



Professor of Surgery Miroslav Ilić MD, PhD.

Head of Esophageal and Bariatric Surgery, Clinic for General Thoracic Surgery

School of Medicine, University of Novi Sad

Institute for Lung Diseases in Sremska Kamenica

Serbia

Aurora, Private General Hospital, Belgrade (Serbia)

Codra, Private General Hospital, Podgorica (Montenegro)

**LAPAROSCOPIC GASTRIC SLEEVE PROCEDURE WITH ANTRECTOMY – J SHAPE
AS A FIRST CHOICE IN BARIATRIC SURGERY**



Gastric Sleeve as a first operation in obesity and metabolic Sy?

*Among patients with morbid obesity, **there was no significant difference** in **excess BMI loss** between laparoscopic sleeve gastrectomy and laparoscopic Roux-en-Y gastric bypass at 5 years of follow-up after surgery.*

The number of patients with reoperations or interventions was 16/101 (15.8%) after sleeve gastrectomy and 23/104 (22.1%) after Roux-en-Y gastric bypass.

Peterli R et al. Effect of Laparoscopic Sleeve Gastrectomy vs Laparoscopic Roux-en-Y Gastric Bypass on Weight Loss in Patients With Morbid Obesity. The SM-BOSS Randomized Clinical Trial. [JAMA](#). 2018 Jan 16; 319(3): 255–265.

Gastric Sleeve is good surgery for resolution of T2DM

From 1,650 titles retrieved by an initial search, we selected nine studies for this research. We found insignificant differences for T2DM resolution by LRYGB and LSG, with an odds ratio of 0.93 (95%CI: 0.64-1.35, Z statistics = 0.38, P = 0.71). Additionally, subset analyses for T2DM resolution showed insignificant differences after 24 mo ($\chi^2 = 1.24$, df = 4, P = 0.87, overall Z effect = 0.23), 36 mo ($\chi^2 = 0.41$, df = 2, P = 0.81, overall Z effect = 0.51), and 60 mo ($\chi^2 = 4.75$, df = 3, P = 0.19, overall Z effect = 1.20) by LRYGB and LSG. **This study reports a T2DM remission rate of 82.3% by LRYGB and 80.7% by LSG.**

This study reports similar T2DM resolution rates by both LRYGB and LSG during 1-5 years of follow-up. However, long-term follow-up of 10 years is needed to further substantiate these findings

Guraya SY, Strate T. Surgical outcome of laparoscopic sleeve gastrectomy and Roux-en-Y gastric bypass for resolution of type 2 diabetes mellitus: A systematic review and meta-analysis. *World J Gastroenterol.* 2020 Feb 28; 26(8): 865–876.



„Large Sleeve“ is not good surgery

„Neofundus“ ?

Preservation of antrum?

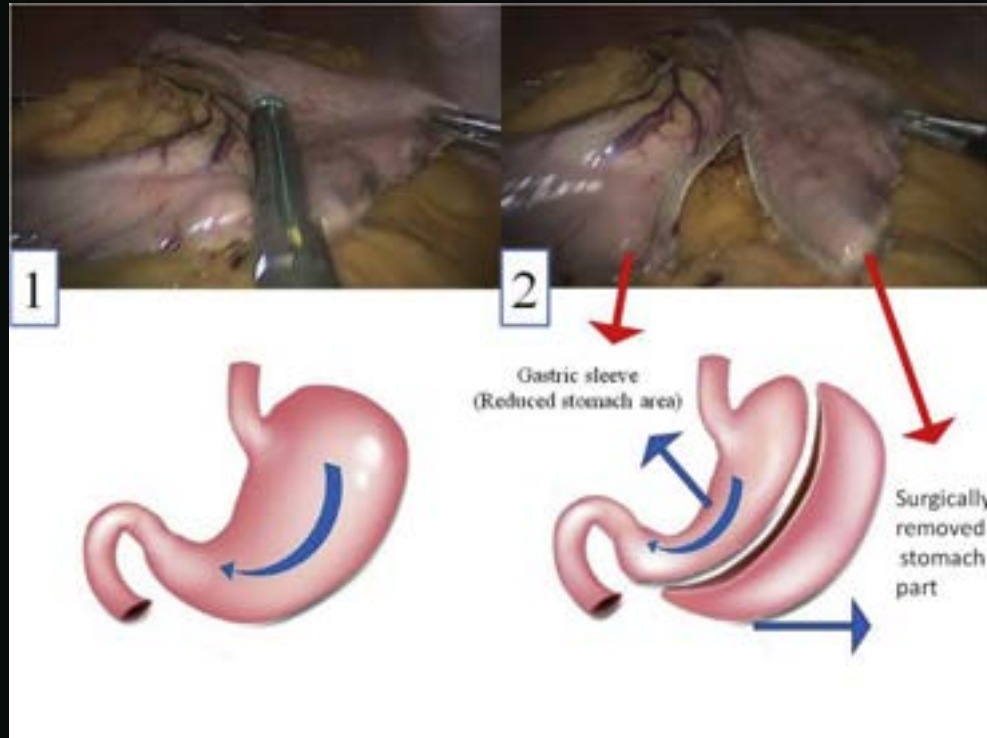


reLSG is a promising option for failed weight loss after LSG in patients who demonstrate the presence of a large gastric pouch. It carries a higher complication rate than the initial procedure. Further trials and meta-analyses are needed to prove the efficacy of this procedure.”

Saliba C, El Rayes J, Diab S et al. Weight Regain After Sleeve Gastrectomy: A Look at the Benefits of Re-sleeve. [Cureus](#). 2018 Oct; 10(10): e3450.



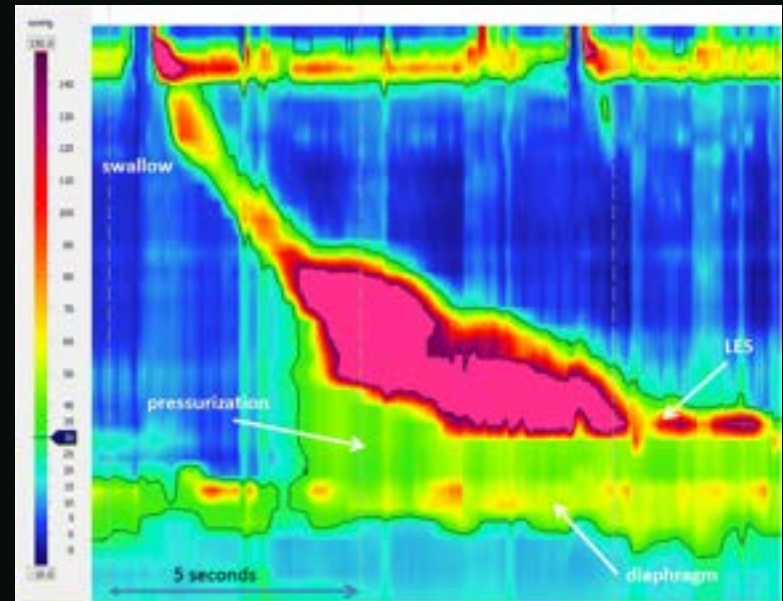
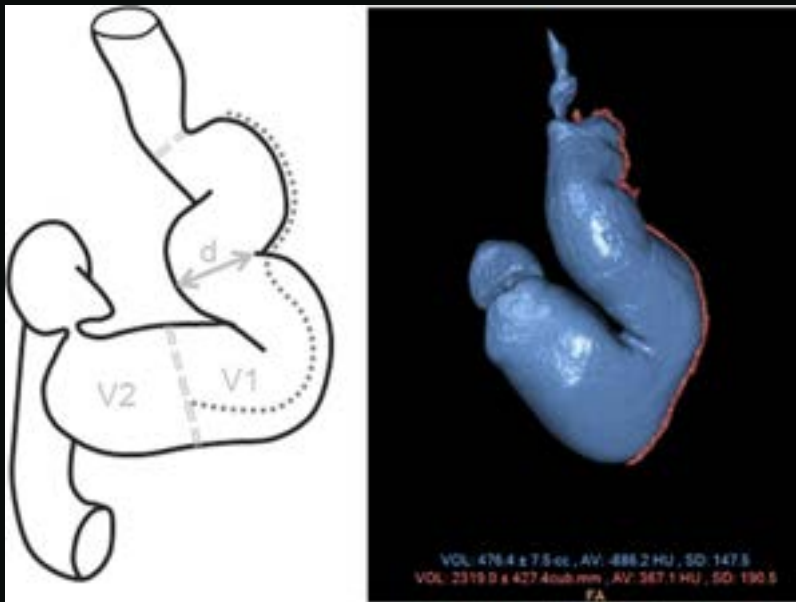
Gastric Sleeve with large antrum?





***SHOULD WE IMPROVE A
TECHNIQUE OF LGS ?***

Mechanisms of action
A reduction in volume results in an increase in intraluminal pressure.

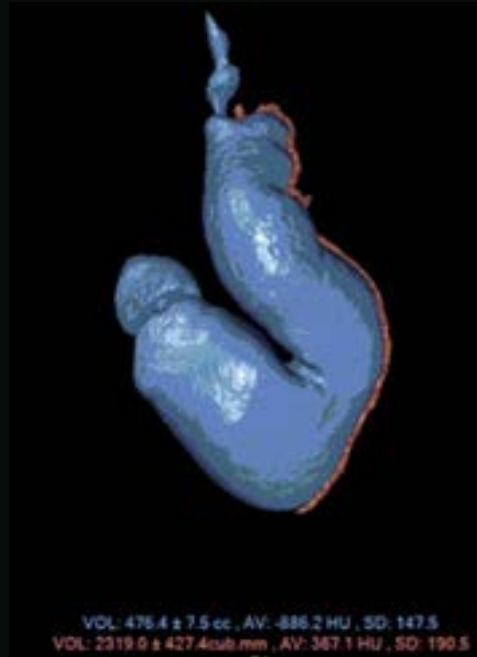


François Mion Salvatore Tolone Aurélien Garros. High-resolution Impedance Manometry after Sleeve Gastrectomy: Increased Intra-gastric Pressure and Reflux are Frequent Events. Obesity Surgery October 2016, Volume 26, Issue 10, pp 2449–2456



Gastric Sleeve with large antrum?

***Mechanisms of action
Antral resection***



3 cm from pylorus or 8 cm?



Gastric Sleeve and Antrectomy („subtotal“, „radical“)

LSG is a safe and effective procedure with good short-term outcome. Increasing the size of the resected antrum is associated with better weight loss without increasing the rate of complications significantly.

Abdallah E, El Nakeeb A, Yousef T et al. Impact of Extent of Antral Resection on Surgical Outcomes of Sleeve Gastrectomy for Morbid Obesity (A Prospective Randomized Study) *Obesity Surgery*; 24:1587–1594 (2014)

Performing the LSG with a radical antrectomy could improve weight loss at 12-month follow-up but expose to lower food tolerance and higher transitory GERD. The differences seem to be reduced to a 24-month.

