GI symptoms







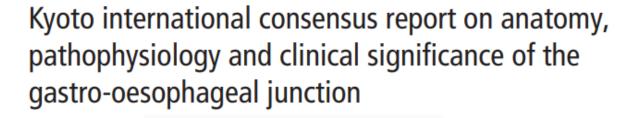
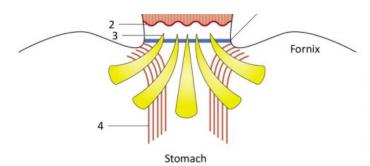
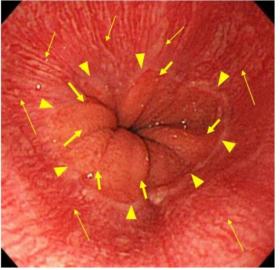




Figure 1 Landmarks of gastro-oesophageal junction (GOJ). (A) Schema of the landmarks used for GOJ. Endoscopic view of the GOJ. (1) palisade vessels, (2) squamocolumnar junctional line (Z line), (3) proximal end of the gastric folds, (4) gastric sling fibres and (5) angle of His. (B) Palisade vessels (thin arrows), squamocolumnar junctional line (Z-line) (arrow heads) and the end of gastric folds (thick arrows) are shown. These three landmarks (distal end of palisade vessels, Z-line and proximal end of gastric folds) are closely aligned with each other in normal subjects. (This endoscopic Image was provided by Prof. MF.).

