

# Gastrojejunal/Gastrocolic/Gastrogastric Fistula Challenges to Diagnose and Treat

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# Disclosures 2018-2019

- Medtronic/Covidien - Speaker
- Gore- Speaker
- Arthrex – Consultant
- Standard Bariatric – Consultant
- Lexington Medical – Consultant
- GT Metabolic – Stock Holder

# Gastro Gastric Fistula

- Common Symptoms
  - Weight Regain
  - Epigastric Pain
  - Marginal Ulcers
- Treatment Options
  - Endoscopic Approach
  - Surgery Most Common Approach

# Gastro Gastric Fistula – Type I Type II A Proposed Classification System



ELSEVIER



CrossMark

Surgery for Obesity and Related Diseases 13 (2017) 243–249

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SURGERY FOR OBESITY  
AND RELATED DISEASES

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Original article

## Classification, surgical management and outcomes of patients with gastrogastric fistula after Roux-En-Y gastric bypass

Lara Ribeiro-Parenti, M.D.<sup>a,\*</sup>, Gregoire De Courville, M.D.<sup>a</sup>, Abdenasser Daikha, M.D.<sup>b</sup>,  
Konstantinos Arapis, M.D. Ph.D.<sup>a</sup>, Denis Chosidow, M.D.<sup>a</sup>, Jean-Pierre Marmuse, M.D. Ph.D.<sup>a</sup>

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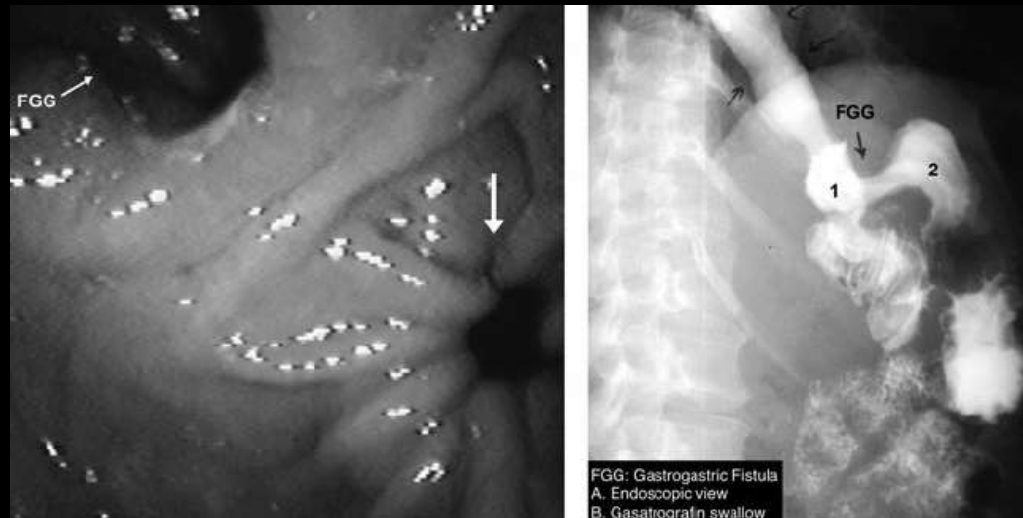
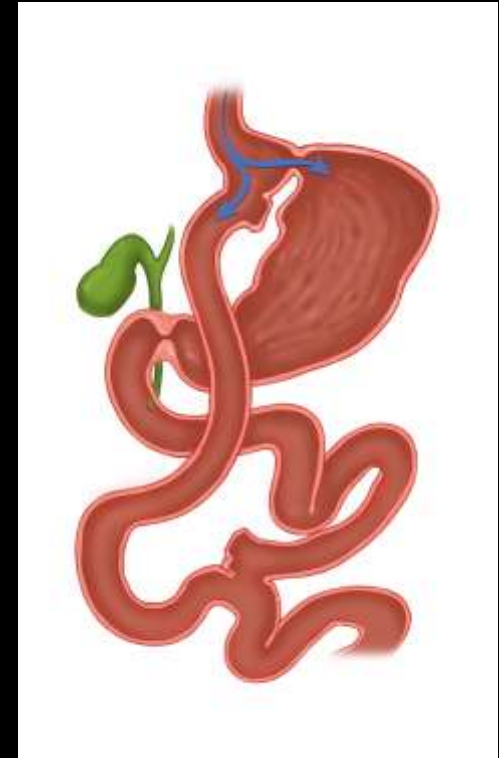
Received March 14, 2016; accepted September 20, 2016

