XXVI IFSO WORLD CONGRESS OF BARIATRIC & METABOLIC SURGERY

IFSO NAPOLI 2023

XXXI CONGRESSO NAZIONALE

NAPLES, ITALY
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Congress President: Prof. Luigi Angrisani

Intraoperative criteria to proceed to Hiatal Hernia Repair during bariatric procedures

Gianfranco Silecchia

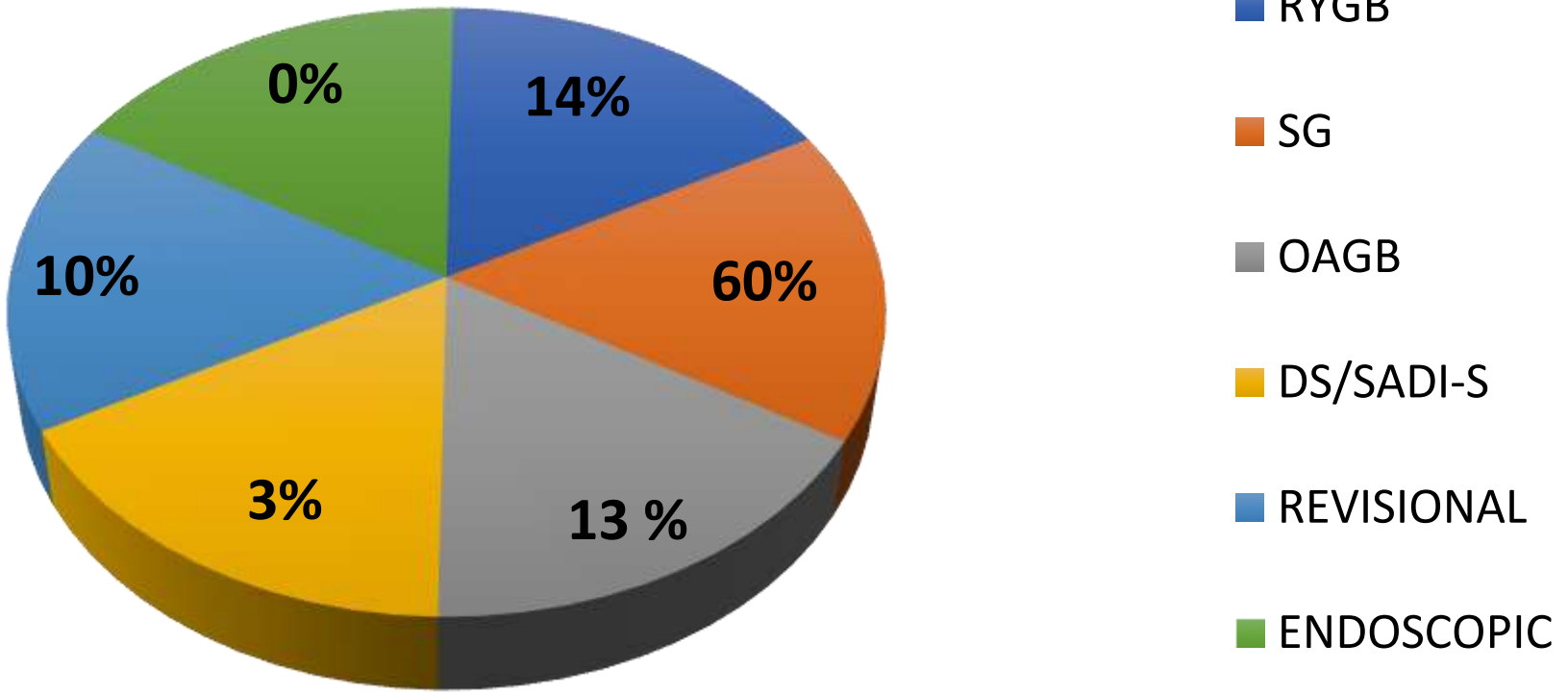
IFSO NAPOLI 2023

REGIONE LAZIO

SAPIENZA UNIVERSITÀ DI ROMA

AZIENDA OSPEDALIERA SANT' ANDREA
FACOLTÀ DI MEDICINA E PSICOLOGIA

[ ] **I have no potential conflict of interest to report**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REVISIONAL
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Background

Obese / Bariatric surgery and GERD / HH

SAGES 2013

Repair of hiatal hernia during bariatric operations

Guideline 6

- During operations for Roux-en-Y gastric bypass, sleeve gastrectomy and the placement of adjustable gastric bands, all detected hiatal hernias should be repaired (**+++, weak**)

Background 2

2012

Surgery for Obesity and Related Diseases 8 (2012) 8–19

Original article

International Sleeve Gastrectomy Expert Panel Consensus Statement: best practice guidelines based on experience of >12,000 cases

Raul J. Rosenthal, M.D., F.A.C.S., F.A.S.M.B.S.*, for the International Sleeve Gastrectomy Expert Panel

Received October 26, 2011; accepted October 27, 2011

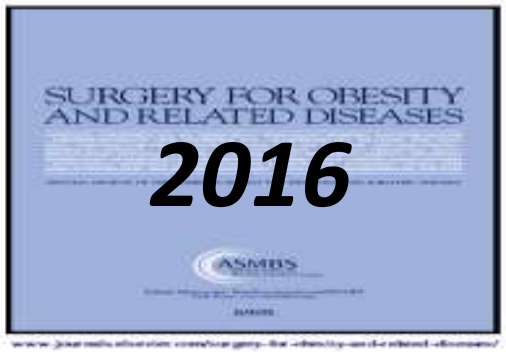
Special considerations	Hiatal hernia	Aggressive identification of hiatal hernia intraoperatively is appropriate	83
		Diaphragmatic defect should be closed after sleeve procedure is completed	71
	Postoperative diet	Patients should not begin eating solid food until ≥2 wk postoperatively	100

Hiatal hernias should should be repaired, if found (84%)
The presence of a hiatal hernia is not a contraindication to perform sleeves (88%)
is a contraindication for 46 % of general bariatric surgeon

Author's Accepted Manuscript

Fifth International Consensus Conference: Current Status of Sleeve Gastrectomy

Michel Gagner MD, FRCSC, FACS, FASMBS, Colleen Hutchinson MA, Raul Rosenthal MD, FACS, FASMBS



Obesity Surgery (2020) 30:3695–3705
https://doi.org/10.1007/s11695-020-04749-0

ORIGINAL CONTRIBUTIONS

Check for updates

Gastroesophageal Reflux and Laparoscopic Sleeve Gastrectomy: Results of the First International Consensus Conference

Ahmad Assalia[1] · Michel Gagner[2,3] · Marius Nedelcu[4,5] · Almino C. Ramos[6] · David Nocca[7]