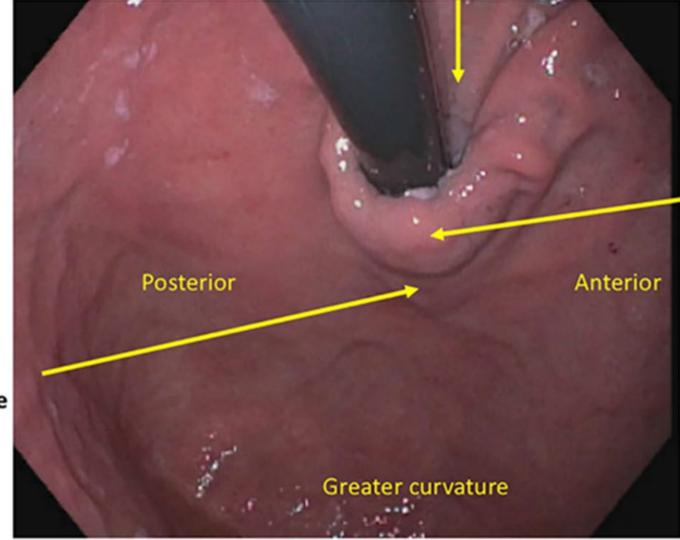








Lesser Curvature



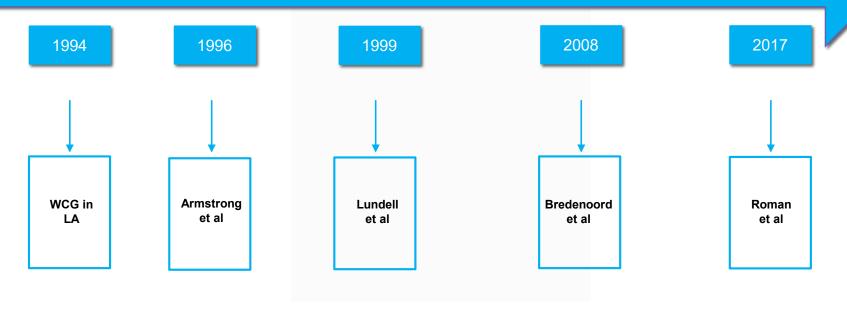
Lip of flap valve

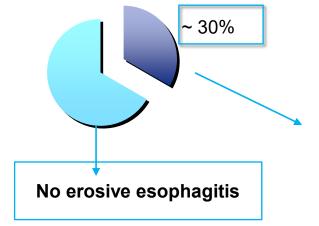
Body of flap valve

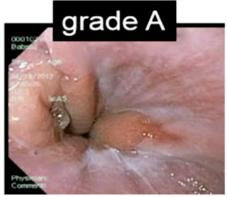


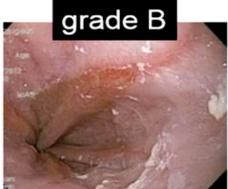
LOS ANGELES CLASSIFICATION

LYON CONSENSUS















3° STEP AFTER SURGERY

RADIOLOGICAL EVALUATION



Intrathoracic Migration of Gastric Sleeve Affects Weight Loss as well as GERD-an Analysis of Remnant Gastric Morphology for 100 Patients at One Year After Laparoscopic Sleeve Gastrectomy



Obesity Surgery, 2021

Seung Joon Choi¹ • Seong Min Kim² ⊚

The presence of ITSM indicated more frequent GERD symptoms and a higher probability of suboptimal weight loss.

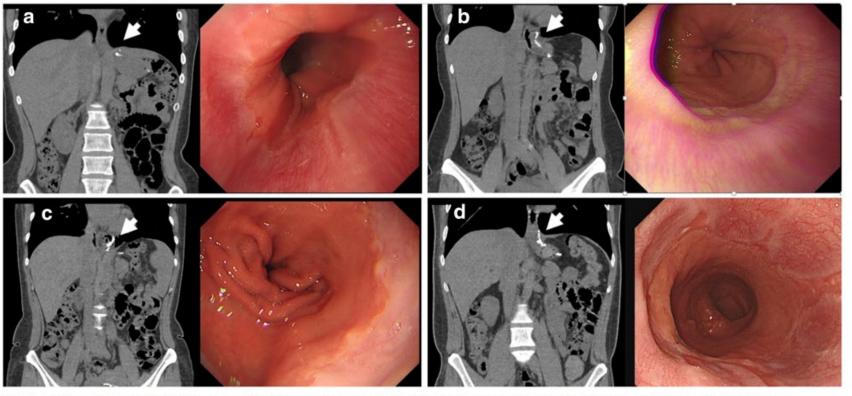


Fig. 2 ITSM was defined as the presence of staple lines (arrows) above diaphragmatic crus in coronal CT view. a ITSM (-). b~d ITSM (+)





URGERY FOR OBESITY

Surgery for Obesity and Related Diseases ■ (2023) 1-6

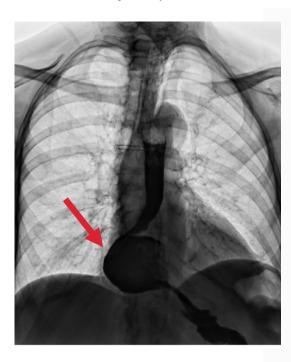
-0

Original article

Hiatal hernia repair after previous laparoscopic Roux-en-Y gastric bypass

Tiffany Vaughan, B.A. a,b,d, Gustavo Romero-Velez, M.D. a, Juan S. Barajas-Gamboa, M.D. b, Jerry T. Dang, M.D., Ph.D. John Rodriguez, M.D. Salvador Navarrete, M.D. a, Andrew T. Strong, M.D. Raul Rosenthal, M.D. Ricard Corcelles, M.D. Matthew Kroh, M.D. A, W.D. A

^aDigestive Disease & Surgery Institute, Cleveland Clinic, Cleveland, Ohio
^bDigestive Disease Institute, Cleveland Clinic Abu Dhabi, Abu Dhabi, United Arab Emirates
^cDigestive Disease & Surgery Institute, Cleveland Clinic, Weston, Florida
^dCase Western Reserve University School of Medicine, Cleveland, Ohio
Received 15 August 2023; accepted 4 November 2023





Original article

Late-term hiatal hernia after gastric bypass: an emerging problem Benjamin Clapp, M.D., F.A.S.M.B.S.*, Loc-Uyen Vo, M.P.H., Carlos Lodeiro, Brittany Harper, M.S., Simon Montelongo, D.O., Isaac Lee, M.D., Alan Tyroch, M.D.