Pizza, F., D'Antonio, D., Lucido, F.S. et al. Does antrum size matter in sleeve gastrectomy? A prospective randomized study. *Surg Endosc* (2020). <https://doi.org/10.1007/s00464-020-07811-1>

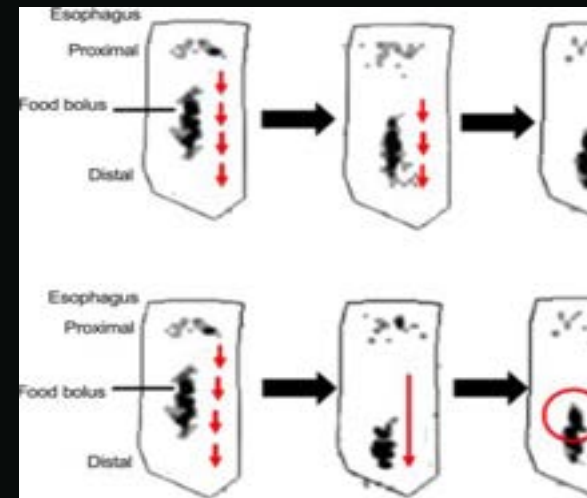
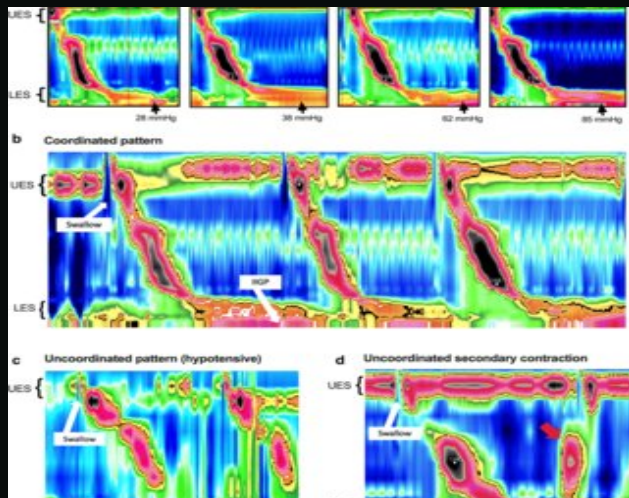




Preservation of antrum in Gastric Sleeve does not

Change gastric emptying Contractions induced isobaric pressurization of proximal stomach, thus providing the drive to pressurize and empty the vertical compartment of the gastric sleeve. Transit following SG appeared to be esophageal-mediated and followed a distinct cycle with strong associations with reflux.

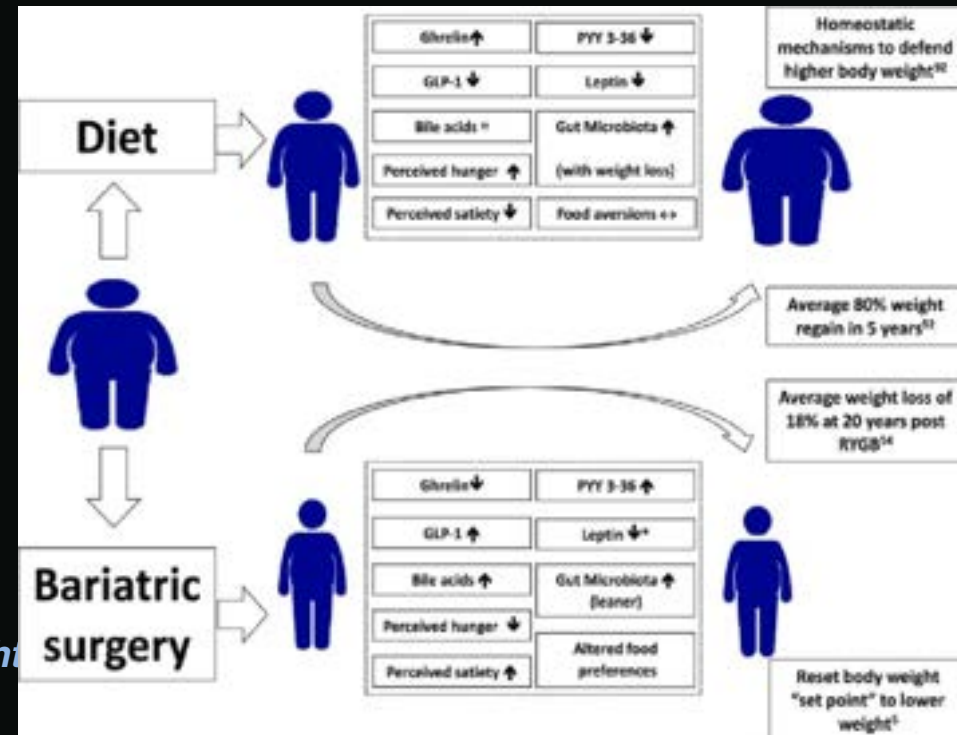
Johari Y, Wickremasinghe A, Kiswandono P et al. Mechanisms of Esophageal and Gastric Transit Following Sleeve Gastrectomy. Obesity Surgery; 31:725–737 (2021)

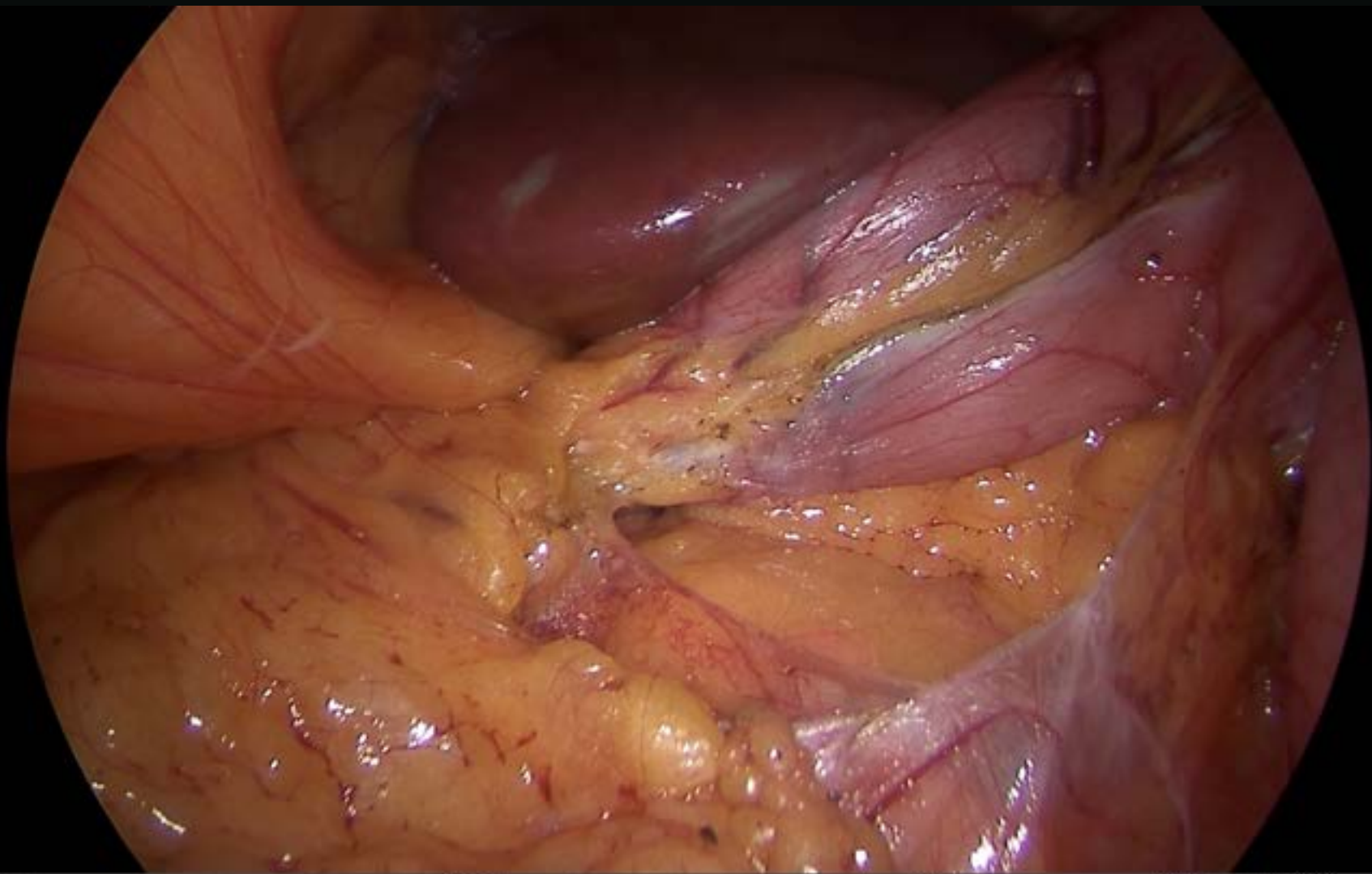


One bariatric procedure can not solve lifelong obesity

However, whilst highly effective overall, at individual level, post-operative outcomes are highly variable, with a proportion of patients experiencing poor long-term weight loss outcome and gaining little health benefit. ... A greater understanding of these procedure-related mechanisms will allow surgical procedure choice to be tailored to the individual to maximize post-surgery health outcomes and will facilitate the discovery of non-surgical treatments for people with obesity.