2020

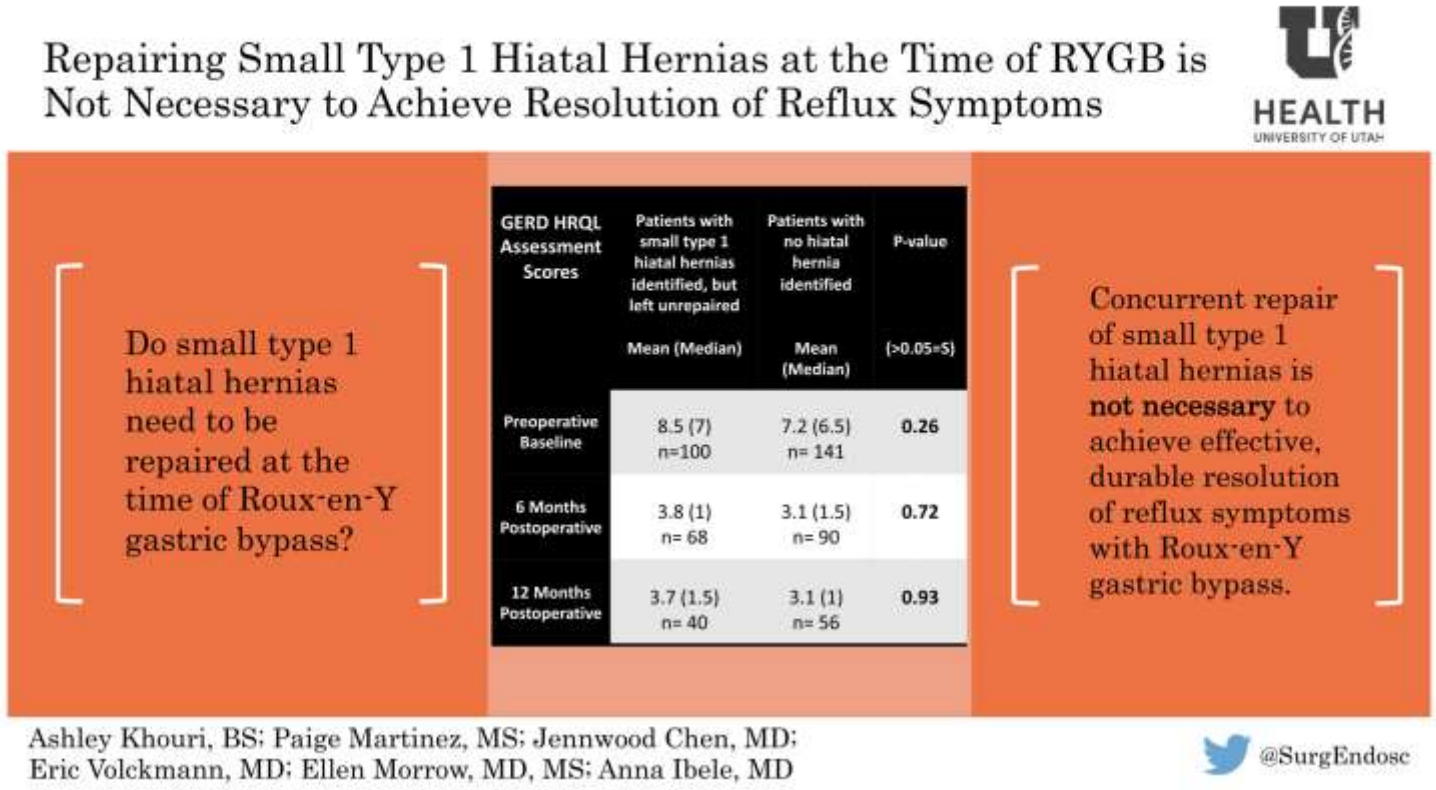
HH should be looked for and repaired during LSG, even in asymptomatic patients and those without endoscopic findings for GERD.
67% consensus for the necessity of concomitant small HH repair
80% consensus in cases of large HH.

IFSO NAPOLI 2023

Last minute 2023

Surgical Endoscopy (2023) 37:4910–4916

Graphical abstract



SELECTION CRITERIA

small type I HH
diagnosed intraop.
Fat pad and cardias below the diaphragm with no evidence of retraction into the mediastinum

