LAPAROSCOPIC VERSUS OPEN RESTORATION OF THE GUT CONTINUITY AFTER HARTMANN'S PROCEDURE

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Introduction;

- In 1921, Hartmann, a French surgeon described his operation for the resection of left-sided colonic carcinoma.
- The technique described a sigmoid colectomy without anastomosis; a left lower quadrant end colostomy and the rectal stump closure were performed.
- The aim of Hartmann operation was to decrease the morbidity and mortality related to anastomotic leakage after primary left side intestinal anastomosis .

Introduction;

- Nowadays the operation performed for other left colon pathologies, especially in the emergency situation, when perioperative conditions contraindicate the performance of a colorectal anastomosis

Introduction;

- Open restoration of the gut continuity after Hartmann operation is a high risk procedure. The rate of restoration of intestinal continuity after Hartmann procedure remains low at less than 20-50%.it has a serious risk of surgical morbidity (up to 30% of cases), including a high rate of anastomotic leakage (up to 16%), and a considerable mortality risk (range, 4% to 10%).

Introduction;

- Anderson et al. published the first report of a laparoscopically assisted Hartmann's reversal in 1993.

Aim of the work

- The aim of this study was to compare the outcome of laparoscopic and open restoration of the gut continuity after Hartmann operation as regard operative and post-operative complication.

Methods;

- Mechanical and chemical bowel preparation was done for all patients approximately 24 hour before surgery.
- They all received perioperative broad-spectrum parenteral antibiotics and subcutaneous low-molecular weight heparin.
- A nasogastric tube and urinary catheter were routinely inserted.

Methods;

- All operations were performed under general anesthesia, patients were placed in either split-legged or modified lithotomy position.

Methods; OHR

- The OHR was performed through an abdominal midline vertical incision. The dissection of the peritoneal attachments and rectal stump was achieved using monopolar and/or bipolar electro surgery devices. Colorectal anastomosis was performed mechanically without stoma protection.

Methods; LHR

- In the LHR surgeries, the patients were placed in a modified lithotomy position with the lower limbs slightly flexed on stirrups.
- Video monitors were placed on the left side of the patient, with the surgeon and assistant standing on the right.
- Initial port insertion was accomplished by the open Hasson technique in the right lateral abdomen. A 3-5 trocars technique was used, depending on the level of operative difficulty encountered.