[Pucci A, Batterham RL. Mechanisms underlying the weight loss effects of RYGB and SG: similar, yet different. J Endocrinol Invest. 2019; 42\(2\): 117–128.](#)





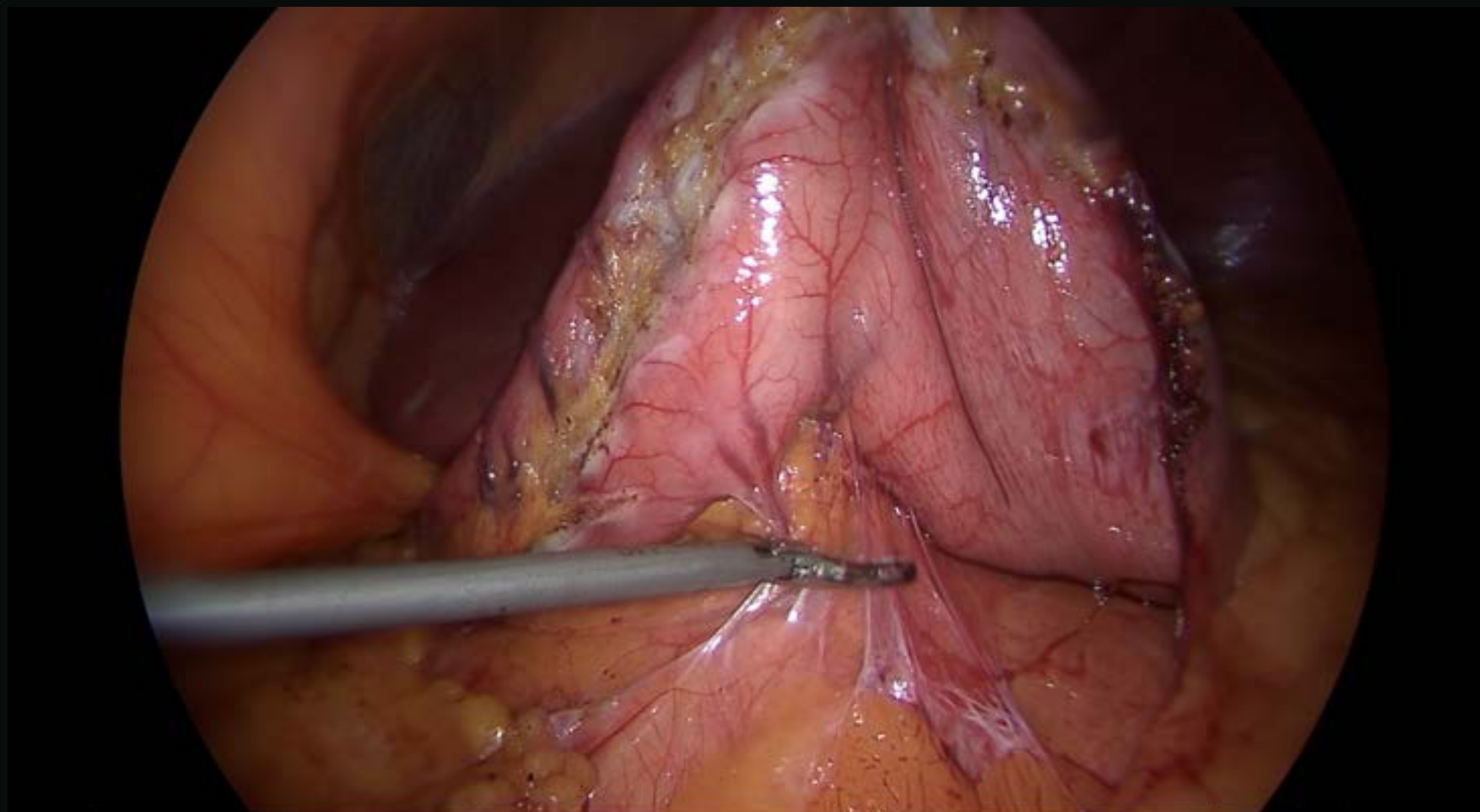
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5 mm

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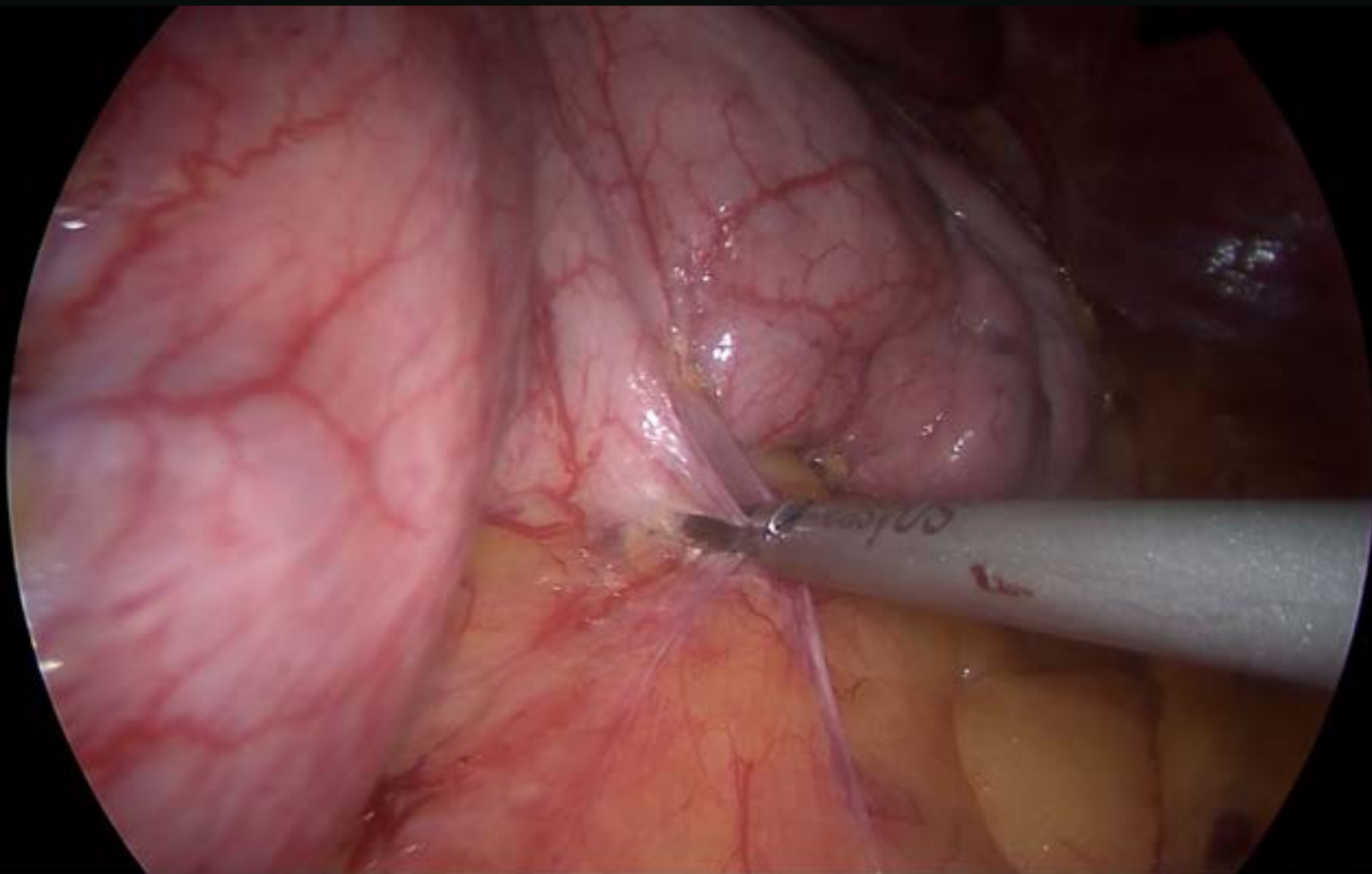
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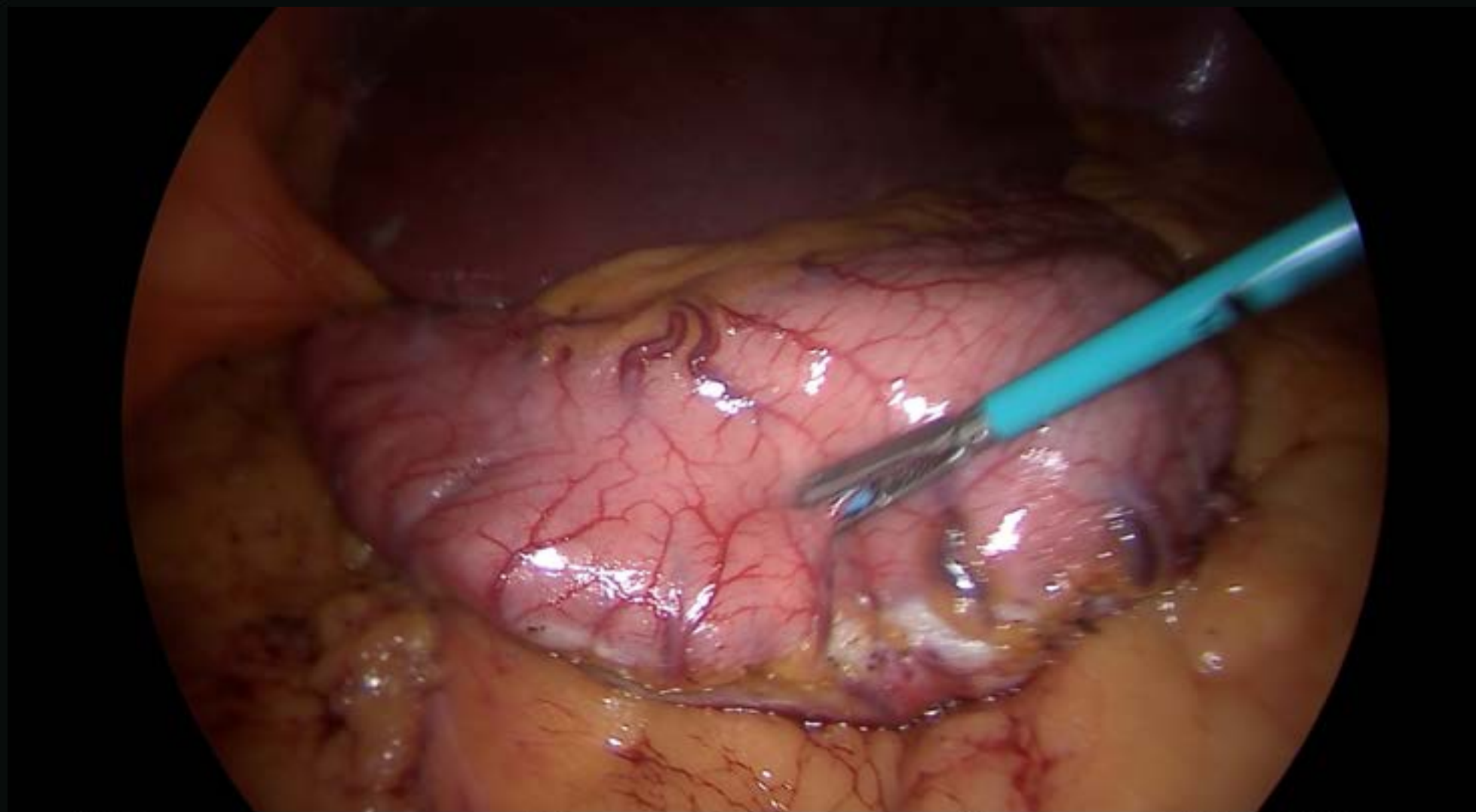
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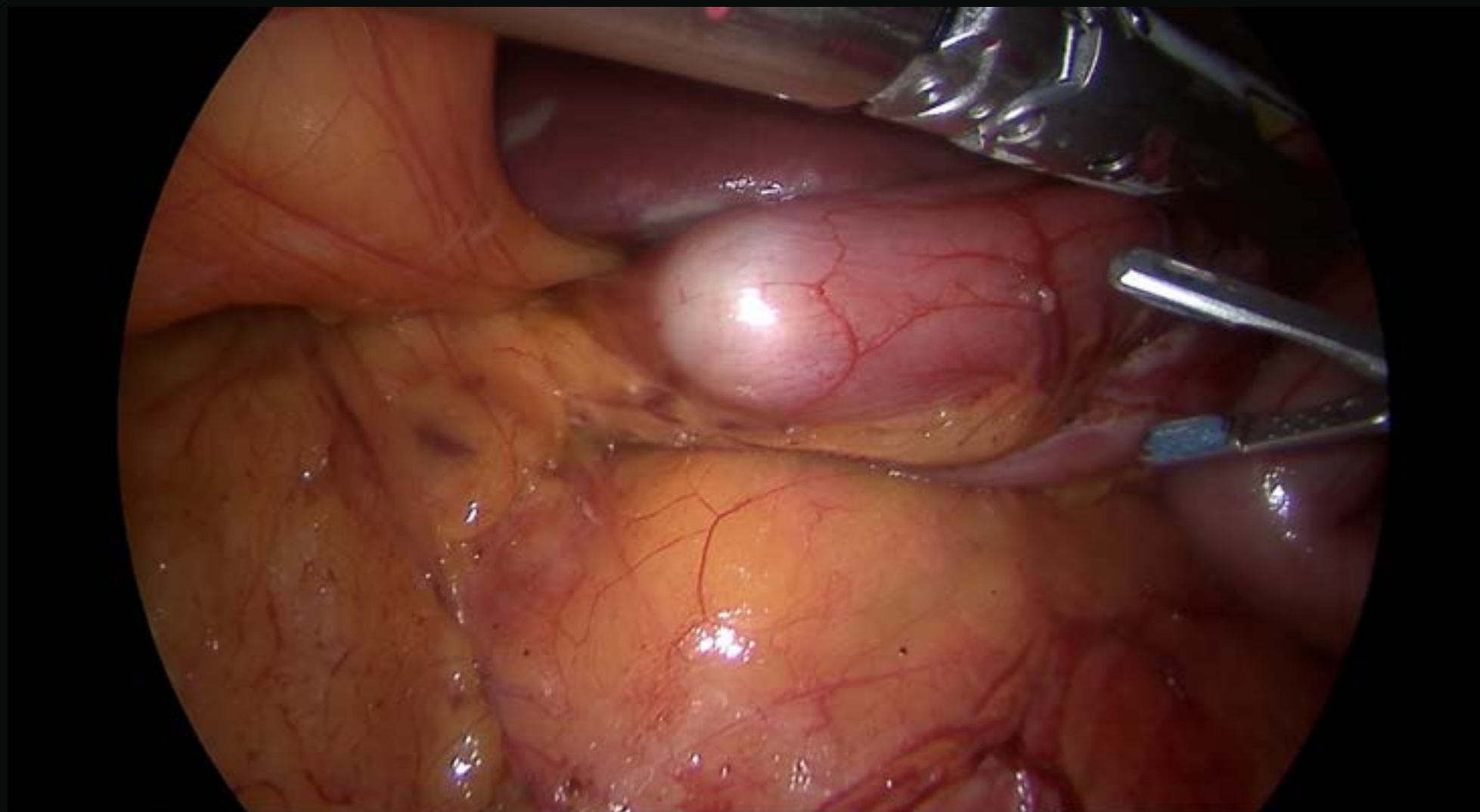
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6 mm