Primary surgery
NO Barrett
NO Esophagitis
NO preop PPI

PRIMARY OUTCOME

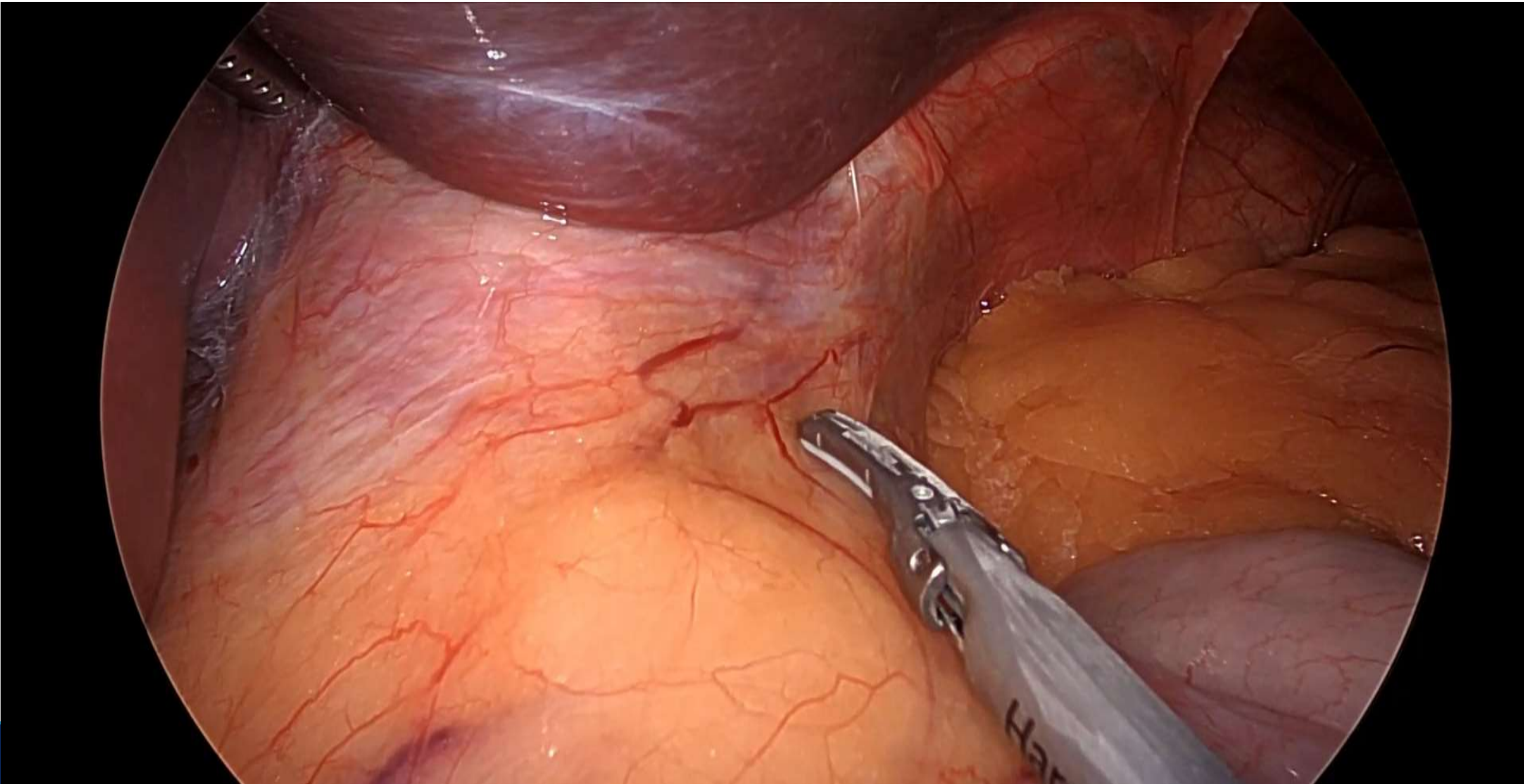
GERD score at 12 months

n= 241 pts

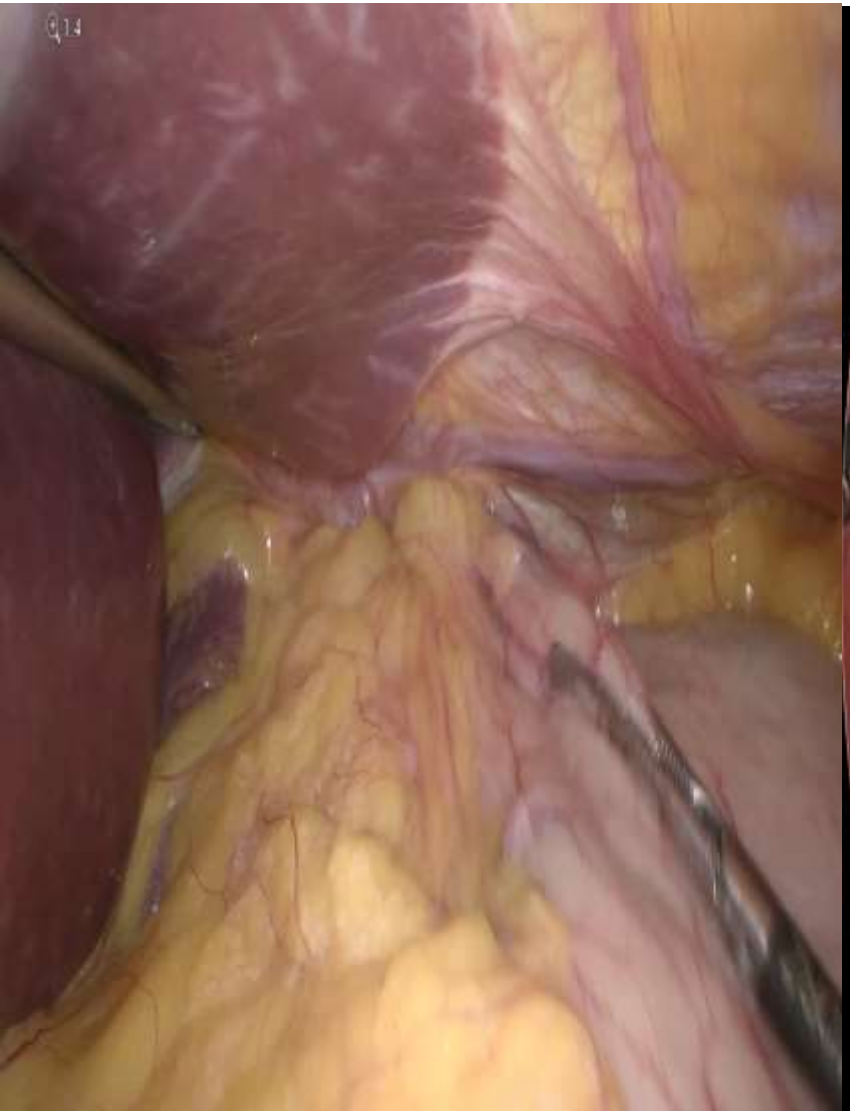
HH repair (n=100 pts)

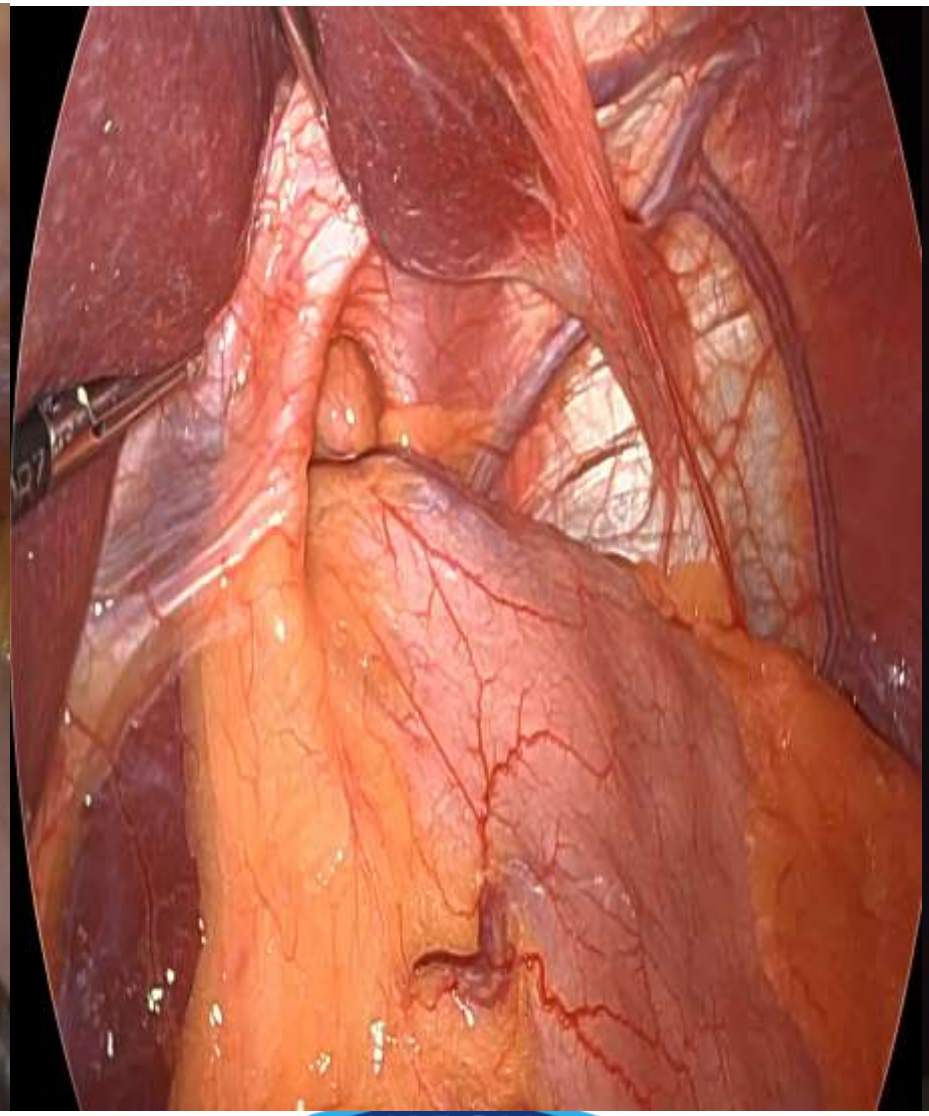
NO HH repair (n=141 pts)