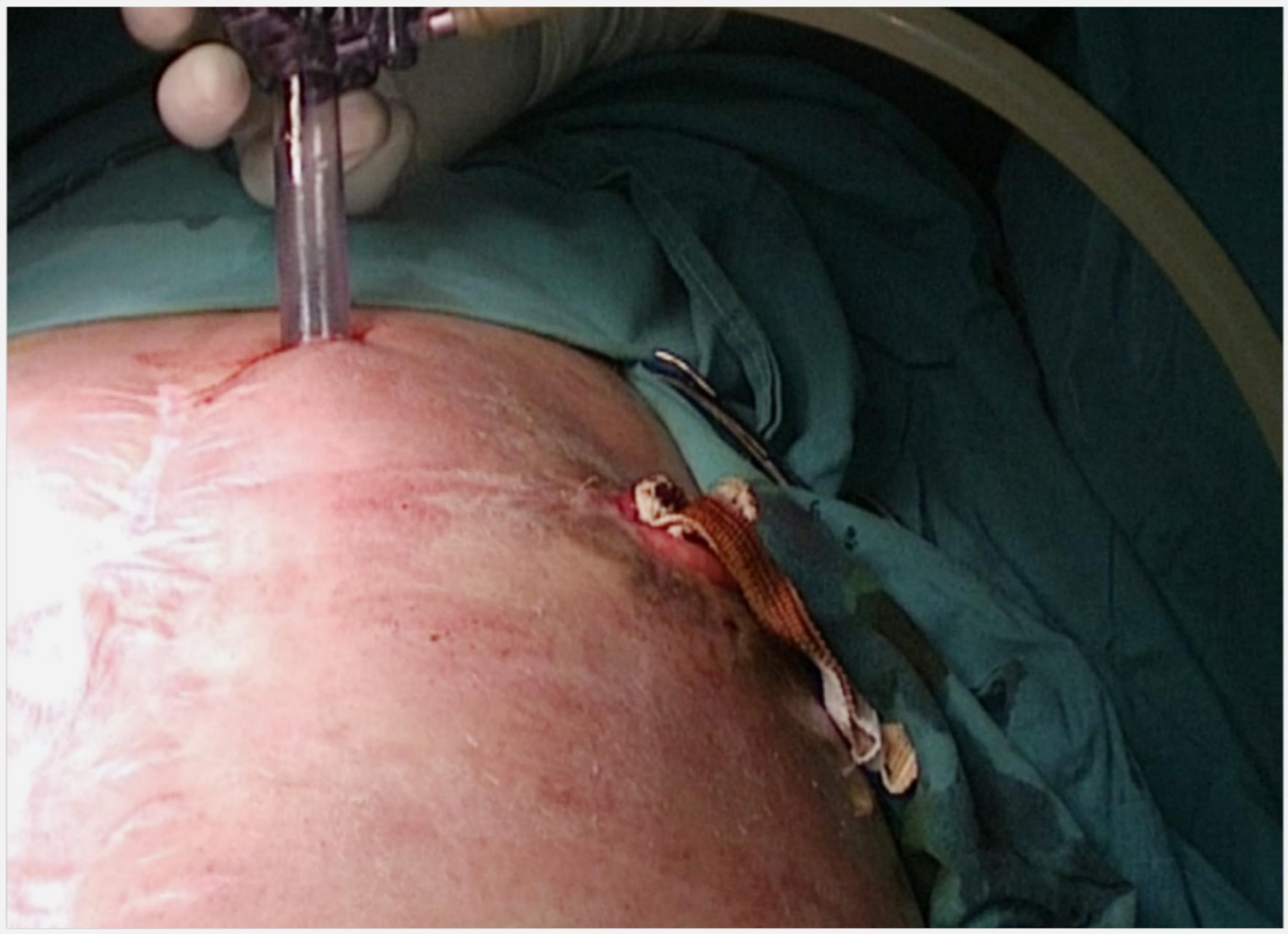
Methods; LHR

- Lysis of adhesions was done to allow mobilization of the colostomy and identification of the rectal stump.
- to identify the rectal stump, a dilator, stapling device or sigmoidoscope was inserted into the rectum.
- The colostomy was freed from the abdominal wall and the anvil of a circular stapling device was inserted into the lumen.