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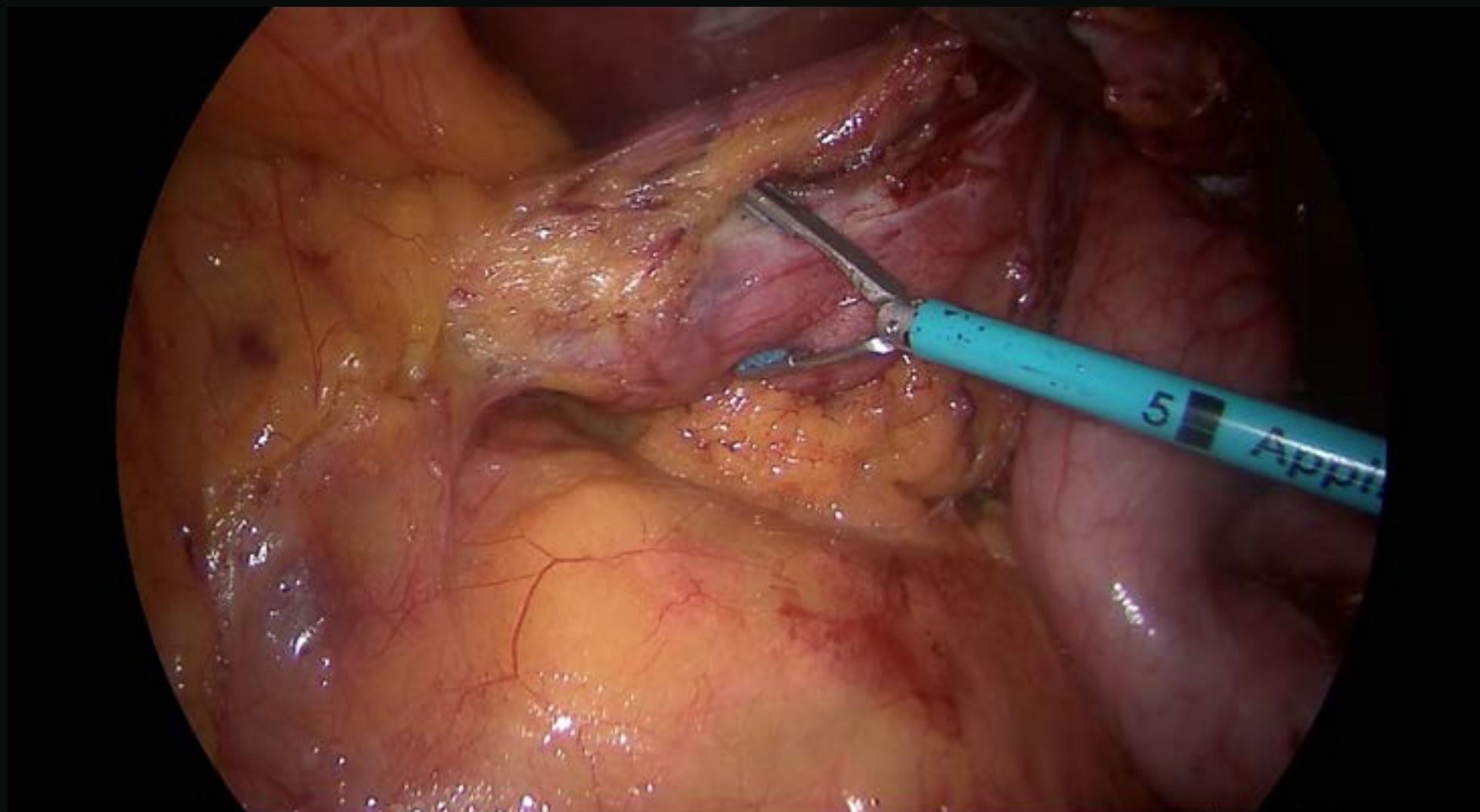
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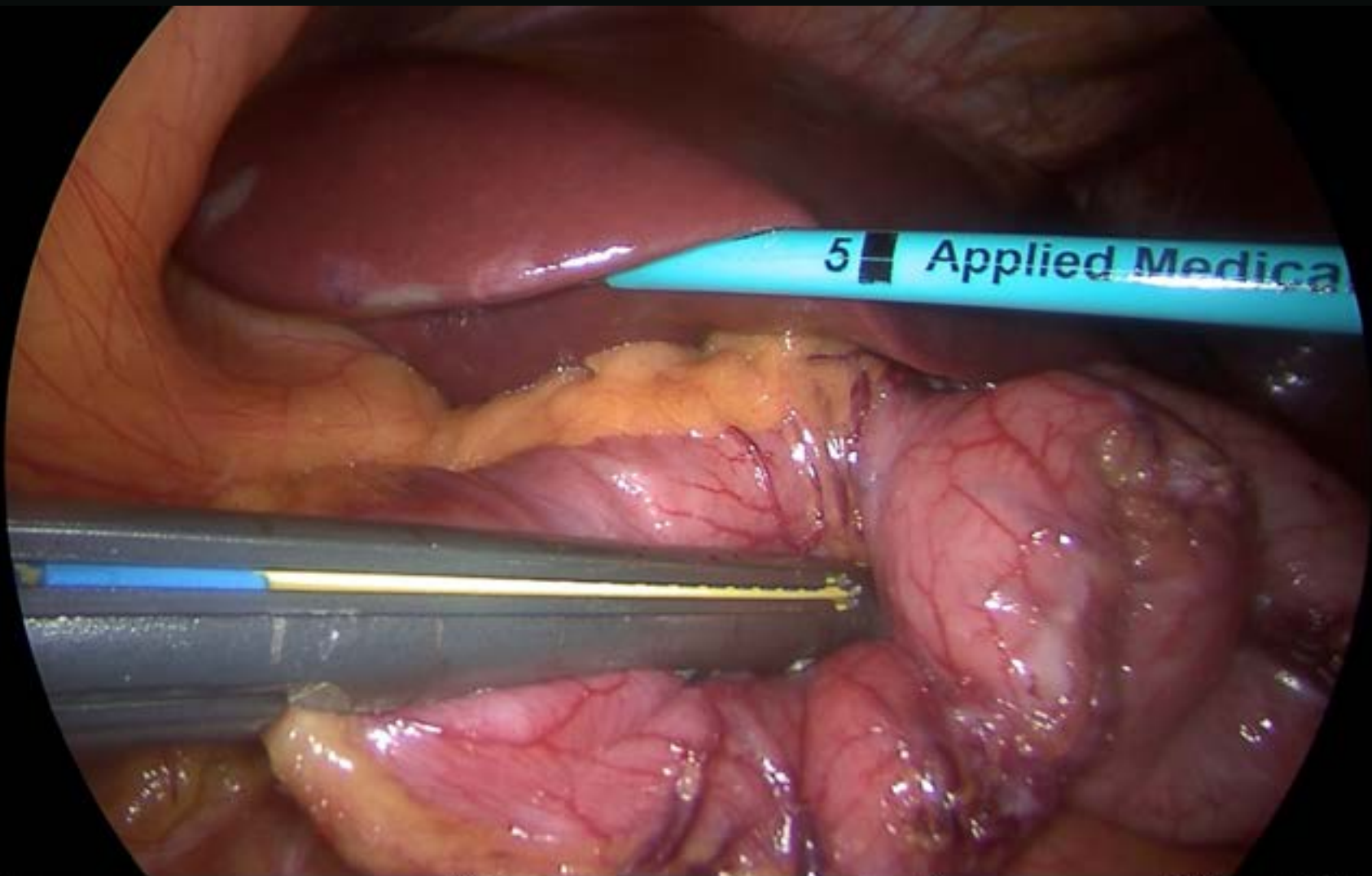
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20 mm