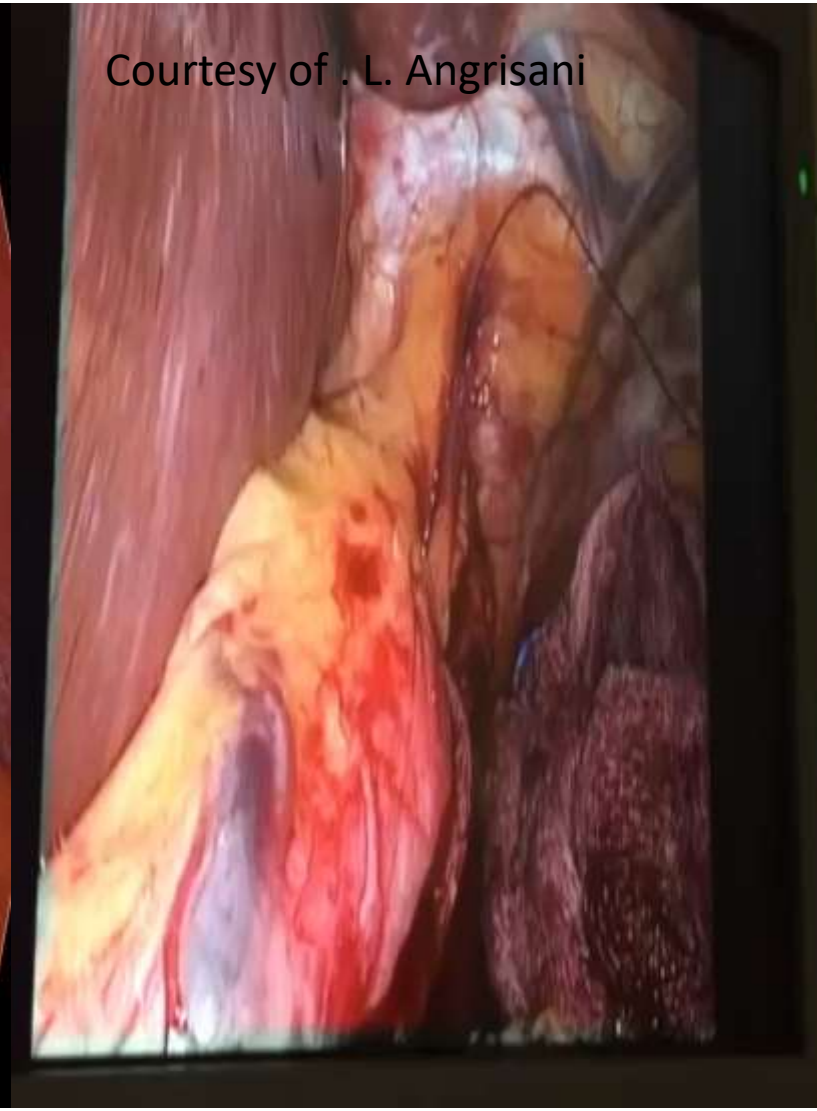
WHAT ‘S regular anatomy???



NO DISCUSSION !







Courtesy of . L. Angrisani

INTRAOPERATIVE DIAGNOSIS OF HH IS THE GOLD STANDARD IN BARIATRIC POPULATION

Table 5 Sensitivity, specificity, positive predictive value, and negative predictive value of UGIS and EGD in preoperative diagnosis of hiatus hernia as compared to operative findings

Parameters	UGIS	EGD	Both tests*
Sensitivity %	30.2	47.4	60.5
Specificity %	97.5	81.4	77.8
PPV %	61.5	30	31.9
NPV %	91.3	90.2	92
FN rate %	69.8	52.6	39.5
FP rate %	2.5	18.6	22.2

Table 6 Prevalence and intra-operative diagnosis of hiatal hernia among sleeve gastrectomy and Roux-en-Y gastric bypass groups

	LSG $N=283$ (%)	LRYGB $N=180$ (%)	Total $N=463$ (%)	P value*
Hiatal hernia present at surgery	32 (11.3)	21 (11.7)	53 (11.4)	0.906
Hiatal hernia absent at surgery	251 (88.7)	159 (88.3)	410 (88.6)	
HH diagnosed in preoperative UGIS	7 (2.5)	19 (11)	26 (5.8)	0.0001
No HH seen in preoperative UGIS	271 (97.5)	153 (89)	424 (94.2)	
HH diagnosed in preoperative EGD	14 (12.4)	46 (30.5)	60 (22.7)	0.001
No HH seen in preoperative EGD	99 (87.6)	105 (69.5)	204 (77.3)	
HH diagnosed in either or both EGD and UGIS	17 (15.2)	55 (37.4)	72 (27.8) *	0.0001
No HH in both EGD and UGIS (when both tests done)	95 (84.8)	92 (62.6)	187 (72.2)	
HH among patients with heartburn found during operation	3 (12.5)	11 (27.5)	14 (21.9)	0.163
HH among patients with heartburn absent during the operation	21 (87.5)	29 (72.5)	50 (78.1)	
HH among patients with previous bariatric surgery found at operation	1 (20)	9 (24.3)	10 (23.8)	0.833
HH among patients with previous bariatric surgery absent at operation	4 (80)	28 (75.7)	32 (76.2)	

HH, hiatal hernia; *EGD*, esophagogastroduodenoscopy; *UGIS*, upper gastrointestinal series; *LSG*, laparoscopic sleeve gastrectomy; *LRYGB*, laparoscopic Roux-en-Y gastric bypass

*LSG compared to RYGB

LIMIT OF THE STUDY: retrospective, monocentric, no-routine EGD

PREVALENCE OF CONCOMITANT HH REPAIR BASED ON INTRAOPERATIVE ASSESSMENT

MBSAQIP database			
Primary * procedures	17.9% (pts 130.722)	SLEEVE GASTRECTOMY 21%	RYGB 10.9%
Revisional** procedures	24.1% (pts 12.788)	SG to RYGB	31.1%

