Gastric Twist after Sleeve Gastrectomy:

an underestimated complication?

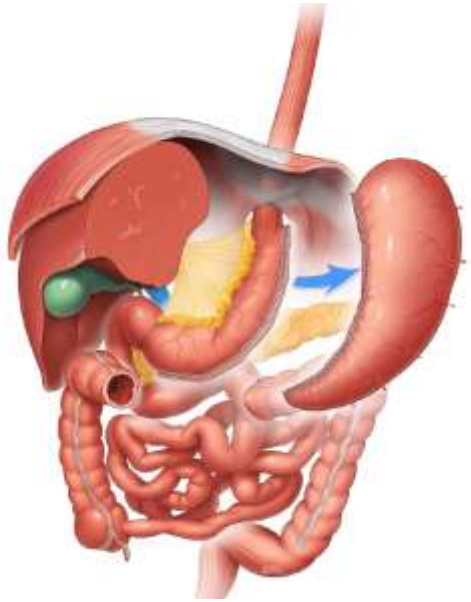
Nicoletta Basile
N. de Falco, V. Bottino, S. Chiappetta

Bariatric and Metabolic Surgery Unit
Ospedale Evangelico Betania, Naples, Italy

IFSO NAPOLI 2023

- **Conflict of interest disclosure**

  - **I have no potential conflict of interest to report**



Sleeve Gastrectomy (SG) is the most performed bariatric and metabolic procedure worldwide.

Gastric twist and strictures are a rare, but important long-term complication, reported to range from 0,7% to 4%.

Only 1.1% of stenosis develop symptoms that require endoscopic or surgical intervention

The twist of SG is a functional stenosis, with various degrees of rotation, due to the progressive, clockwise rotation of the staple line, in which the passage of the endoscope is possible.

- **The twisting of the gastric tube is one of the main causes of refractory reflux non responding to different medications and food intolerance after sleeve gastrectomy (SG).**

- **Twisting of the gastric sleeve could be due to:**
- **improper alignment of the stapler during firing with unequal traction of the greater curve of the stomach which leads to twisting of the gastric tube either anteriorly or posteriorly;**
- **during SG, the greater curvature is completely released from the greater omentum, making the stomach more mobile and prone for twisting;**
- **sleeve scarring with adhesion formation, leading to a kinking of the gastric tube at the incisura angularis .**

- **Most of patients present with midsleeve stricture, located near the incisura angularis.**

Obesity Surgery
https://doi.org/10.1007/s11695-020-04838-0

ORIGINAL CONTRIBUTIONS

The Impact of the Gastric Twist on Esophagitis Progression After Sleeve Gastrectomy: Mid-Term Endoscopic Findings

Álvaro A. B. Ferraz[1,2] · José-Tarcísio Dias da Silva[2] · Fernando Santa-Cruz[3] · Maria-Améllia R. Aquino[3] · Luciana T. Siqueira[1,2] · Flávio Kreimer[2]

SG is responsible for an increase in the prevalence of erosive esophagitis, and the occurrence of gastric twist definitely plays a role on it, expressing a risk of 36% for esophagitis progression and being related to a higher incidence of severe esophagitis.

ABCD Arq Bras Cir Dig
2022;35:e1665
https://doi.org/10.1590/0102-672020210002e1665

Original Article

GASTRIC TWIST AFTER SLEEVE GASTRECTOMY: A PROPOSAL FOR ENDOSCOPIC CLASSIFICATION

TORÇÃO GÁSTRICA APÓS GASTRECTOMIA VERTICAL: UMA PROPOSTA DE CLASSIFICAÇÃO ENDOSCÓPICA

Luciana T. **SIQUEIRA**[1], *Fernando* **SANTA-CRUZ**[2], *João Paulo* **PONTUAL**[3], *Maria Amélia R.* **AQUINO**[4], *Luca T.* **DOMPIERI**[4], *Flávio* **KREIMER**[1], *Álvaro A. B.* **FERRAZ**[1]