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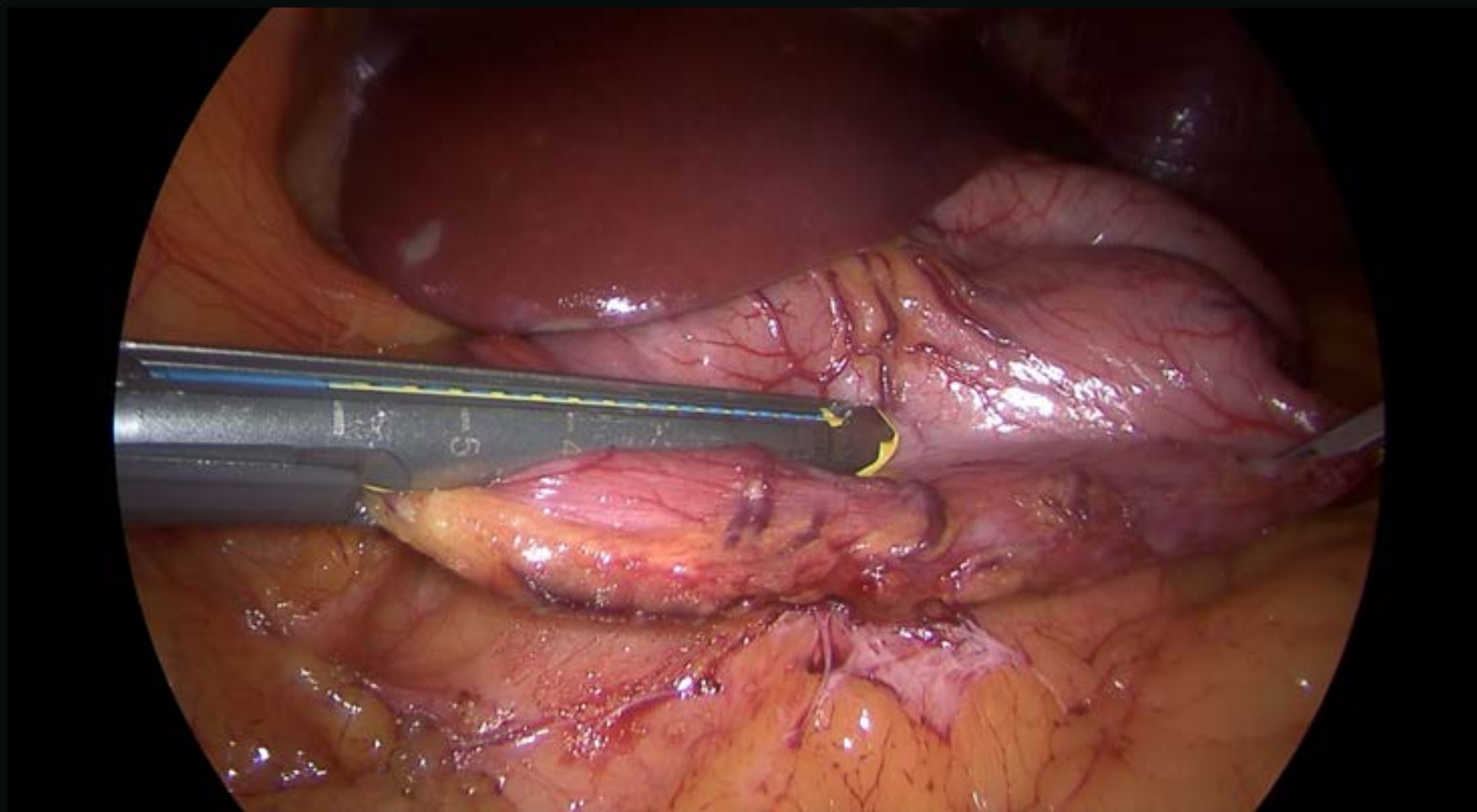
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22 mm

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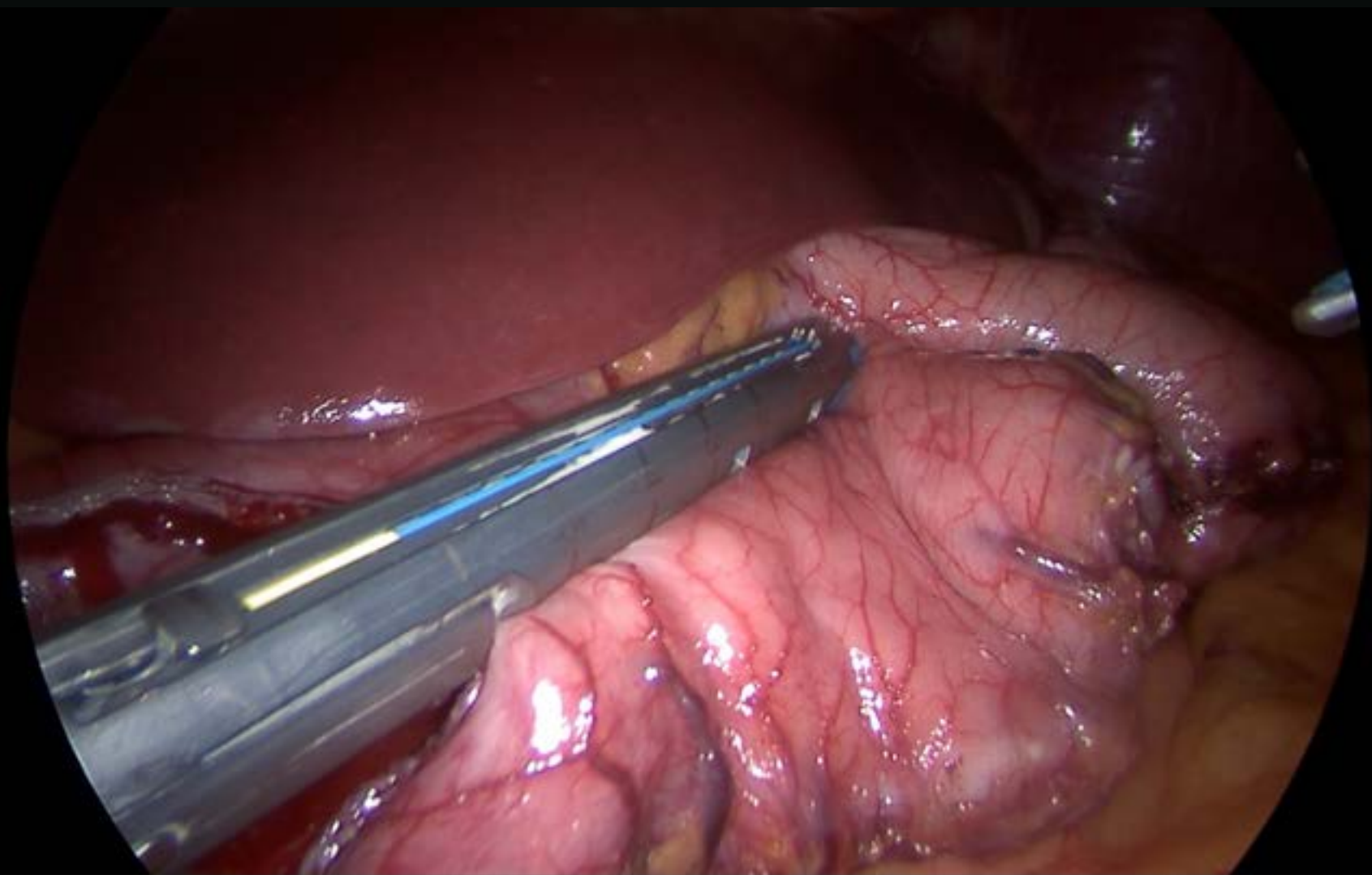
x1.0

24

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(>6h)

(86%)



x1.0

27

0

(>6h)

(86%)



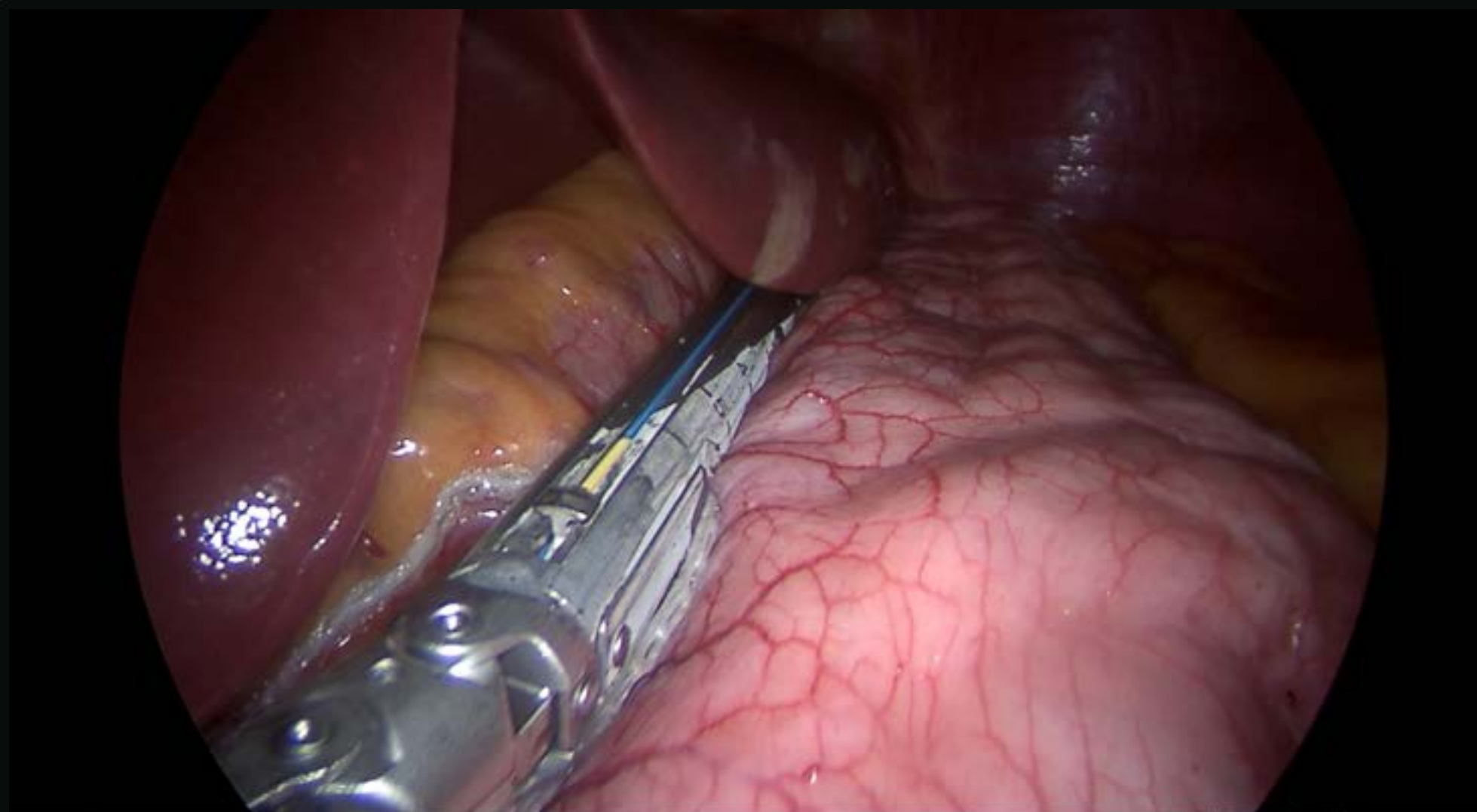
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28