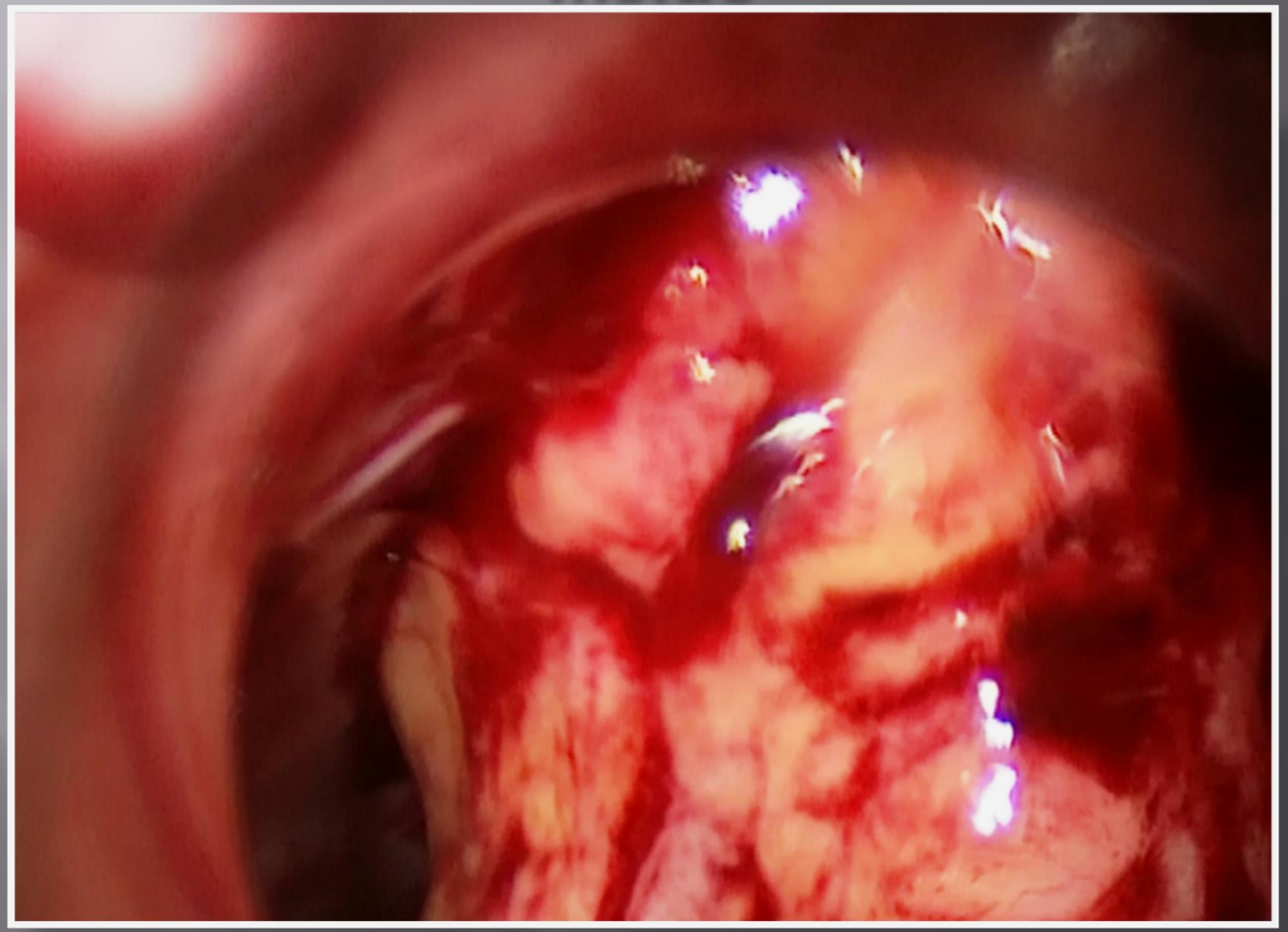
Methods; LHR

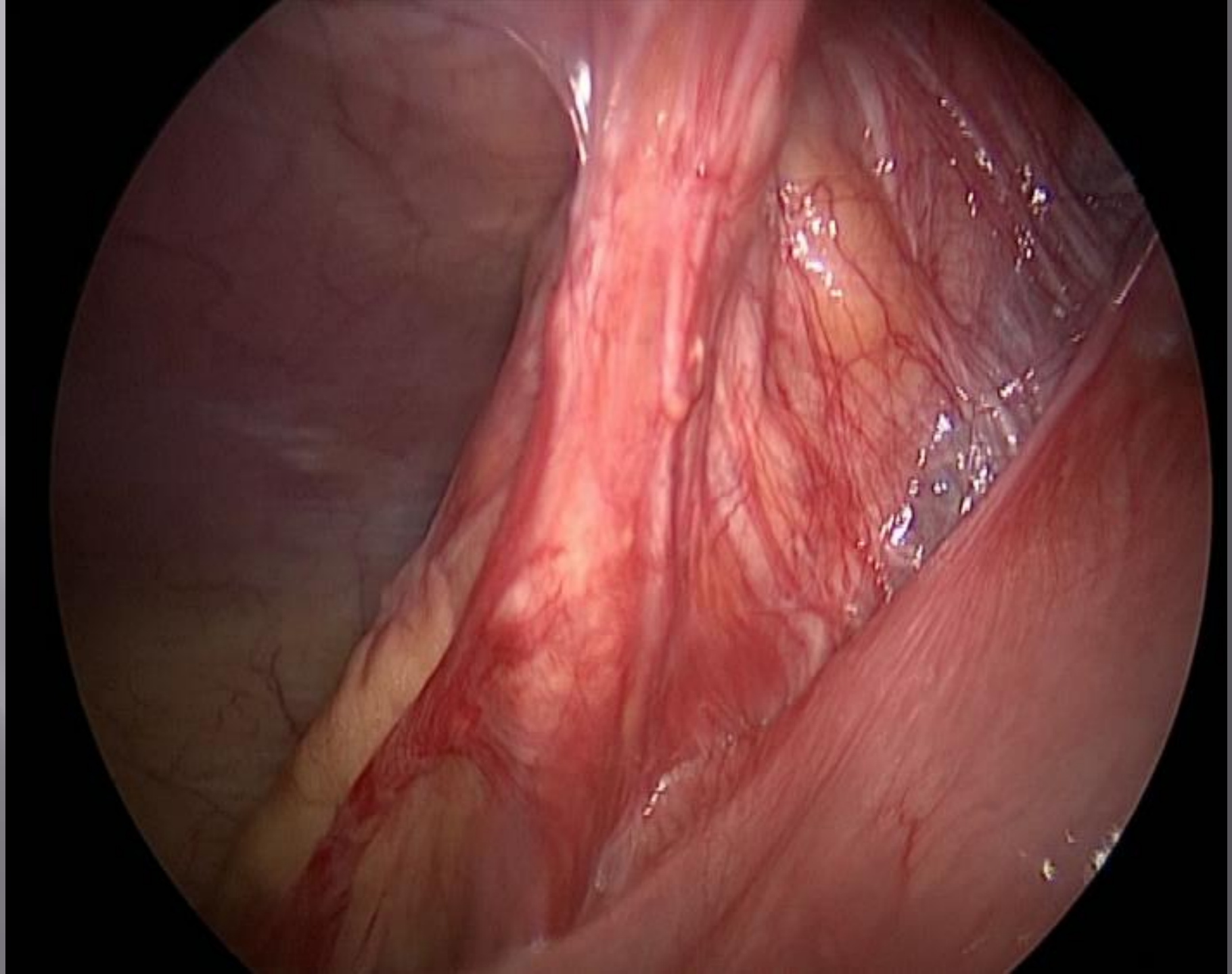
- Mobilization of the left colon, splenic flexure, were done as needed.
- A transanal, end-to-end anastomosis was performed using a circular stapling device