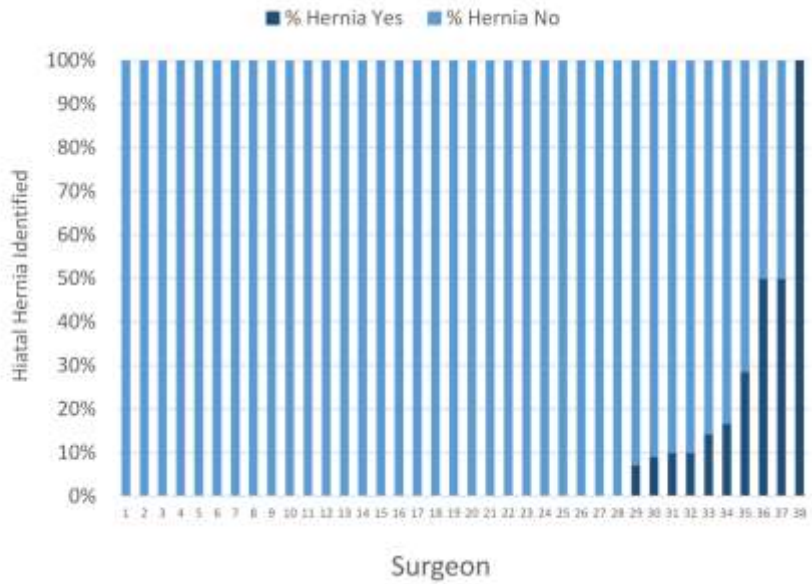
Personal experience	Primary surgery	Revisional surgery
13%	10%	3%

*Obesity Surgery 2019, S. Docimo Jr et al
** Obesity Surgery 2023 A .Friedman et al
*** Minerva Surgery 2021 Boru, Silecchia et al

NO STANDARD CRITERIA FOR INTRAOP DIAGNOSIS OF HH

- 33 video primary LSG non HH diagnosed
- 38 surgeons (similar profile)
- 26% of diagnosis of HH to be repaired

Fig. 1 Variation in surgeon perception of hiatal hernia during video review of 33 laparoscopic sleeve gastrectomy procedures



Surgical Endoscopy (2021) 35:2537–2542
https://doi.org/10.1007/s00464-020-07668-4

In the eye of the beholder: surgeon variation in intra-operative perceptions of hiatal hernia and reflux outcomes after sleeve gastrectomy

Anne P. Ehlers[1,2] · Karan Chhabra[2,3,4] · Jyothi R. Thumma[2] · Justin B. Dimick[1,2] · Oliver Varban[1]

Conclusion Surgeons who identified hiatal hernias during video review had a higher rate of concurrent hiatal hernia repairs in their practice. This was not associated with improved patient-reported reflux symptoms after LSG. Standardizing identification and management of hiatal hernias during bariatric surgery may help improve reflux outcomes post-operatively.

Intraoperative criteria to proceed to HH repair

CONCERNS

1. Type of procedure
2. Primary/revisional
3. Recurrent HH
4. Patients characteristics
5. INTRAOPERATORY FINDINGS

PROPOSED INTRAOPERATIVE STEPS: DON'T MISS THE HIATAL DEFECTS

Check the Hiatus

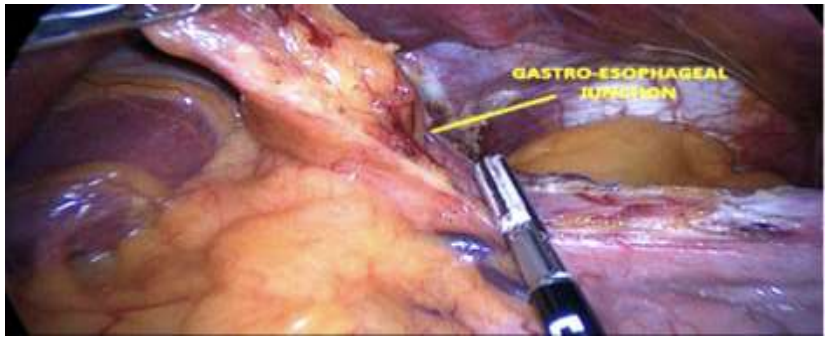
Remove the Belsey Fat in any case

Identify the Hiss angle

Fundus dissection and exposition of left pillar
(sleeve gastrectomy, revisional)

Check para-esophageal posterior lipoma

Check the position of EGJ at the end of the procedure (gastric pouch trans-hiatal migration)



No identification of the abdominal esophagus after the fat pad's mobilization

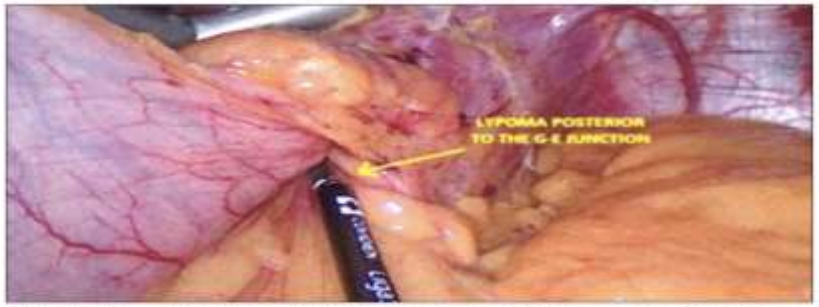
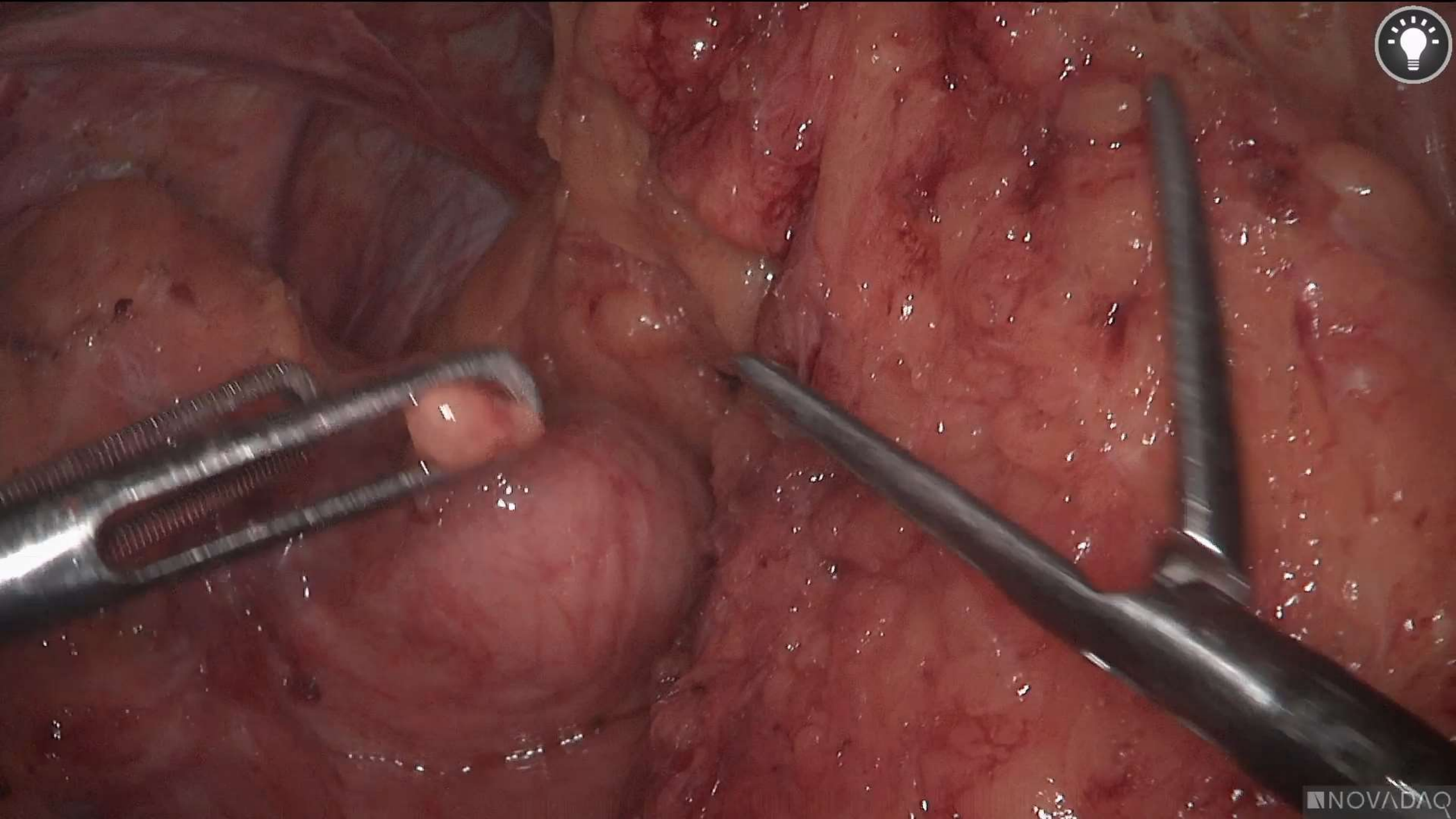