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(86%)



x1.0

29 mm

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(86%)



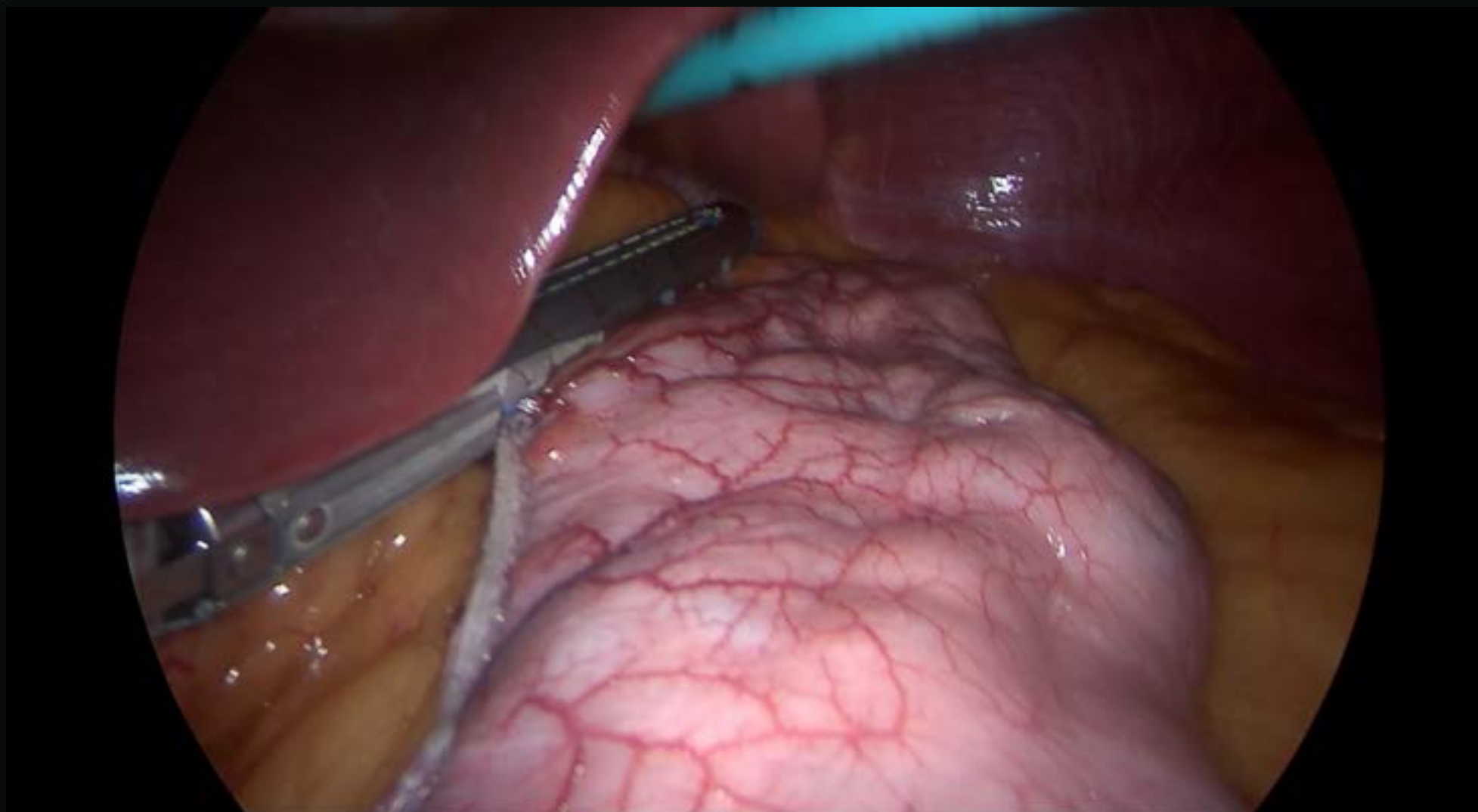
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30 mm

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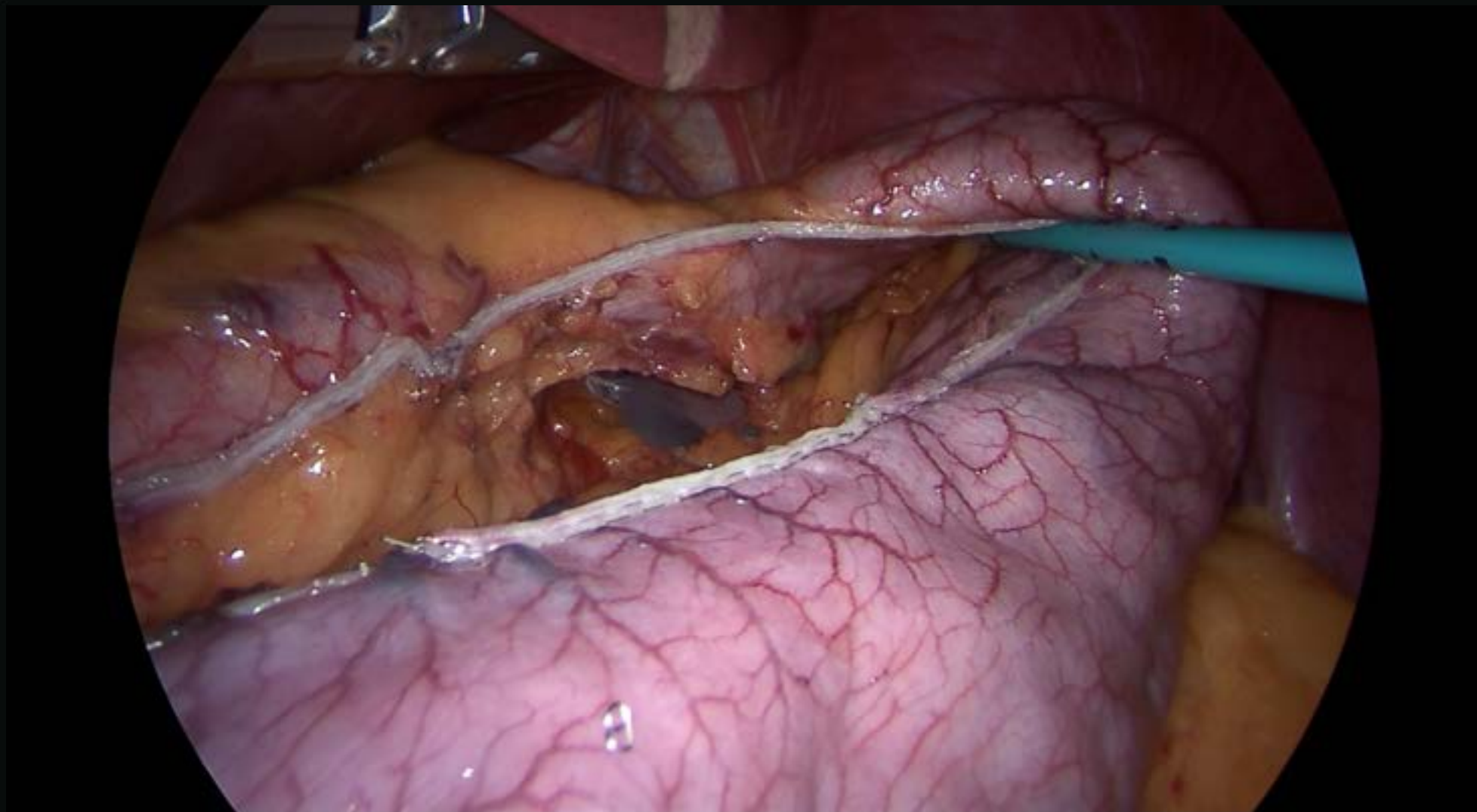
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32

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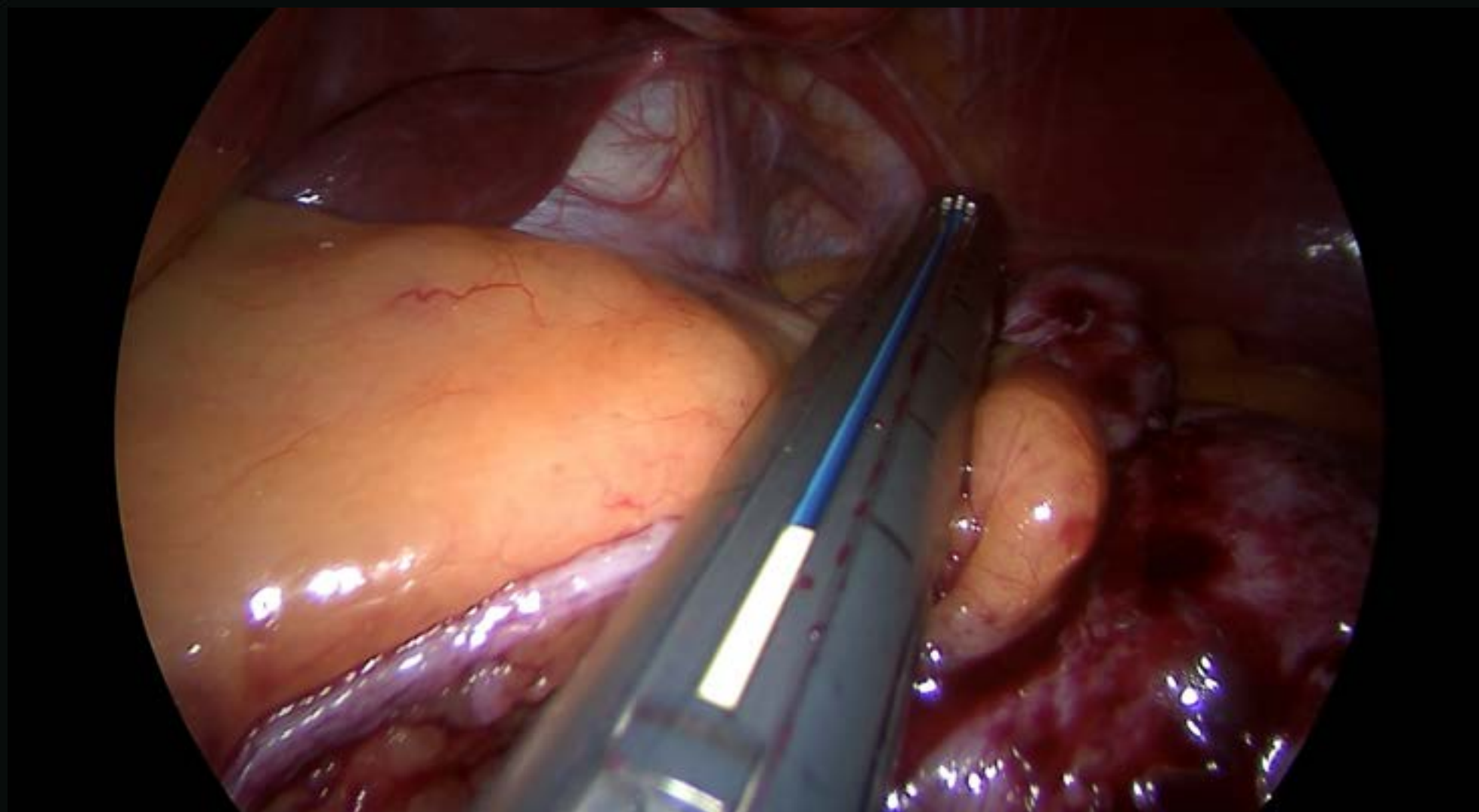
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36 mm