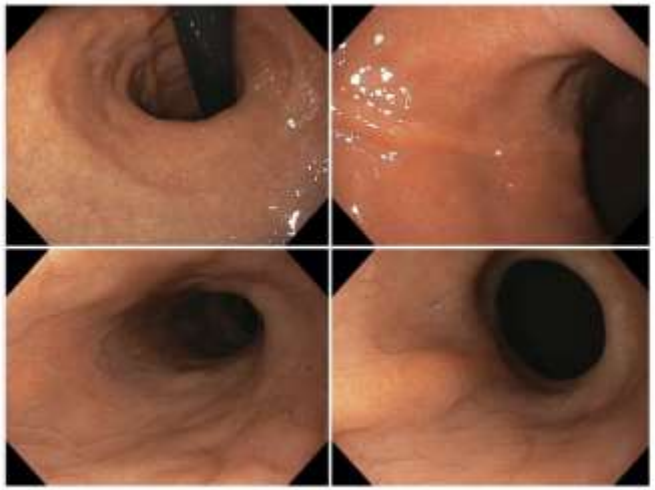


Figure 1 - Perfectly symmetrical gastric sleeve, with no signs of twist.

Figure 2 - Degree I: mild rotation of the staple line of the remnant stomach without relevant shrinkage of the gastric lumen.

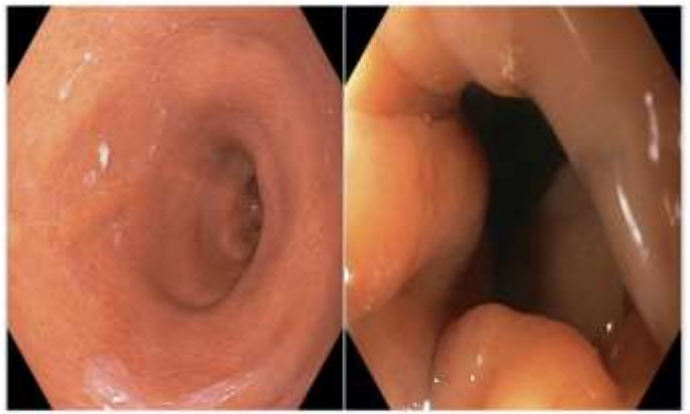


Figure 3 - Degree II gastric twist: moderate rotation of the staple line leading to a focal area of fixed narrowing that requires additional endoscopic maneuvers for its transposition.

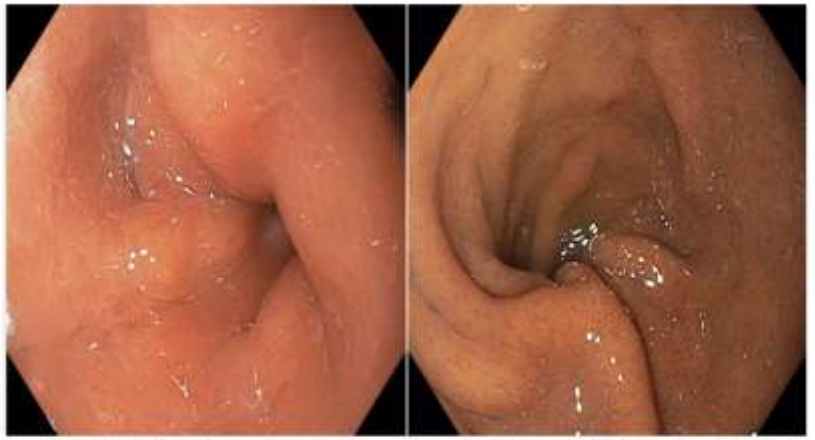


Figure 4 - Degree III: severe rotation of the staple line leading to stenosis, with increased difficulty for transposition or complete blockage.