# 1900 Consecutive Divided RYGP

- 9 Developed Gastrogastric Fistula 0.5%
  - Etiology?
    - Foreign Body Erosion
    - Incomplete Transection
    - Gastric Distension
    - Gastric Leak
    - Marginal Ulcer

# Classification of Gastro Gastric Fistula

- Type 1 when located in the proximal part of the gastric pouch
- Type 2 when located near the gastrojejunostomy.





# Gastro Gastric Fistula

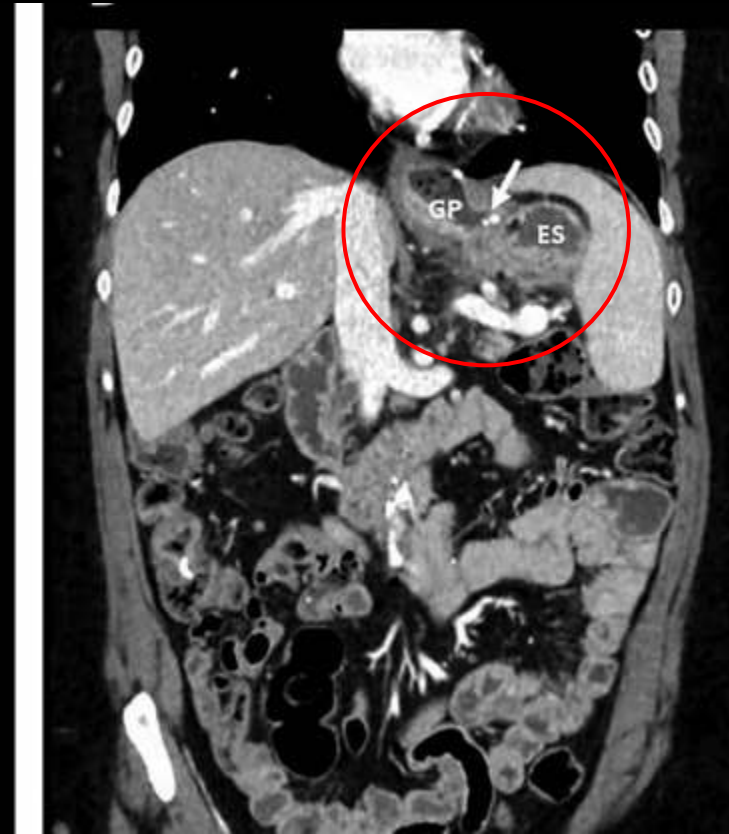






Table 2

Clinical presentation, preoperative workup and results of GGF management according to GGF location.