Figure 8. Para-esophageal lipoma localized posteriorly to the gastro-esophageal junction

From I. Hutopila , C. Copaescu Chirurgia 2019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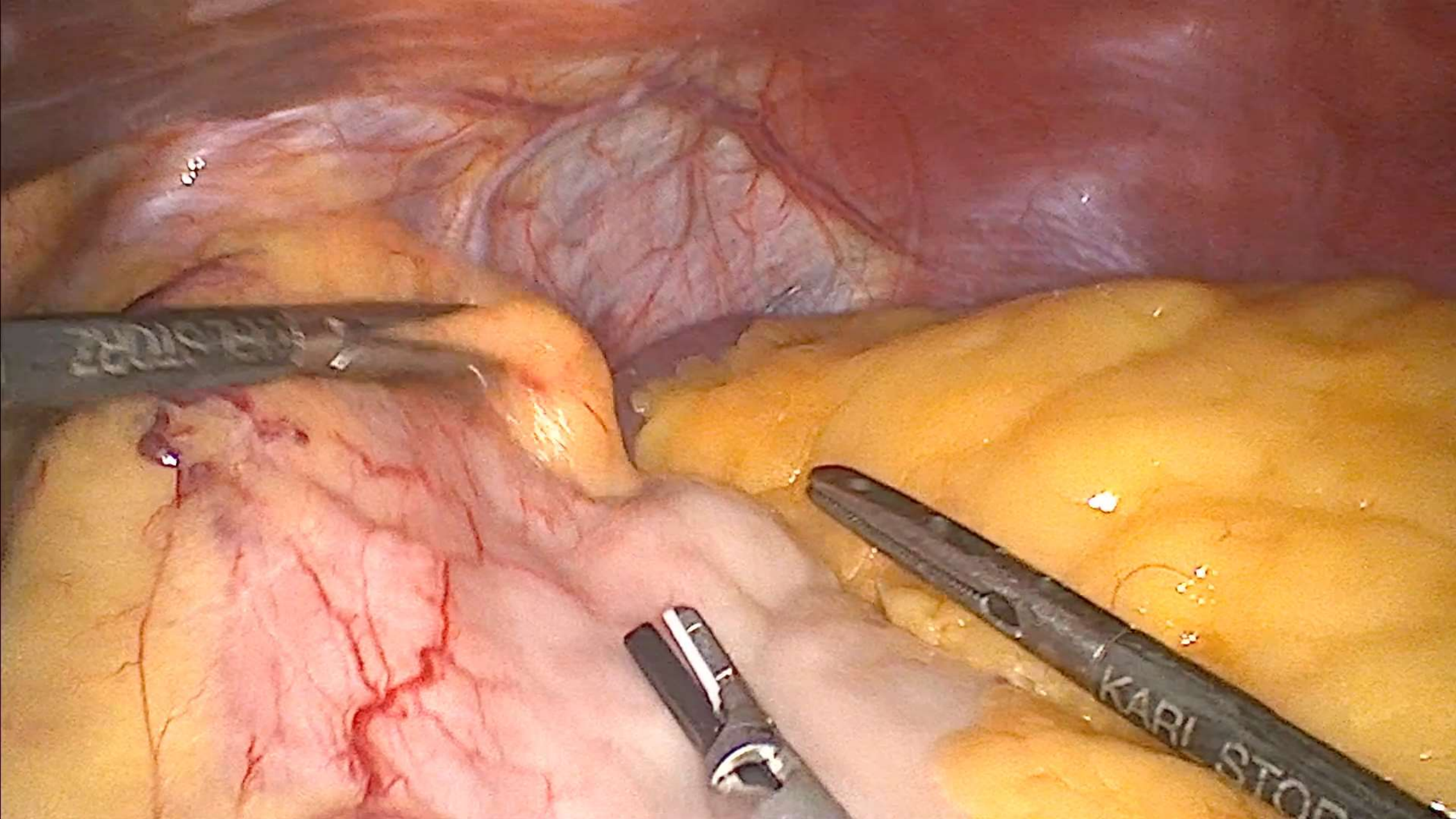
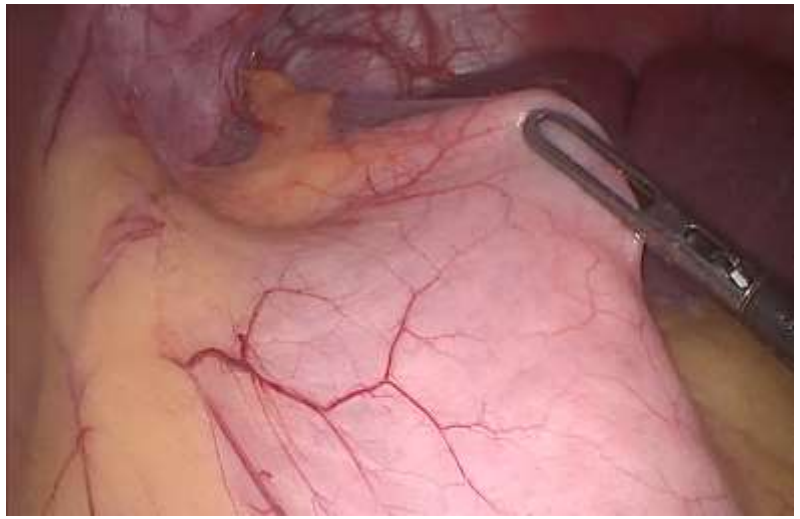