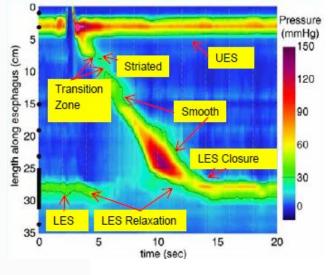
Department of Surgery, Texas Tech University Health Sciences Center Paul Foster School of Medicine, El Paso, Texas Received 30 September 2019; accepted 14 January 2020

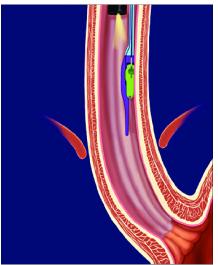




4° STEP AFTER SURGERY

MOTILITY TESTS

















Surgery for Obesity and Related Diseases 17 (2021) 329–337

31 PTS

Original article

High-resolution impedance manometry and 24-hour multichannel intraluminal impedance with pH testing before and after sleeve gastrectomy: de novo reflux in a prospective series

Tien Yew Chern, M.B.B.S., M.Sc. a,b,*, Daniel L. Chan, M.B.B.S., M.P.H., F.R.A.C.S. a,b,c, Jason Maani, B.H.B., M.B.Ch.B., F.R.A.C.S.^a, Jorgen S. Ferguson, M.B.B.S., B.Med.Sci., F.R.A.C.S.^a, Michael L. Talbot, M.B.Ch.B., F.R.A.C.S. a,b

MII-pH, HRM, 24-hour and Gastroesophageal Reflux Disease Symptom Assessment Scale (GSAS) questionnaire

1 month before and 6 months after SG.

- HRM demonstrated significantly increased intragastric pressures (15.5-29.6 mm Hg) and failed swallows (3.1–7.5%) but no other change in esophageal motility.
- MII-pH did not demonstrate significant changes in acid exposure time (8.5%-7.5%) or number of reflux episodes, although the numbers of long reflux episodes Q1 (2.3-4.7) and weak acid reflux episodes were significantly increased (15.4–55.2).
- DeMeester and GSAS scores were not significantly changed. There was no significant difference in patients with preexisting reflux.
- However, for patients without preexisting reflux, acid exposure time increased significantly (1.3%-6.7%), as did DeMeester Q2 scores (5.8–24.5) and the numbers of long reflux episodes (.1–4.4) and weakly acidic episodes (22.1-89.2).



OBES SURG (2010) 20:357-362 DOI 10.1007/s11695-009-0040-3

CLINICAL REPORT

Manometric Changes of the Lower Esophageal Sphincter After Sleeve Gastrectomy in Obese Patients

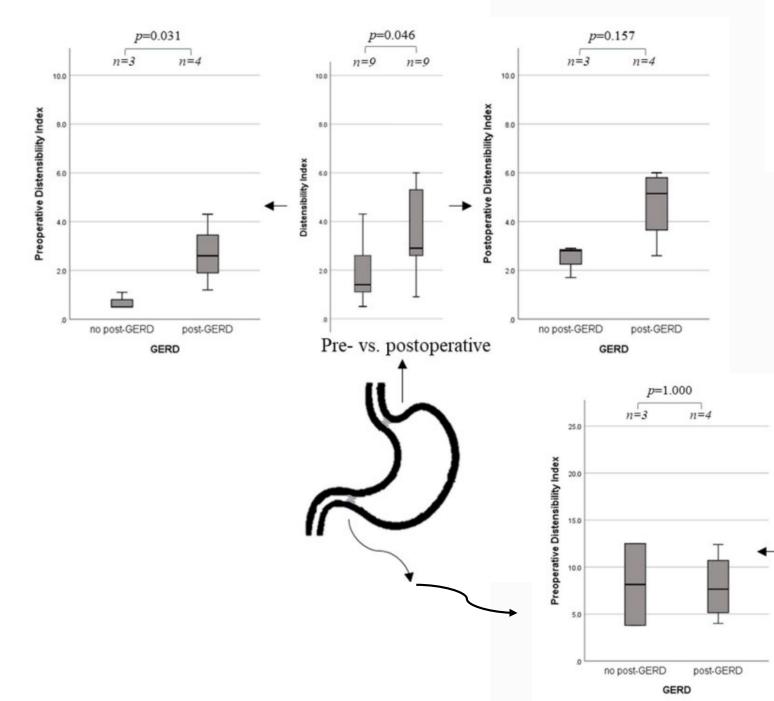
Italo Braghetto • Enrique Lanzarini • Owen Korn • Héctor Valladares • Juan Carlos Molina • Ana Henriquez