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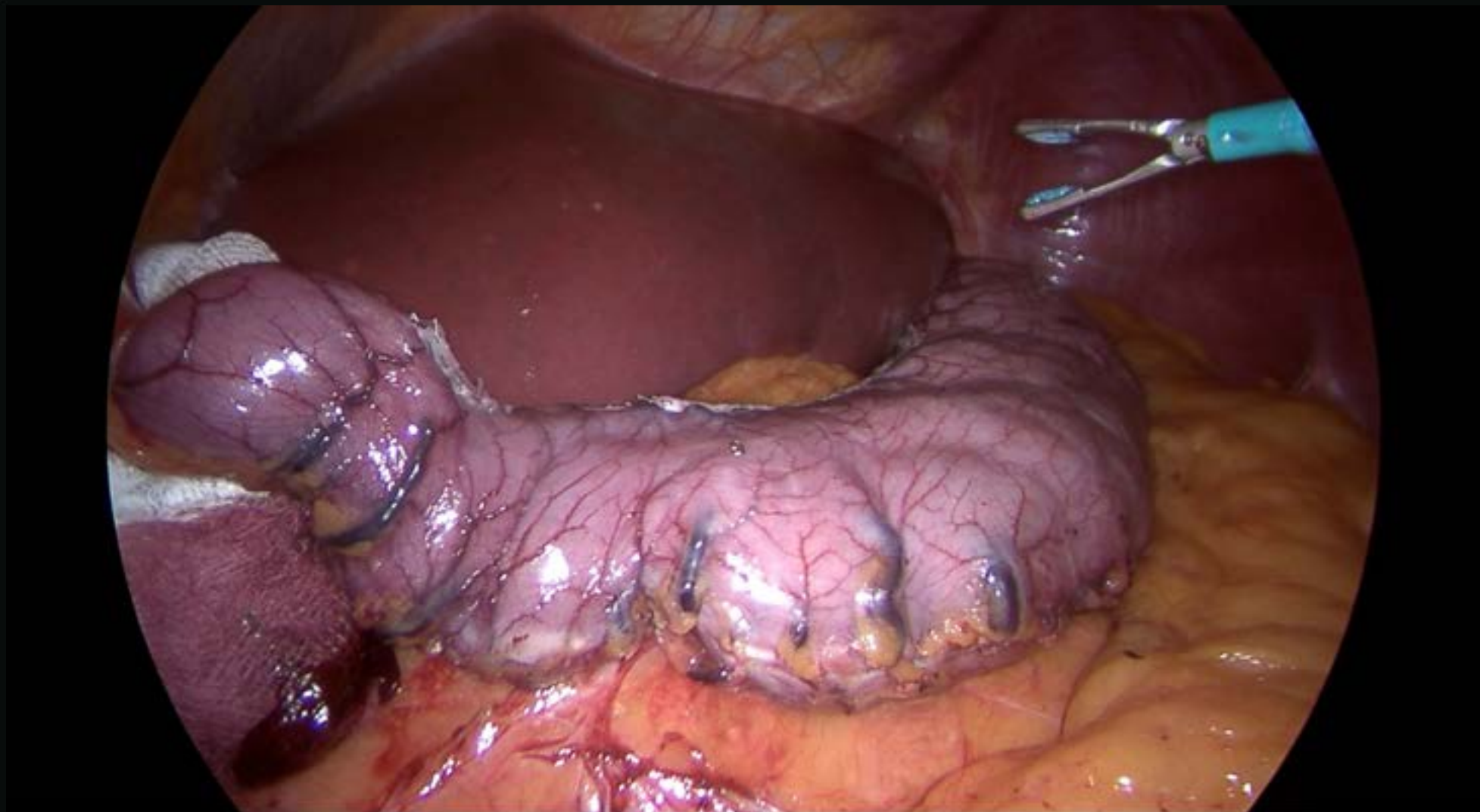
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39 mm

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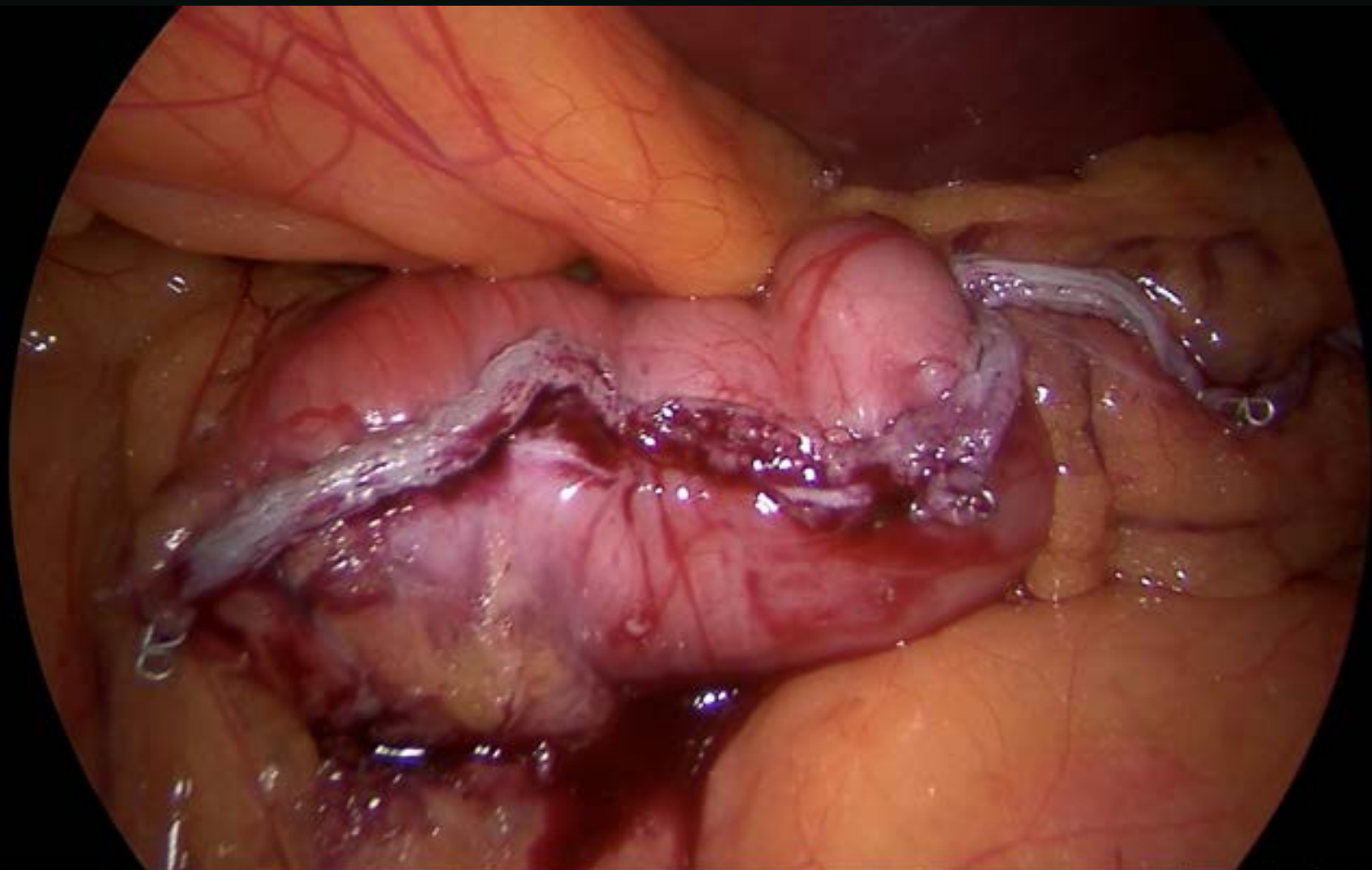
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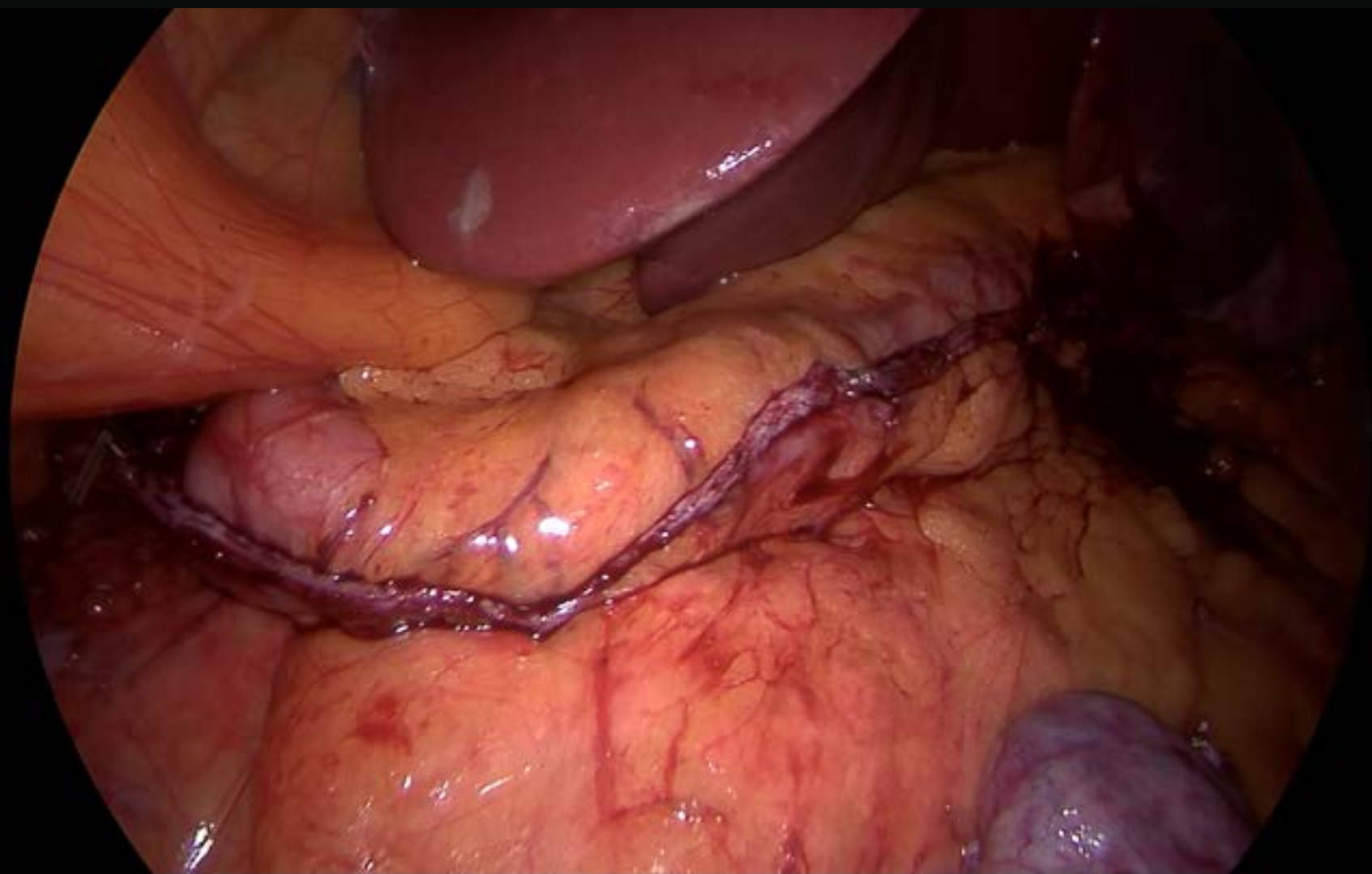
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41 mm