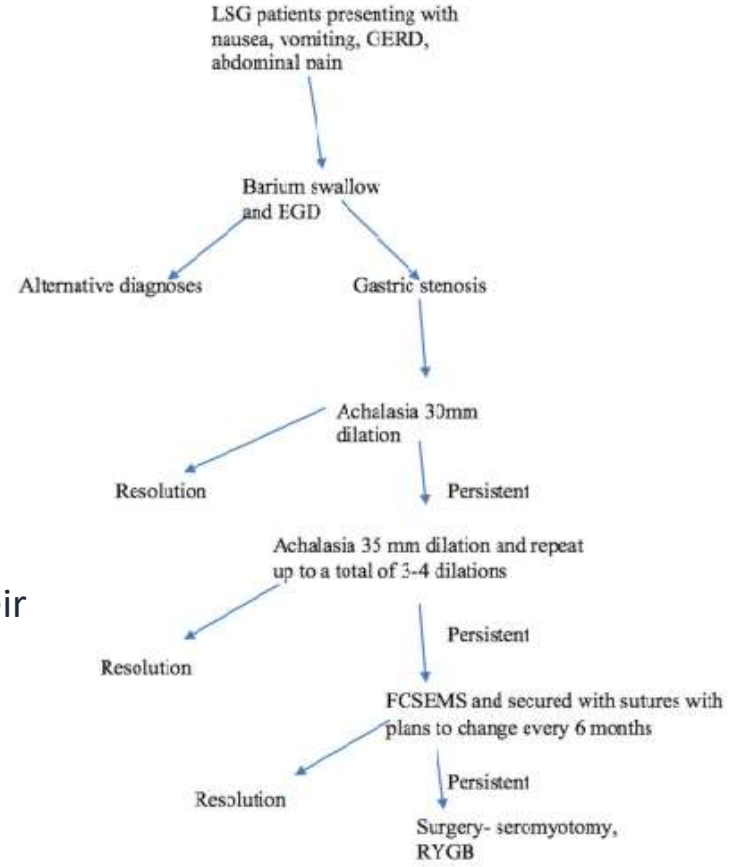
- **Management is reported to be endoscopic and includes different surgical options.**
- **NO INTERNATIONAL GUIDELINES EXIST.**

OBES SURG
DOI 10.1007/s11695-017-2689-3

ORIGINAL CONTRIBUTIONS

An Algorithmic Approach to the Management of Gastric Stenosis Following Laparoscopic Sleeve Gastrectomy

Abhishek Agnihotri[1] · Sindhu Barola[2] · Christine Hill[3] · Manoel Galvao Neto[4] · Josemberg Campos[5] · Vikesh K Singh[2] · Michael Schweitzer[6] · Mouen A Khashab[2] · Vivek Kumbhari[2,7]



Abhishek et al. proposed an algorithm of treatment for gastric stenosis after SG including in their sample only symptomatic patients and following a sequence of

→ balloon dilation (maximum of four dilations)
→ endoscopic stents
→ surgery

OBES SURG
DOI 10.1007/s11695-017-2649-y

ORIGINAL CONTRIBUTIONS

Management Options for Twisted Gastric Tube after Laparoscopic Sleeve Gastrectomy

Mohamed E. Abd Ellatif[1,2] · Ashraf Abbas[1] · Ayman El Nakeeb[3] · Alaa Magdy[2] · Asaad F. Salama[4,5] · Moataz M. Bashah[5] · Ibrahim Dawoud[1] · Maged Ali Gamal[6] · Davit Sargsyan[5]

Fig. 3 Endoscopic through the scope balloon dilation

Fig. 4 Fully covered, self-expandable endoscopic stent through the twist

Obesity Surgery (2020) 30:2877–2882
https://doi.org/10.1007/s11695-020-04641-x

ORIGINAL CONTRIBUTIONS

Role of Endoscopic Stent Insertion on Management of Gastric Twist after Sleeve Gastrectomy

Mohamed Ibrahim Hassan[1] · Mohamed Shaaban Khalifa[1] · Mohamed Attia Elsayed[1] · Yasser Mohamed ElGhamrini[1]