In our opinion, if patients have reflux symptoms or esophagitis, they must be thoroughly evaluated with functional esophageal tests and the most appropriate bariatic operation must be indicated for them.

In conclusion, sleeve gastrectomy produces an important decrease in LES pressure, which can promote the appearance of reflux symptoms and esophagitis after the operation due to the partial resection of the sling fibers during the gastrectomy. GERD symptoms and esophagitis observed in these patients can be explained due to this mechanism.

These findings should be considered in order to choose the best surgical option in obese patients with GERD or hiatal hernias.





Obesity Surgery (2023) 33:2255–2260 https://doi.org/10.1007/s11695-023-06606-2

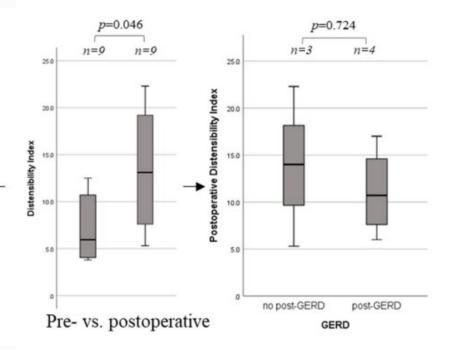


BRIEF COMMUNICATION



Gastroesophageal Junction and Pylorus Distensibility Before and After Sleeve Gastrectomy—pilot Study with EndoFlip $^{\mathsf{TM}}$

Christian Tibor Josef Magyar¹ · Yves Borbély¹ · Reiner Wiest¹ · Guido Stirnimann¹ · Daniel Candinas¹ · Johannes Lenglinger¹ · Philipp C. Nett¹ · Dino Kröll¹