KARL STOR

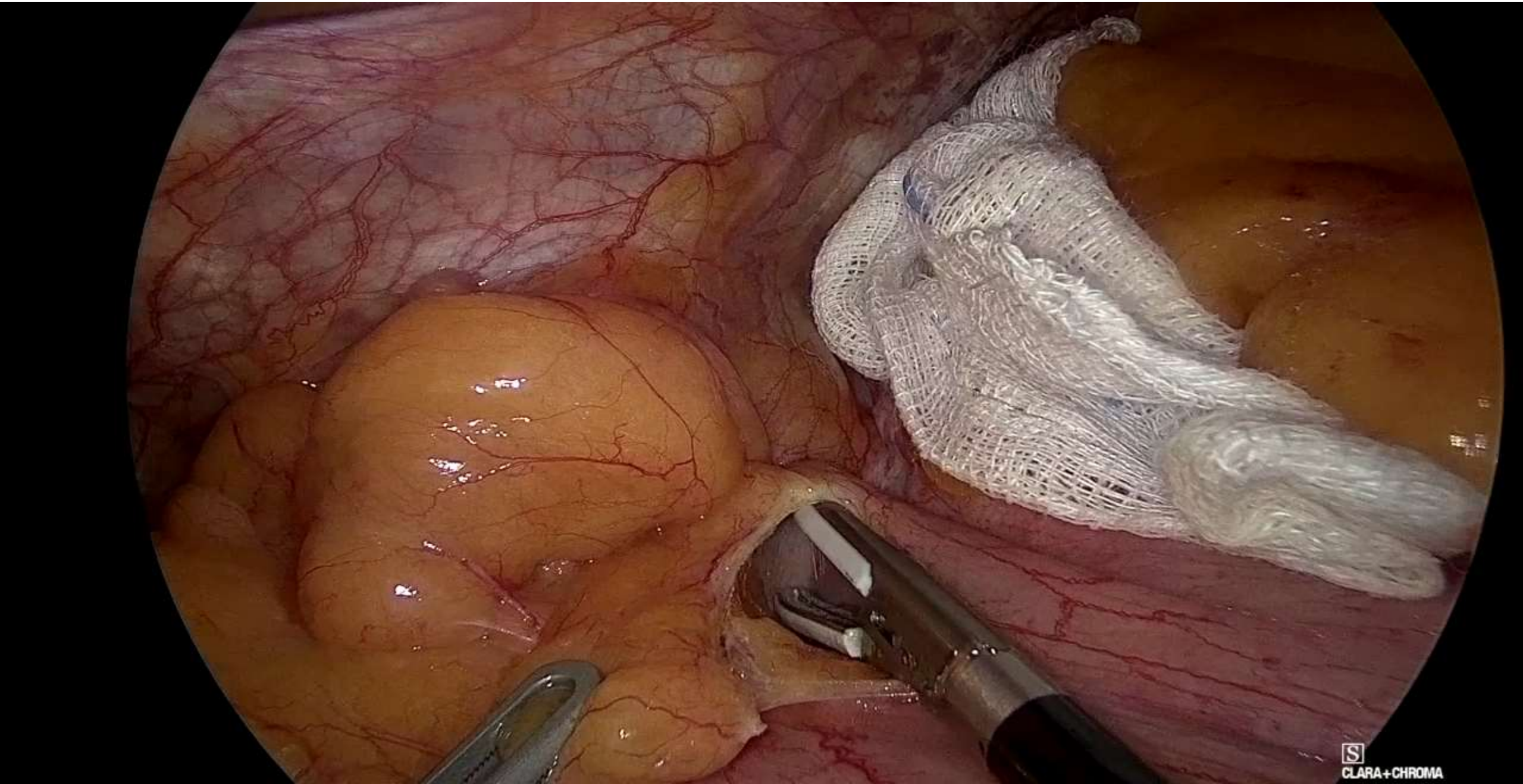
EXPLORING THE HIATUS FOR EVENTUAL DEFECTS TO BE REPAIRED

≠

COMPLETE DISSECTION OF HSA



PLEASE DON’T DO THIS!!!

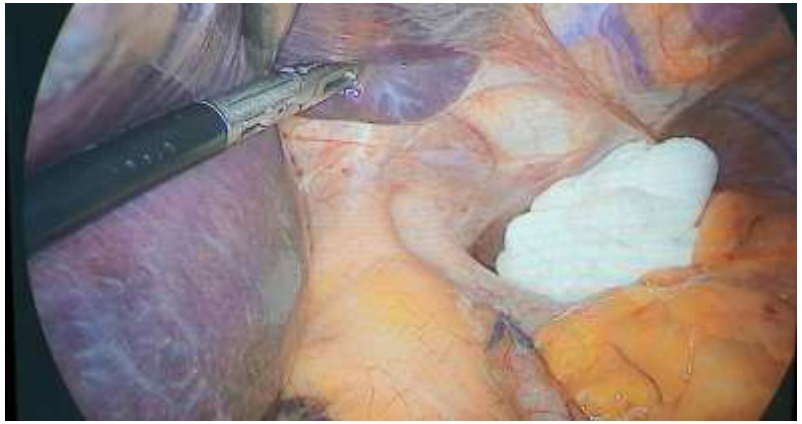


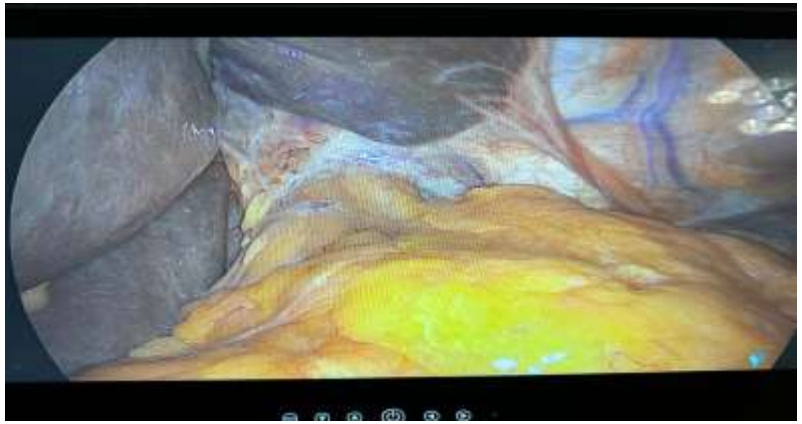
THE REAL LIFE

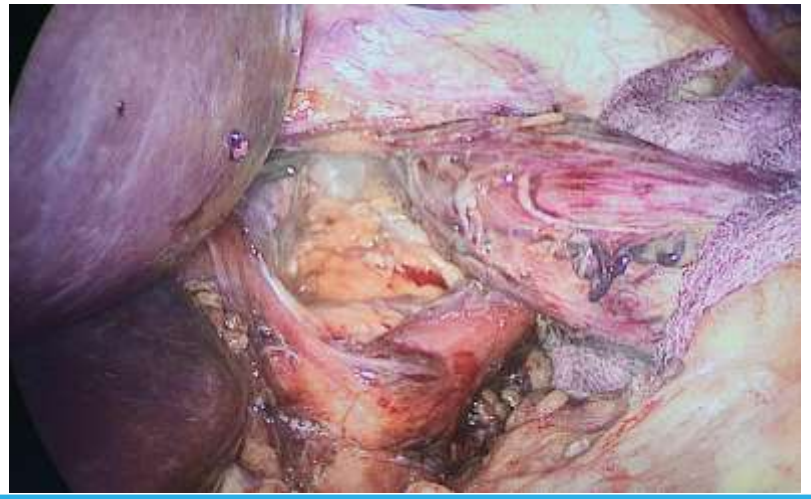
In absence of standard criteria when and how to proceed to concomitant HHR the decision is up to the surgeon's experience.