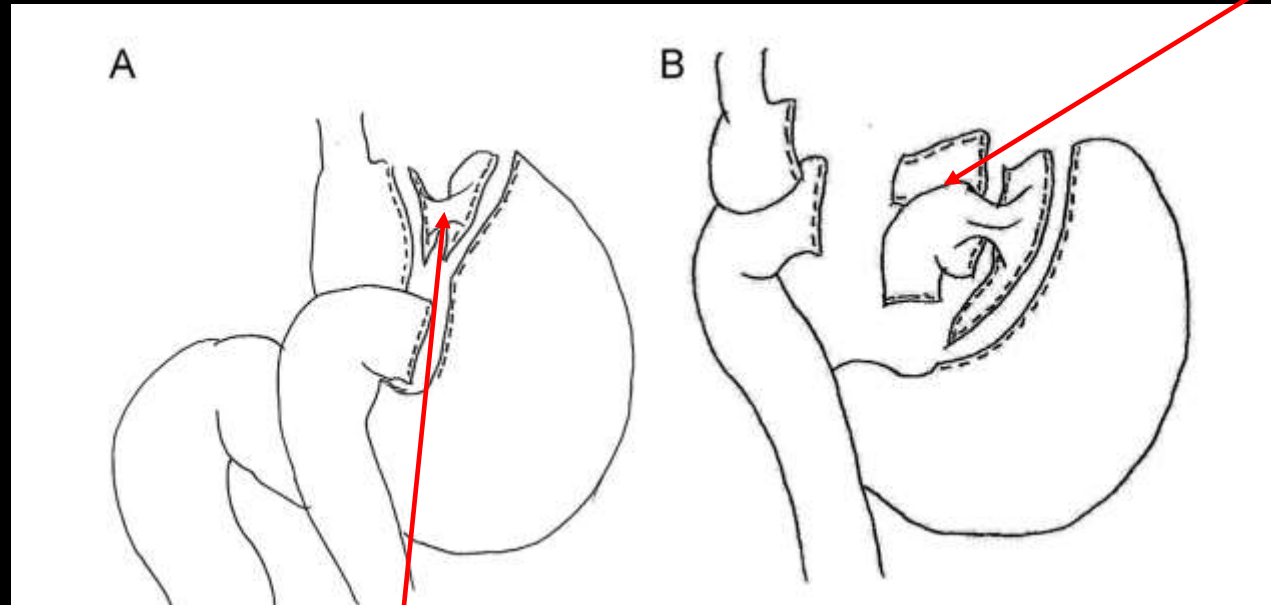
	Type 1 (n = 3)	Type 2 (n = 6)
Clinical presentation	Mild epigastric pain Weight regain	Intractable epigastric pain Recurrent bleeding
Time from primary to diagnosis, mo, mean (range)	30 (1-87)	10 (1-20)*
Upper contrast study		
GGF identification, n (%)	3 (100)	6 (100)
GGF location	Upper part of the pouch	Near the GJ
Upper endoscopy		
GGF identification, n (%)	0 (0)	6 (100)*
Associated MU, n (%)	0 (0)	6 (100)*
Associated gastritis, n (%)	1 (33)	0 (0)
Time from surgery to revision, mo, mean (range)	40.6 (25-62.5)	11 (1-36)*
Indications for surgery, n	3	5
Abdominal pain, n	0	2
Recurrent bleeding, n	0	1
Weight regain, n	3	2
Revisional surgery	Fistulous tract resection	En bloc resection of GGF and GJ New GJ
Laparoscopy, n	3	4
Operative time, min	50 ± 9	204 ± 58*
Early morbidity, n	0/3	1/5
Late morbidity, n	0/3	1/5
Additional weight loss, n	2/3	2/5
Mean BMI last follow-up point (kg/m <sup>2</sup> )	41.3 ± 10.1	33.6 ± 9.5

GGF = gastrogastric fistula; GJ = gastrojejunostomy; MU = marginal ulcer; BMI = body mass index.

Type 1, GGF located in the proximal part of the gastric pouch; Type 2, GGF located in the distal part of the gastric pouch.

\*P &lt; .05, significant.

# Operative Challenge Gastro Gastric Fistula



Type 2 En Block Resection  
Gastro Jejunostomy  
Portion of Gastric Pouch  
Fundus

Type 1 Resection of Fundus –Fistula – Lateral Wall Gastric Pouch

# Initial Treatment

- Symptomatic GGF are initially treated by
  - PPI therapy and
  - Carafate (In case of associated Marginal ulcer)
- Theory
  - Eliminate abdominal pain,
  - Possibly allow MU to resolve, and sometimes
  - Possibly allow small GGF to close spontaneously.
- Control of Symptoms – postpone surgery
- Most GGF don't close spontaneously

# Endoscopic Treatment

- Fibrin Sealant,
- Endoclips,
- Endoscopic Suturing Systems,



- Initial Success but Poor Long-Term Results

# Gastric – Colon Fistula



Surgery for Obesity and Related Diseases 6 (2010) 308–312

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Case report

## Gastrocolic fistula after re-sleeve gastrectomy: outcomes after esophageal stent implantation

Nelson Trelles, M.D.<sup>a</sup>, Michel Gagner, M.D., F.R.C.S.C., F.A.C.S.<sup>a,\*</sup>,  
Mariano Palermo, M.D.<sup>a,\*</sup>, Alfons Pomp, M.D., F.R.C.S.C., F.A.C.S.<sup>b</sup>,  
Gregory Dakin, M.D., F.A.C.S.<sup>b</sup>, Manish Parikh, M.D.<sup>b</sup>