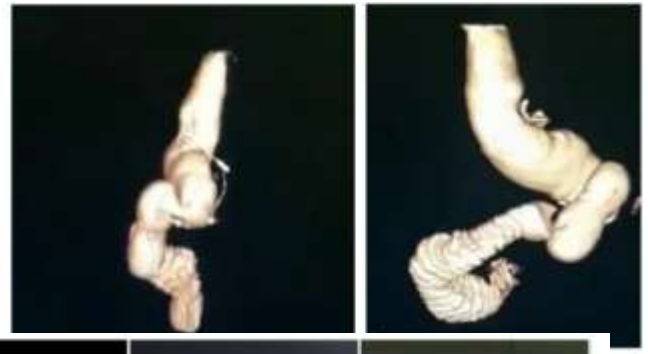


Fig. 3 Three-dimensional CT study shows marked twisting of the gastric pouch

Fig. 4 a Gastrografin study of the twisted gastric pouch. b After insertion of Mega stent. c After removal of the stent

IFSO NAPOLI 2023

- **Conversion to Roux-en Y Gastric Bypass (RYGB) might in our opinion be the best revisional bariatric procedure in these patients.**

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 Chiappetta[1] · Panagiotis Lainas[2,3] · Radwan Kassir[4,5] · Rohollah Valizadeh[6] · Alfonso Bosco[1] · Mohammad Kermansaravi[7]

Received: 1 May 2022 / Revised: 19 June 2022 / Accepted: 22 June 2022 / Published online: 1 July 2022

Conversion to RYGB was the most performed RBS in this systematic review (390 of 533 patients, 73%)

- **Our study population:**

10 Patients admitted to our center with **dysphagia, reflux, vomiting** (9 W, 1 M, mean age 41.1 ± 12.8 years)

Admitted Between 01/2019 and 12/2022

Sleeve gastrectomy performed 29.7±17 months (range 9-60) prior to presentation

Symptoms:

- Gastroesophageal reflux 90%
- Dysphagia 50%
- Recurrent vomiting 50%

• Endoscopic findings:

- Twist and/or functional stenosis at incisura angularis in all patients
- Concomitant hiatal hernia in 4 patients
- New-onset GERD C/D in 2 patients
- New-onset Barrett esophagus in 1 patient

- Prior to surgery all patients underwent nutritional consultation and supplemention of multivitamins, especially Vit B1.