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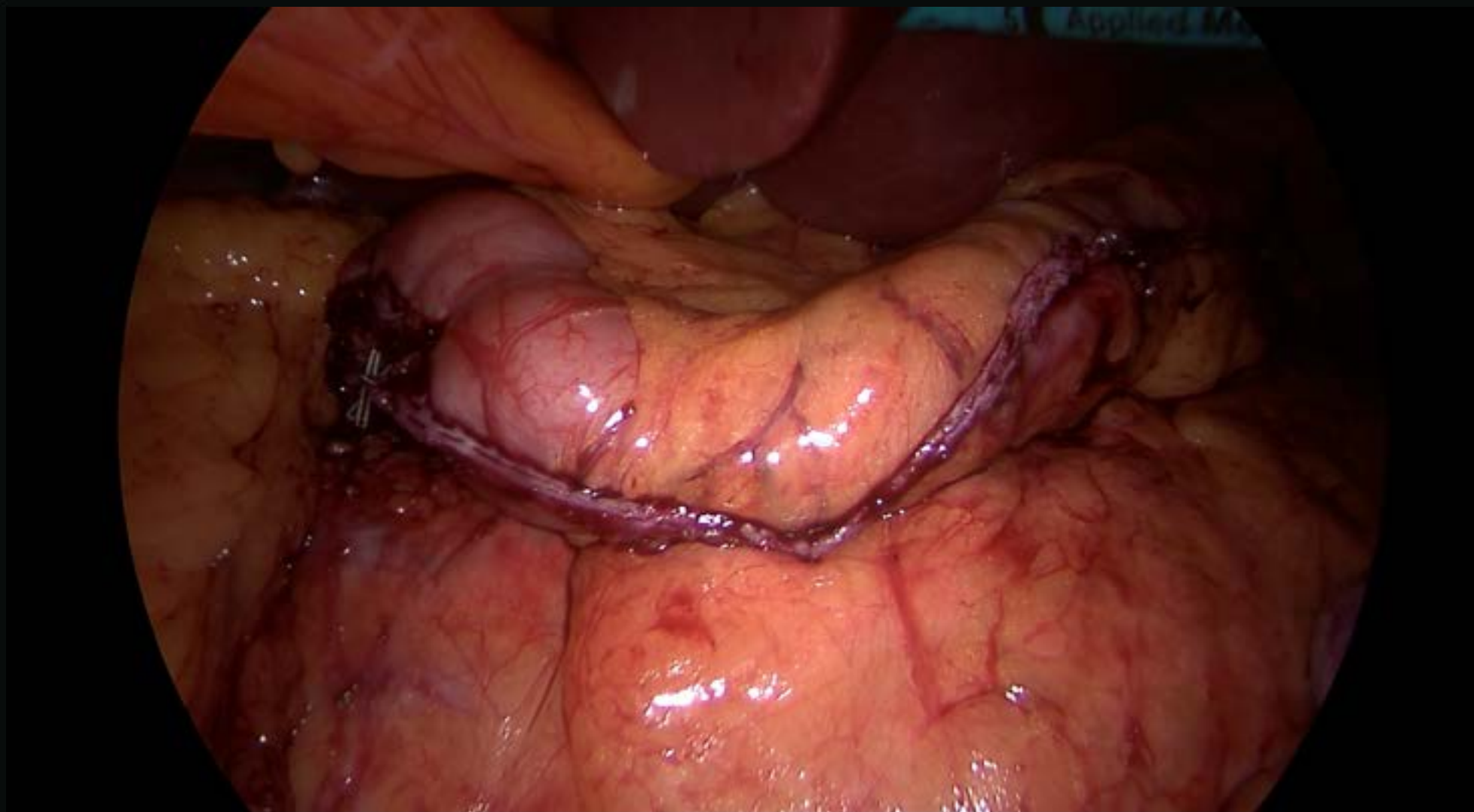
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43 mm

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(86%)



x1.0

45

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(>6h)

(86%)



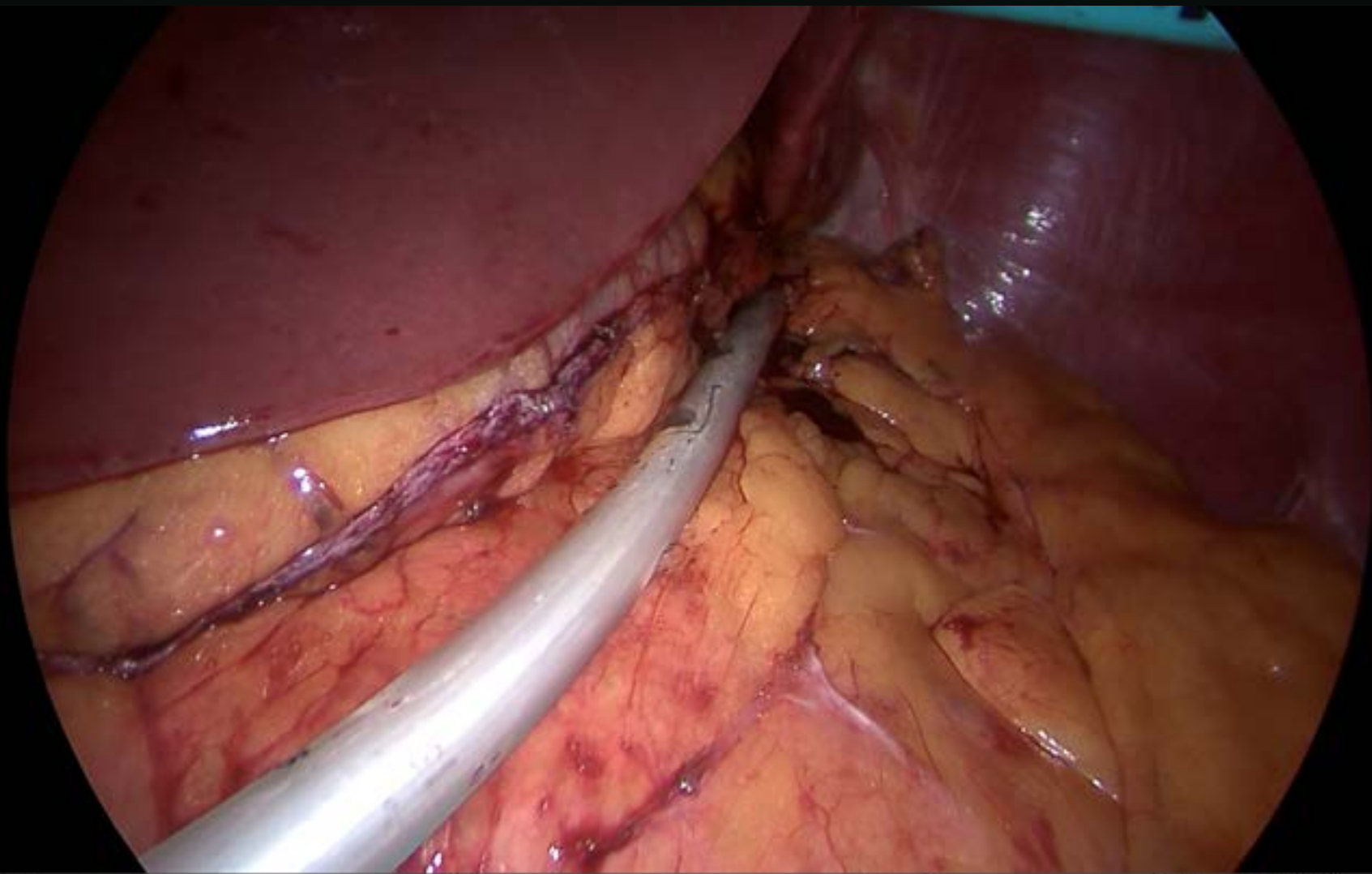
x1.0

48

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(>6h)

(86%)



x1.0

49

0

(>6h)

(86%)



Surgery after Gastric Sleeve?

SG has significantly lower risk of reintervention in all categories studied when compared with RYGB at 5-year follow-up. The long-term safety profile of LSG compared with RYGB should be an essential part of the discussion in patient-centered decision making when choosing between bariatric procedure options. (15 319 SG and 19 954 RYGB)

Li RA, Lyen L, Arterburn D et al. Five-year Longitudinal Cohort Study of Reinterventions After Sleeve Gastrectomy and Roux-en-Y Gastric Bypass. Annals of Surgery: April 2021; 273: 758-765



***After Gastric Sleeve procedure
numerous added malaportive operations are possible***

***BPD-DS
MGB/OAGB
SADI-S
RYBP
Transit bi-
partition***



Conclusion

Laparoscopic Gastric Sleeve procedure with antrectomy - J shape is a possible first choice in most of patients who suffered of obesity and metabolic disorders, but have to be done properly.