<sup>a</sup>*Department of Surgery, Mount Sinai Medical Center, Miami Beach, Florida*

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College of Cornell University, New York, New York*

Received August 10, 2009; revised August 13, 2009; accepted August 13, 2009

# Gagner



# Gastro-Colon Fistula

*Asian Journal of Endoscopic Surgery*

*Official Journal of JSES, ELSA, and AETF*

Asian J Endosc Surg ISSN 1758-5902

CASE REPORT

## **Management of gastro-colic fistula after laparoscopic sleeve gastrectomy**

Aparna Govil Bhasker,<sup>1,2</sup> Hind Khalifa,<sup>1,2,3</sup> Amit Sood<sup>1,2</sup> & Muffazal Lakdawala<sup>1,2</sup>

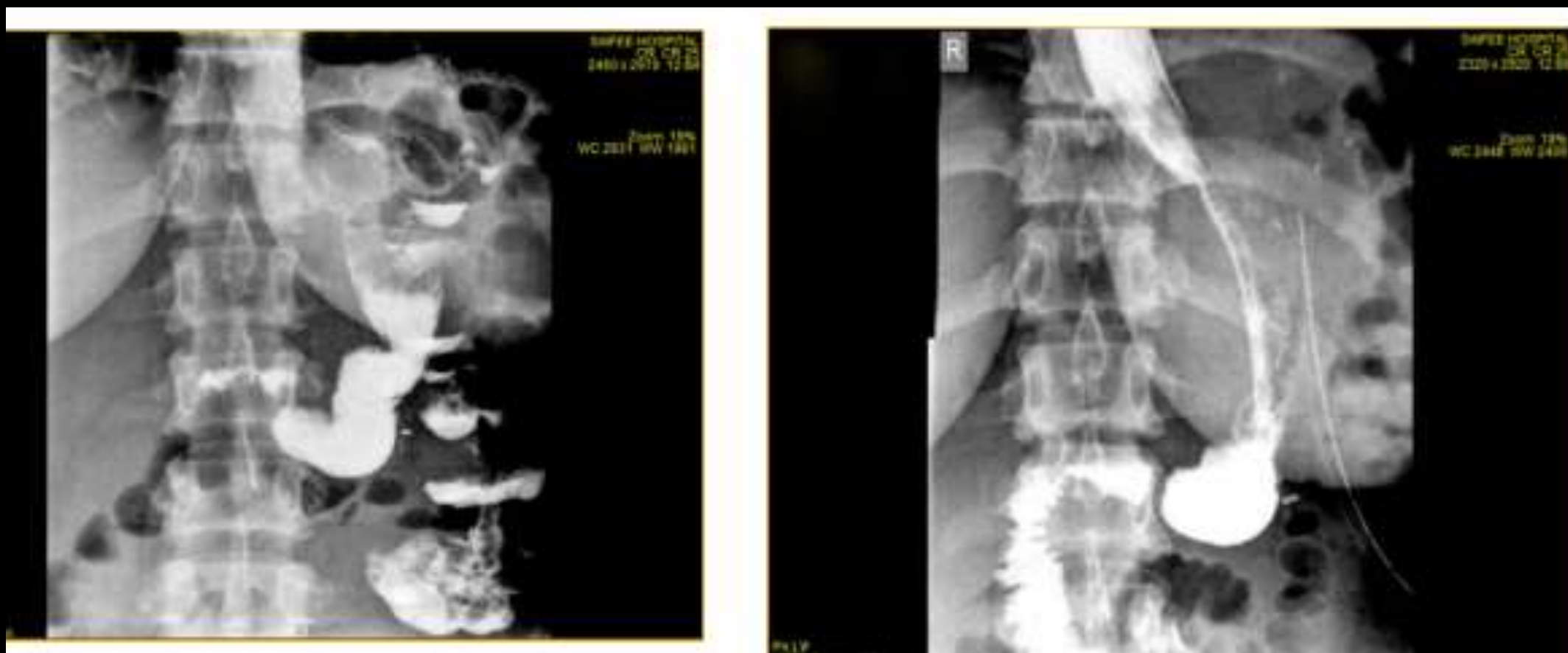
1 Center for obesity and digestive surgery, Mumbai, India