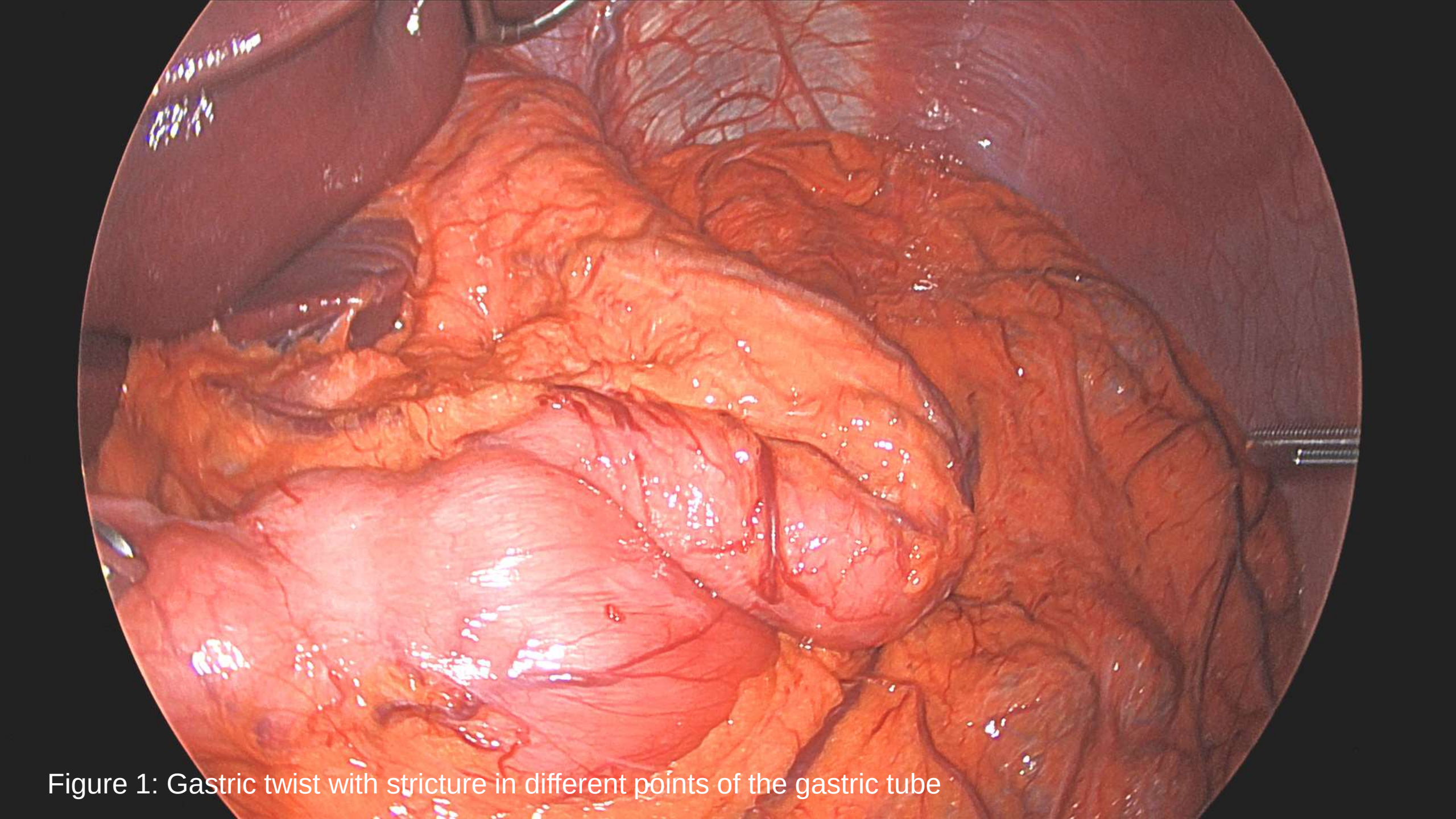


Figure 1: Gastric twist with stricture in different points of the gastric tube

Mean BMI at SG was **46.06 ± 8 kg/m²** and **28.15 ± 4.5 kg/m²** at conversion to RYGB.

In all patient's conversion was performed laparoscopically without intra- and postoperative complications.

Mean operation time was 162 ± 36 minutes.

Mean length of stay was 3.8 ± 1 days.

Symptoms relieved in all patients on POD1.

In two patients vomiting returned 2 and 3 months after surgery, without any pathological diagnosis.

Mean Follow-Up was 15.6 months (range 2-42).