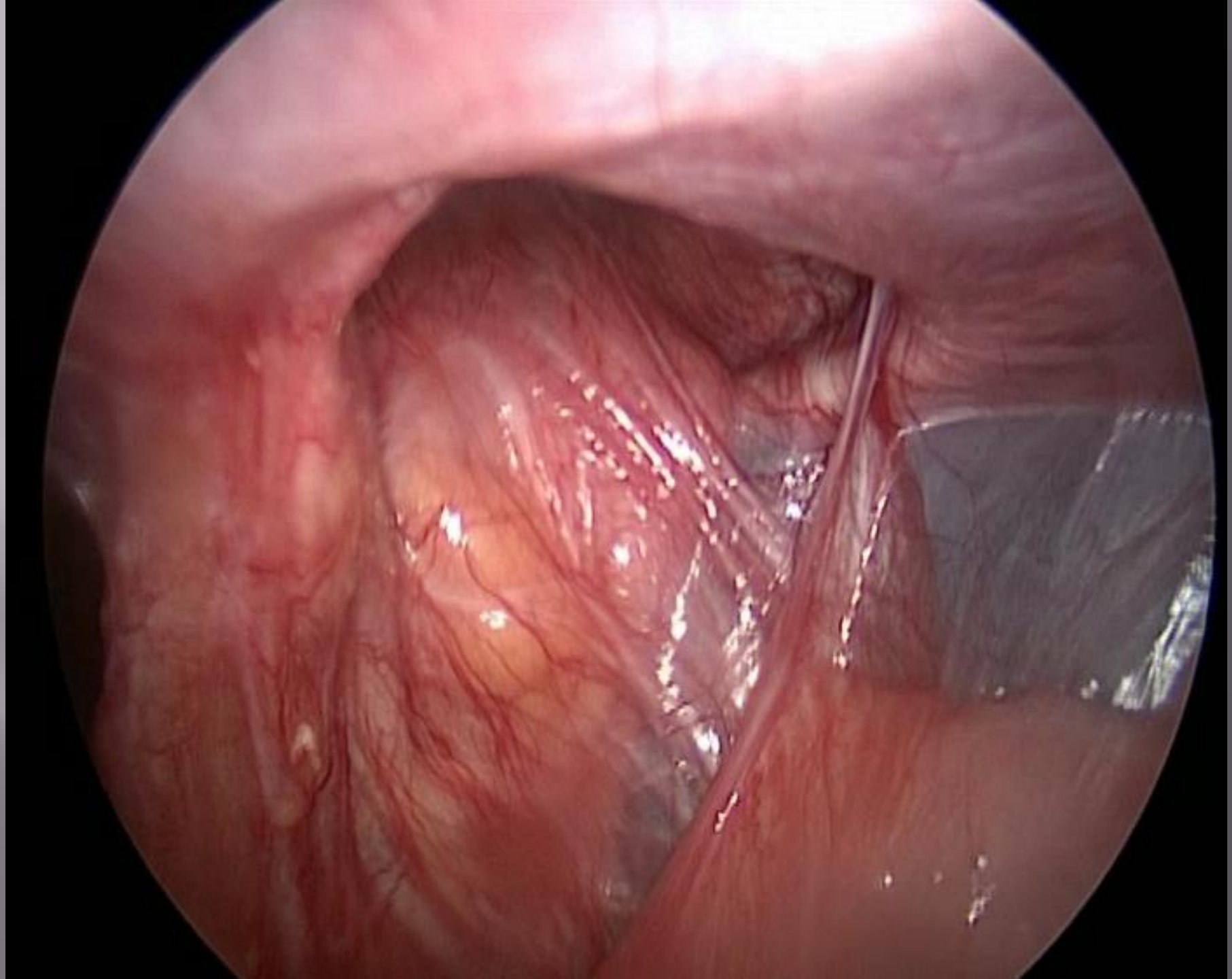
Position of the first trocar