2 Bariatric and metabolic section of the Institute of Minimally Invasive Surgical Sciences and Research Centery, Saifee Hospital, Mumbai

3 Ministry of Health, Muscat, Oman



# Bhasker – No Stent – “Individualized Approach..Taylor Made”



# Gastro-Colon Fistula

Obesity Surgery (2021) 31:2837–2838  
<https://doi.org/10.1007/s11695-021-05325-w>



MULTIMEDIA ARTICLE



## Sleeve to Colon Fistula: Laparoscopic Conversion to Roux-en-Y Gastric Bypass

Joseph N. Badaoui<sup>1</sup> · Todd A. Kellogg<sup>1</sup> · Barham Abu Dayyeh<sup>2</sup> · Omar M. Ghanem<sup>1,3</sup> 

# Ghanem

- 57 Year old s/p Sleeve Gastrectomy in 2012 at an outside institution
- Presented vomiting stool in 2020
- History of no imaging but antibiotics for two years
- Workup in 2020
  - Full labs
  - CT – Inflammatory process involving the sleeve-spleen-transverse colon
  - Upper floro and EGD – Sleeve to colon fistula
- Laparoscopic conversion to RYGB successful full recovery

Obesity Surgery


<https://doi.org/10.1007/s11695-019-04086-x>



MULTIMEDIA ARTICLE

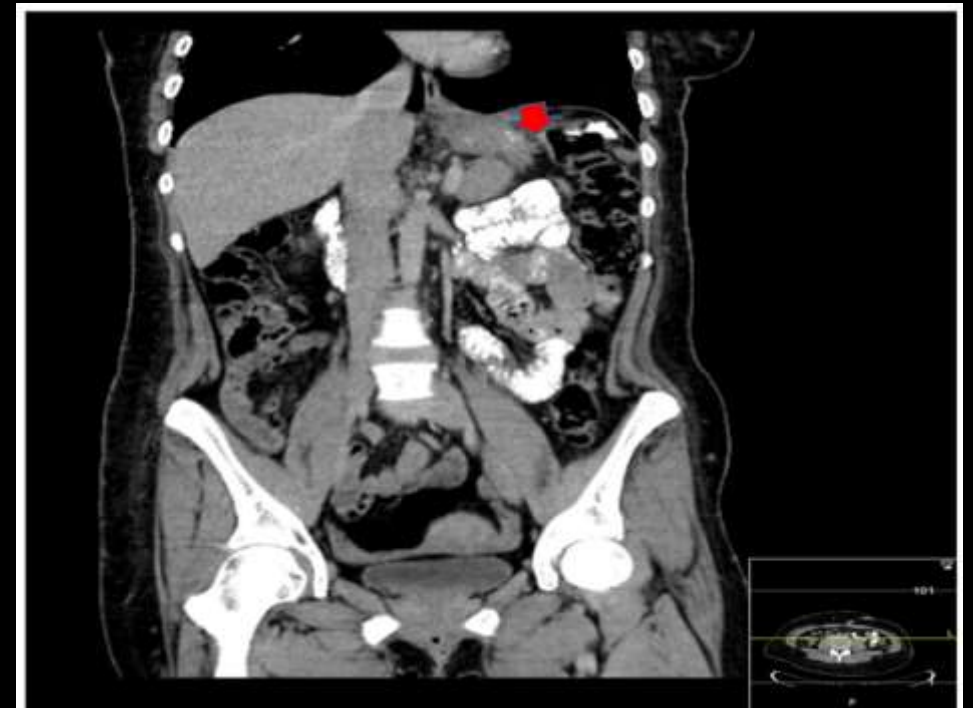


## Gastro-Colic Fistula After Sleeve Gastrectomy Leak: Our Experience with this Rare Complication

Chetan D. Parmar<sup>1</sup>  • Hany Khalil<sup>1</sup> • Muffazal Lakdawala<sup>2</sup> • Chetan Bhan<sup>1</sup> • Pratik Sufi<sup>1</sup>