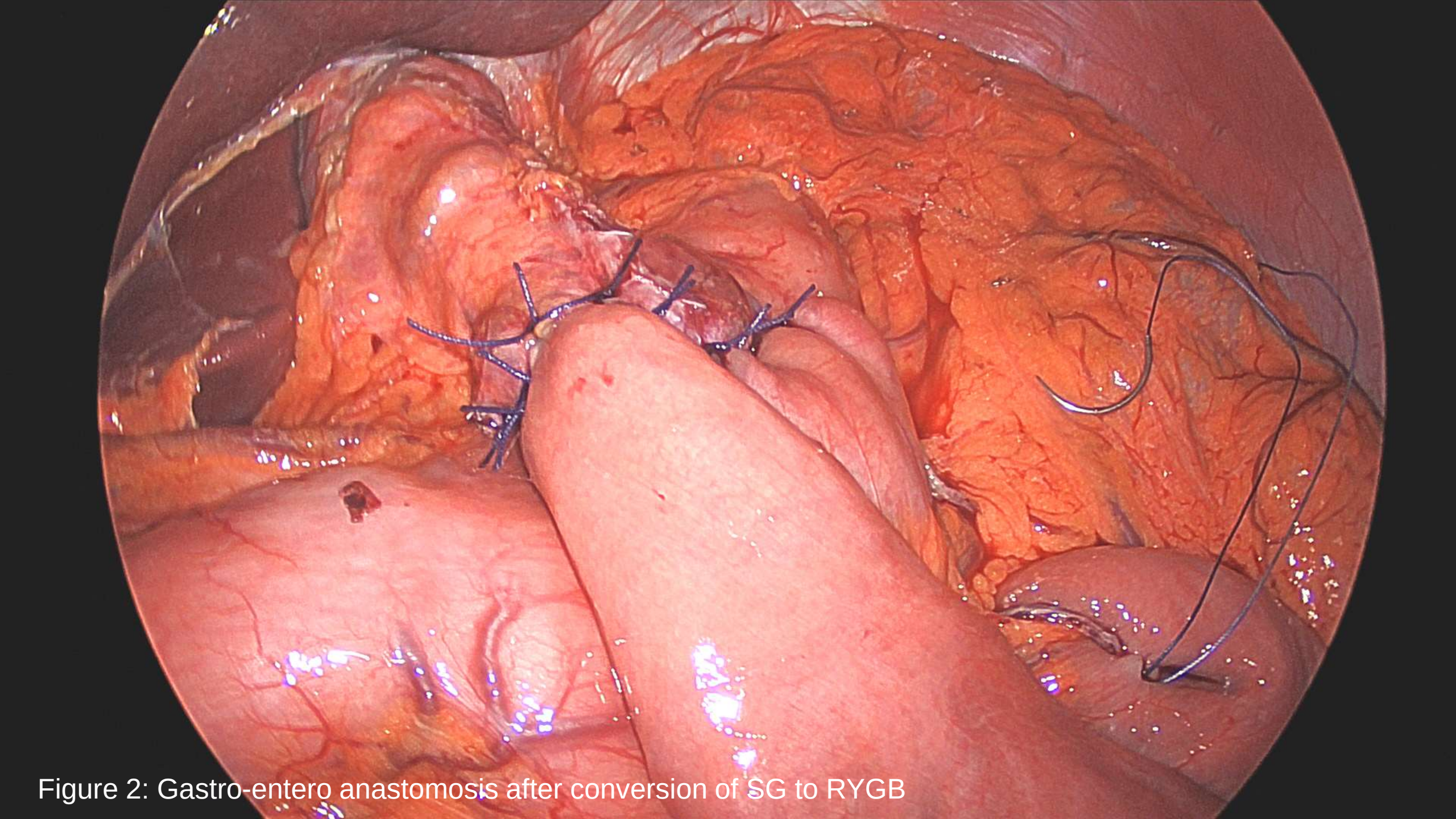


Figure 2: Gastro-entero anastomosis after conversion of SG to RYGB

- **Conclusion:**

Laparoscopic conversion of SG to RYGB might be a safe and symptom-solving procedure in patients with gastric twist and/or stricture after SG.

The less invasive role of endoscopic balloon dilatation and stent insertion might be the first treatment approach.

Further data is necessary, to understand which is the best treatment pathway in these patients.

Ospedale Evangelico Betania
Fondazione evangelica betania

S.I.C.OB.
Società Italiana di Chirurgia dell'Obesità e delle malattie metaboliche

Endorsed by IFSO

BECOME A BARIATRIC AND METABOLIC SURGEON

Animal Lab for Young Surgeons

Honorary Presidents
Christine Stier
Rudolf Weiner
Directors
Sonja Chiappetta
Vincenzo Bottino

save the date
22 - 23 February 2024
Centre of Biotechnologies
A.O.R.N. "Antonio Cardarelli"
Naples, Italy

organizing secretariat
new congress
events & communications
www.newcongress.it | info@newcongress.it

IFSO
NAPOLI
2023