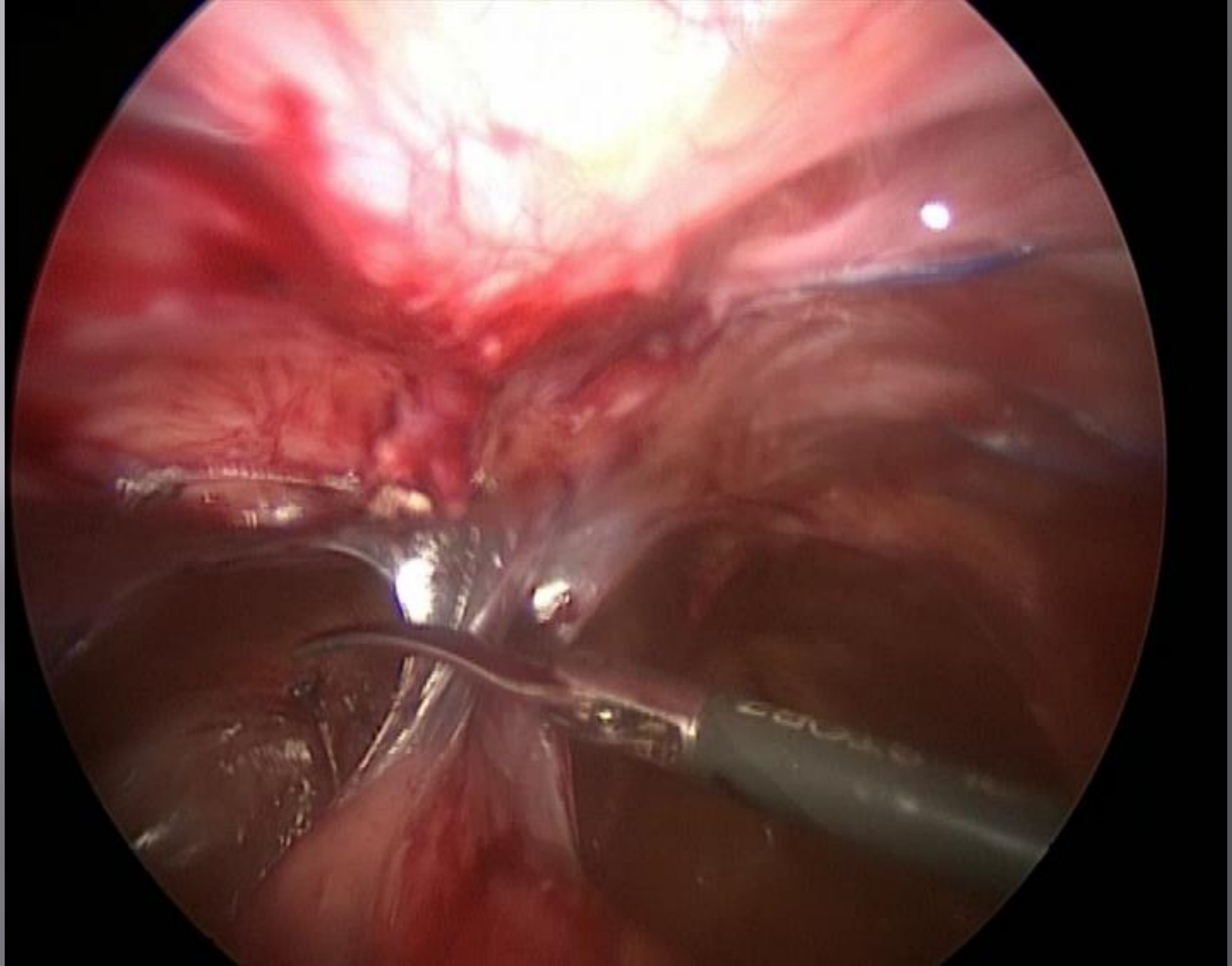


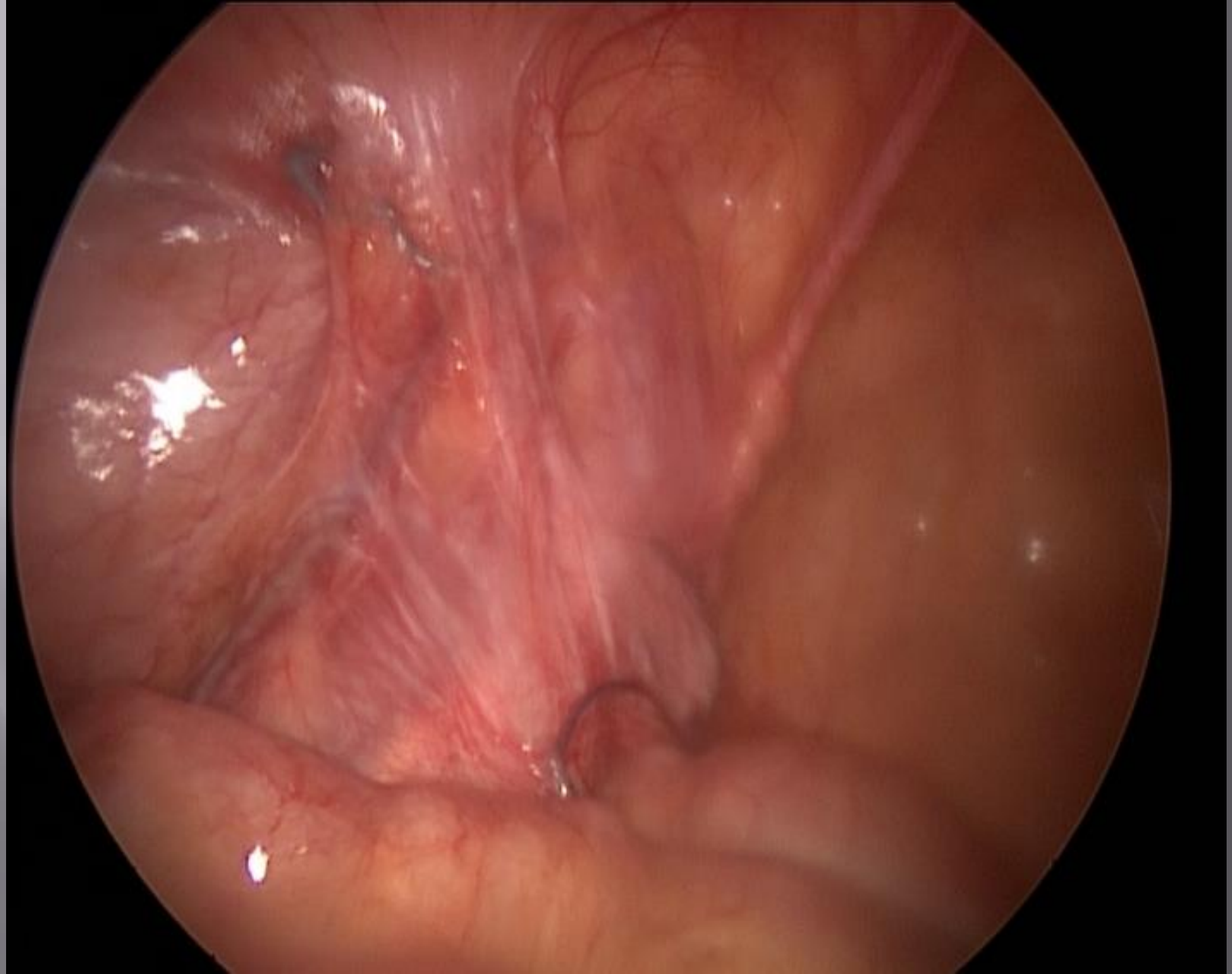