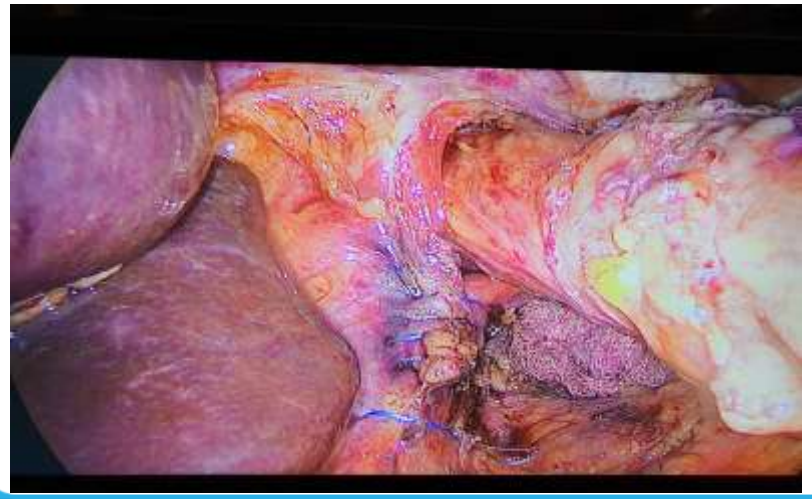
Consider the RISK of overtreatment!

- Primary procedure:LSG
- Reoperation after 6 weeks (severe disphagia)



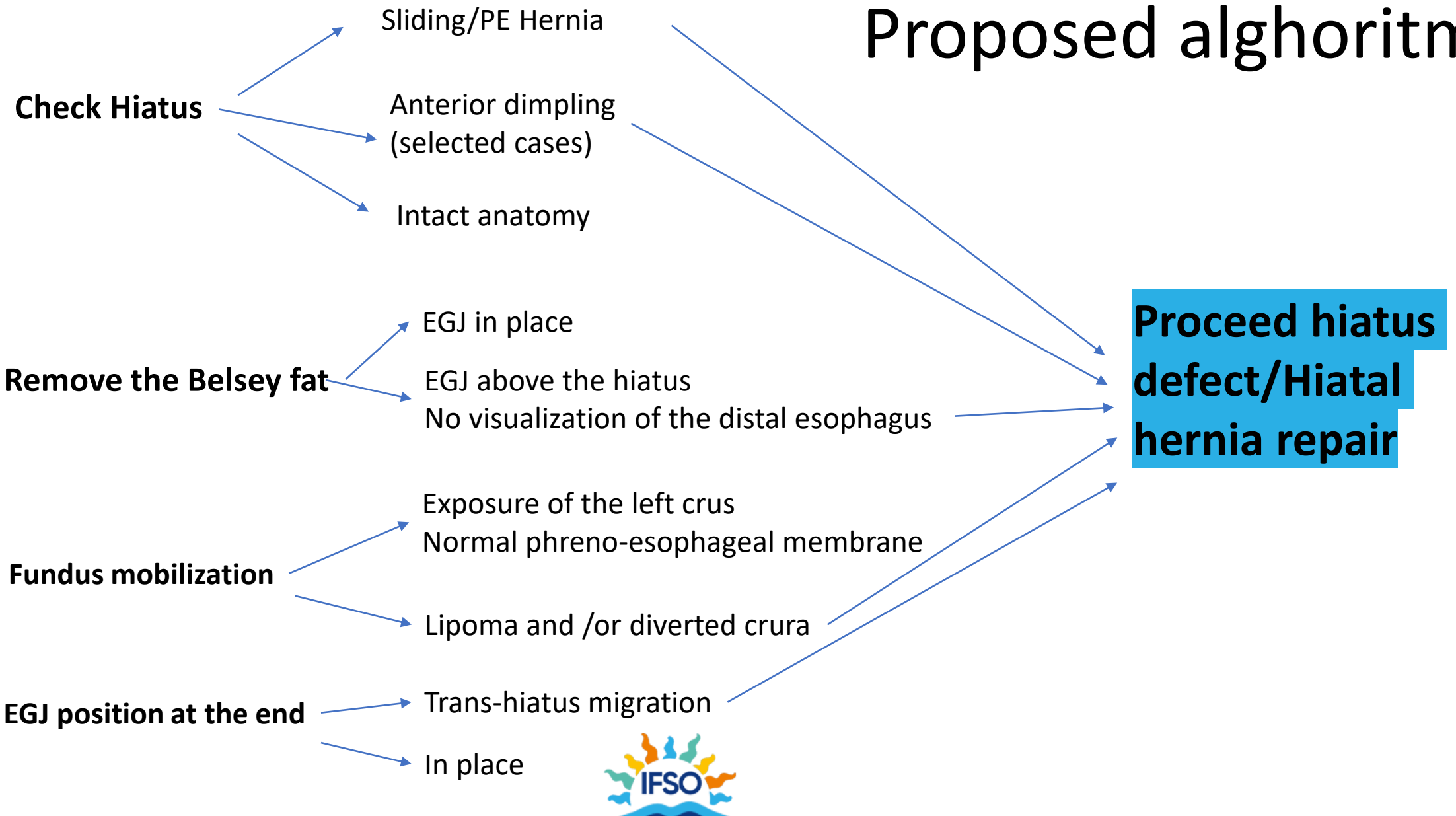






Courtesy of L. Angrisani

Proposed alghoritm



*Take home message

WHEN TO PROCEED TO CONCOMITANT HHR

The results of preoperative studies (endoscopy/imaging/manometry) show a low sensitivity and specificity

SHOULD NOT

Influence intraoperative evaluation of the hiatus during any bariatric procedures.
The intraoperative inspection of the hiatus allow to identify hiatal defects in an additional 35-45% of the cases.
Missing hiatal defect impact on postoperative outcomes.

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SANT' ANDREA
FACOLTÀ DI MEDICINA E
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THANK YOU!

gianfranco.silecchia@uniroma1.it
www.gianfrancosilecchia.it

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