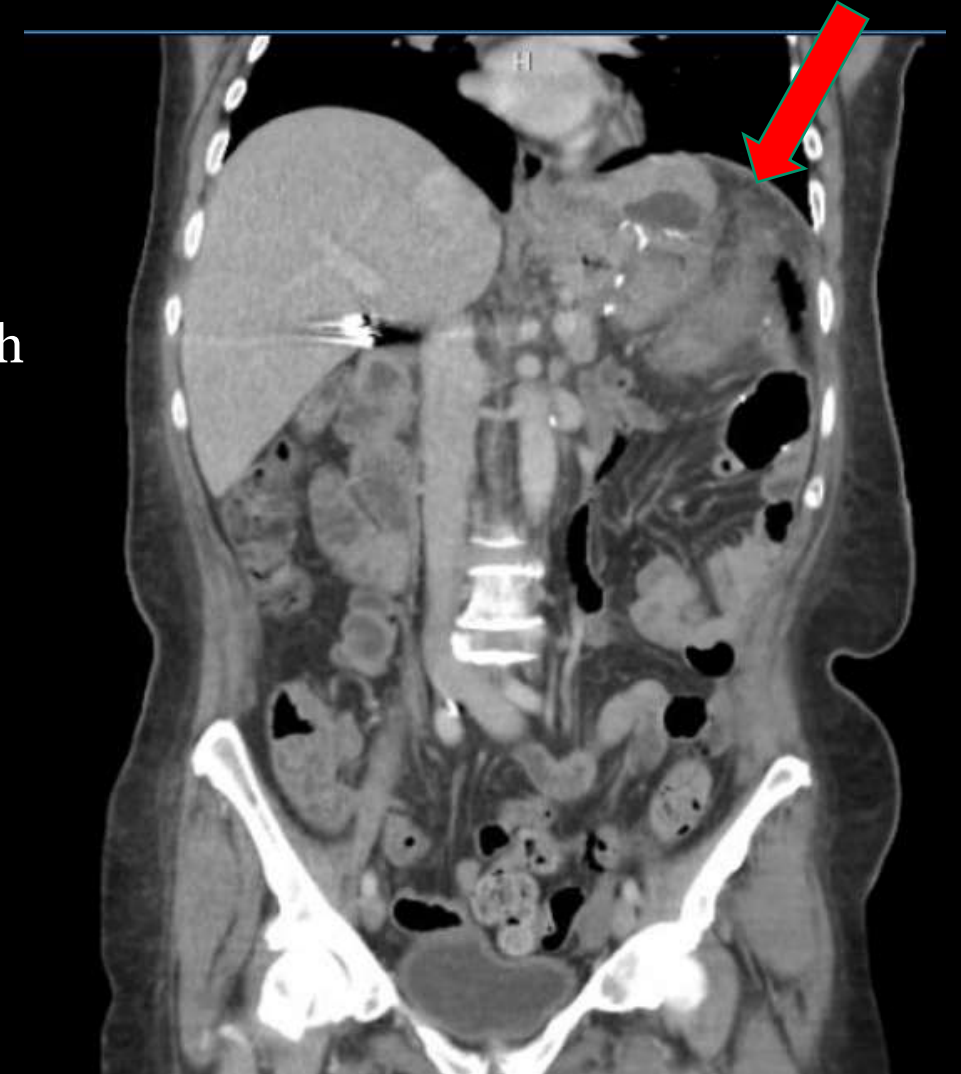
# Parmar

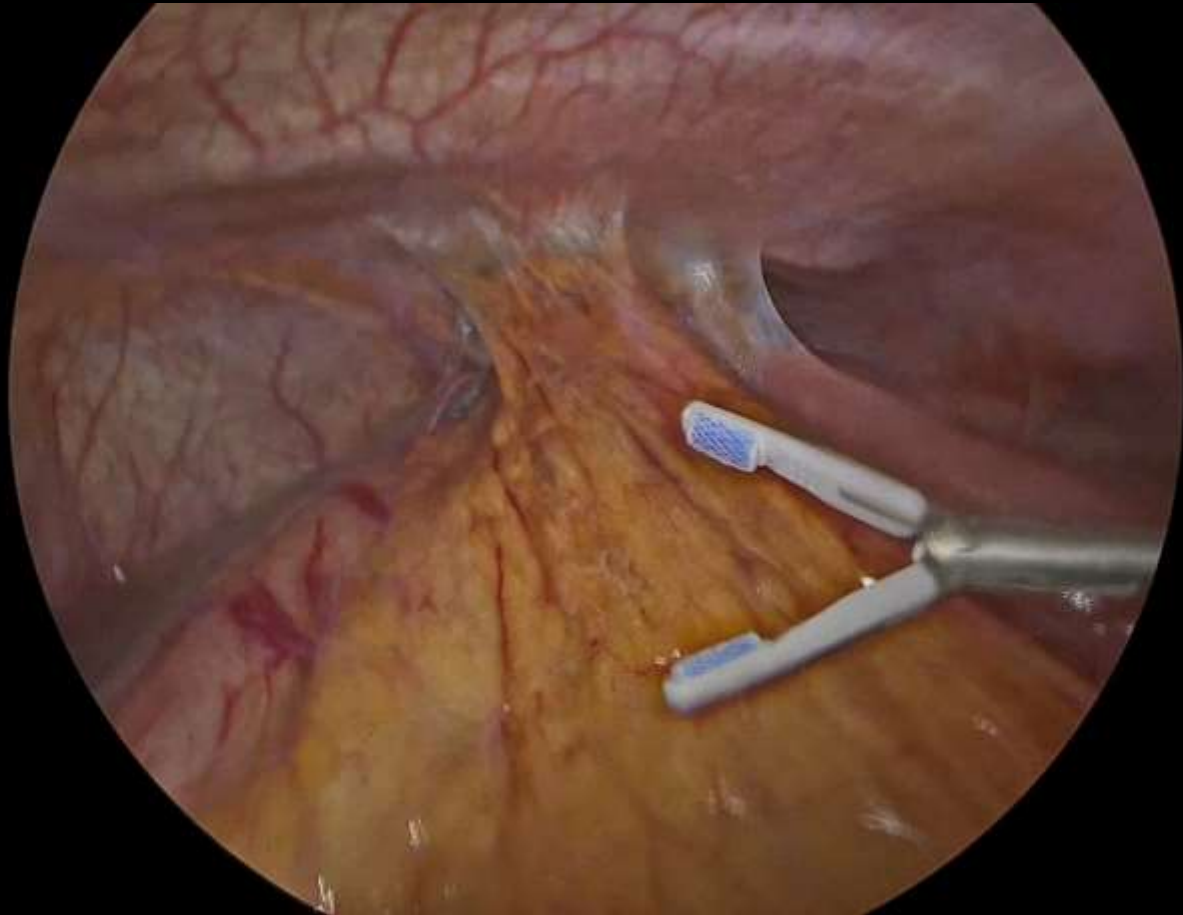
- Sleeve Leak managed with stent
- Delayed presentation of gastro colic fistula more than one year after sleeve
- Adhesiolysis with mobilization
  - Gastric sleeve
  - Splenic flexure
- Fistulous tract was isolated, divided and excised
  - Partial resection of colon included
- Patient had a full recovery



# My Experience Gastric –Jejunal-Colic-Gastric Fistula The Trifecta

- Six months s/p band to Robotic RYGB
- Presented with history of fever and chronic abdominal pain
- CT – inflammatory process involving the colon and stomach
- EGD – very large ulcer
- To the OR







# Outcome

- Converted to open procedure
- Reversed RYGB
  - Gastric Pouch to gastric Body
  - Preserved Alimentary limb for feeding jejunostomy
  - Gastrostomy tube in gastric antrum
  - Drains placed
- Colonic Perforation
  - Oversewn and closed
  - Diverting ileostomy

# Conclusions

- Jejunal – Gastric- Colon fistulas are rare events
- No consensus on treatment has been published
- Treatment is individualized for each patient
- A wide variety of therapies including endoscopic and surgical are available
- Surgery remains the primary treatment modality