REVIEW ARTICLE

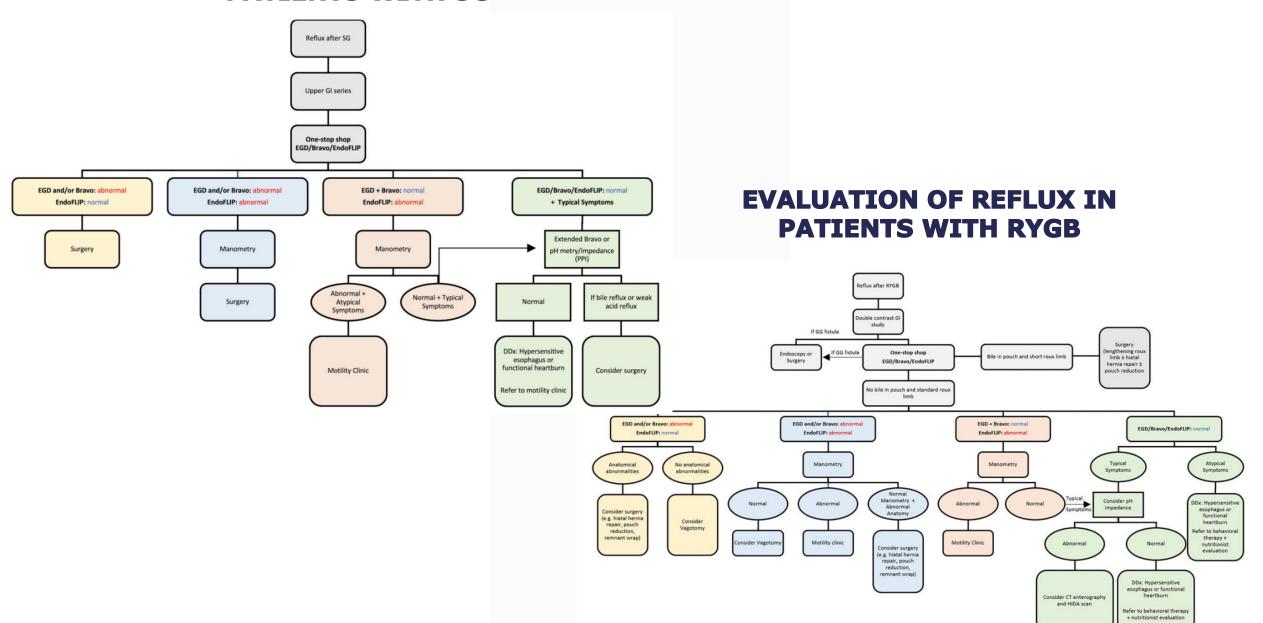


Turnkey algorithmic approach for the evaluation of gastroesophageal reflux disease after bariatric surgery

Omar M. Ghanem¹, Rabih Ghazi © ², Farah Abdul Razzak², Fateh Bazerbachi © ³, Karthik Ravi², Leena Khaitan⁴, Shanu N. Kothari⁵ and Barham K. Abu Dayyeh^{2,*}

Bariatric surgeries are often complicated by de-novo gastroesophageal reflux disease (GERD) or worsening of pre-existing GERD. The growing rates of obesity and bariatric surgeries worldwide are paralleled by an increase in the number of patients requiring post-surgical GERD evaluation. However, there is currently no standardized approach for the assessment of GERD in these patients. In this review, we delineate the relationship between GERD and the most common bariatric surgeries: sleeve gastrectomy (SG) and Roux-en-Y gastric bypass (RYGB), with a focus on pathophysiology, objective assessment, and underlying anatomical and motility disturbances. We suggest a stepwise algorithm to help diagnose GERD after SG and RYGB, determine the underlying cause, and guide the management and treatment.

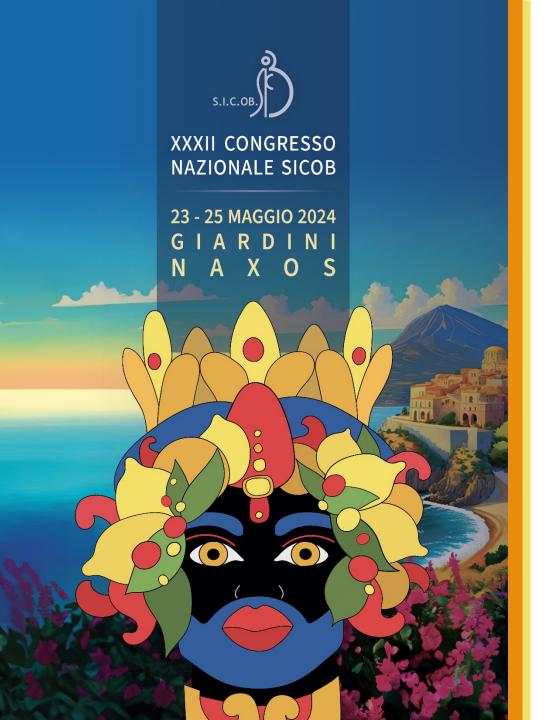
EVALUATION OF REFLUX IN PATIENTS WITH SG





CONCLUSIONS

- The growing rate of obesity worldwide is expected to yield a simultaneous increase in bariatric surgeries, and consequently an increase in the number of patients requiring evaluation of GERD after surgery.
- An accurate post-surgical evaluation in a patient with new-onset or refractory reflux is warranted to improve the patient's quality of life and mitigate the sequelae of GERD, including erosive esophagitis, Barrett's esophagus, and esophageal adenocarcinoma
- Several tools are used to objectively evaluate and diagnose GERD after bariatric surgeries. These include esophagogastroduodenoscopy (EGD), pH studies, high-resolution manometry (HRM), and the Endoluminal Functional Lumen Imaging Probe (EndoFLIP)
- A However, there is no standardized approach for the assessment of GERD in these patients



Grazie