The colostomy from inside

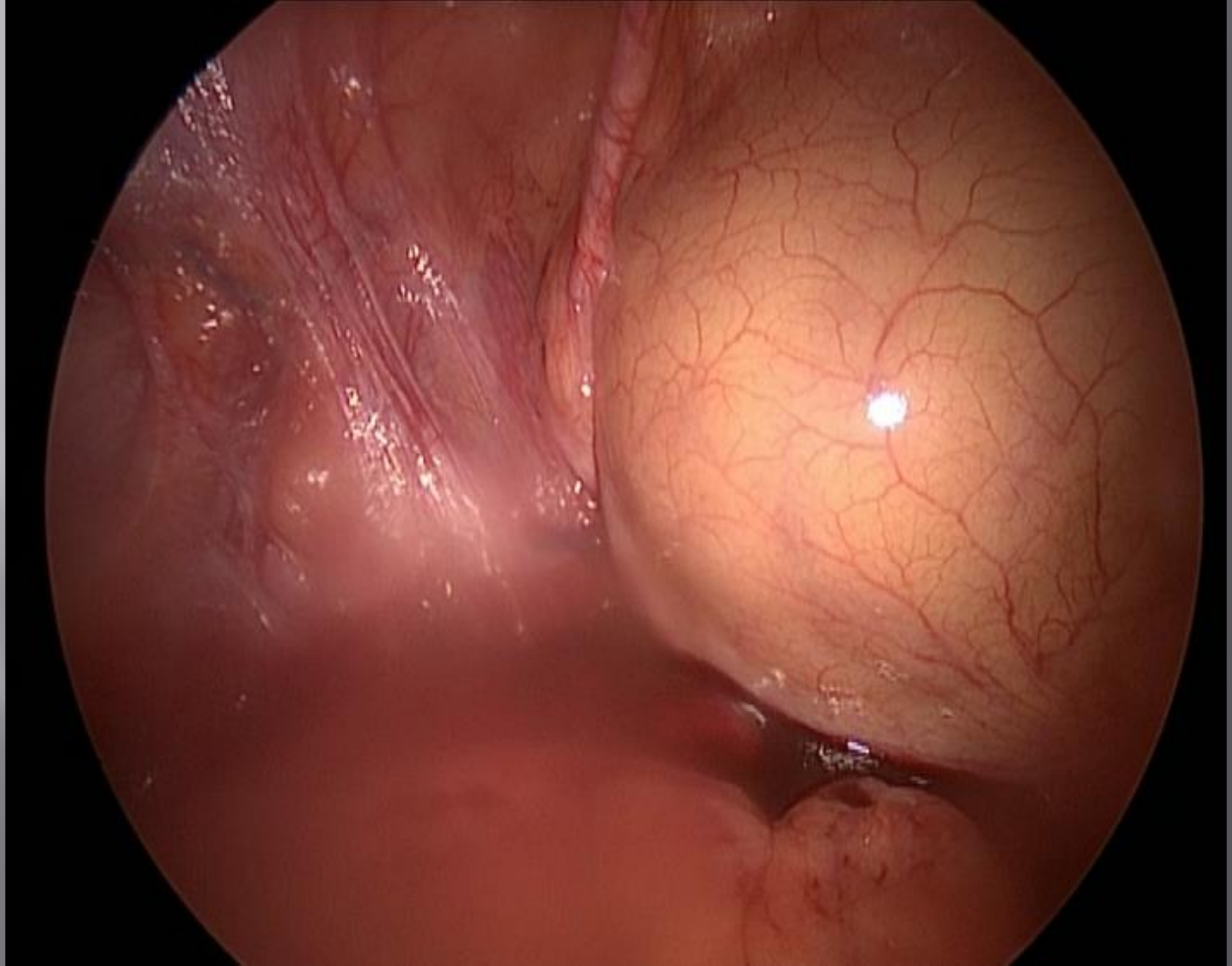




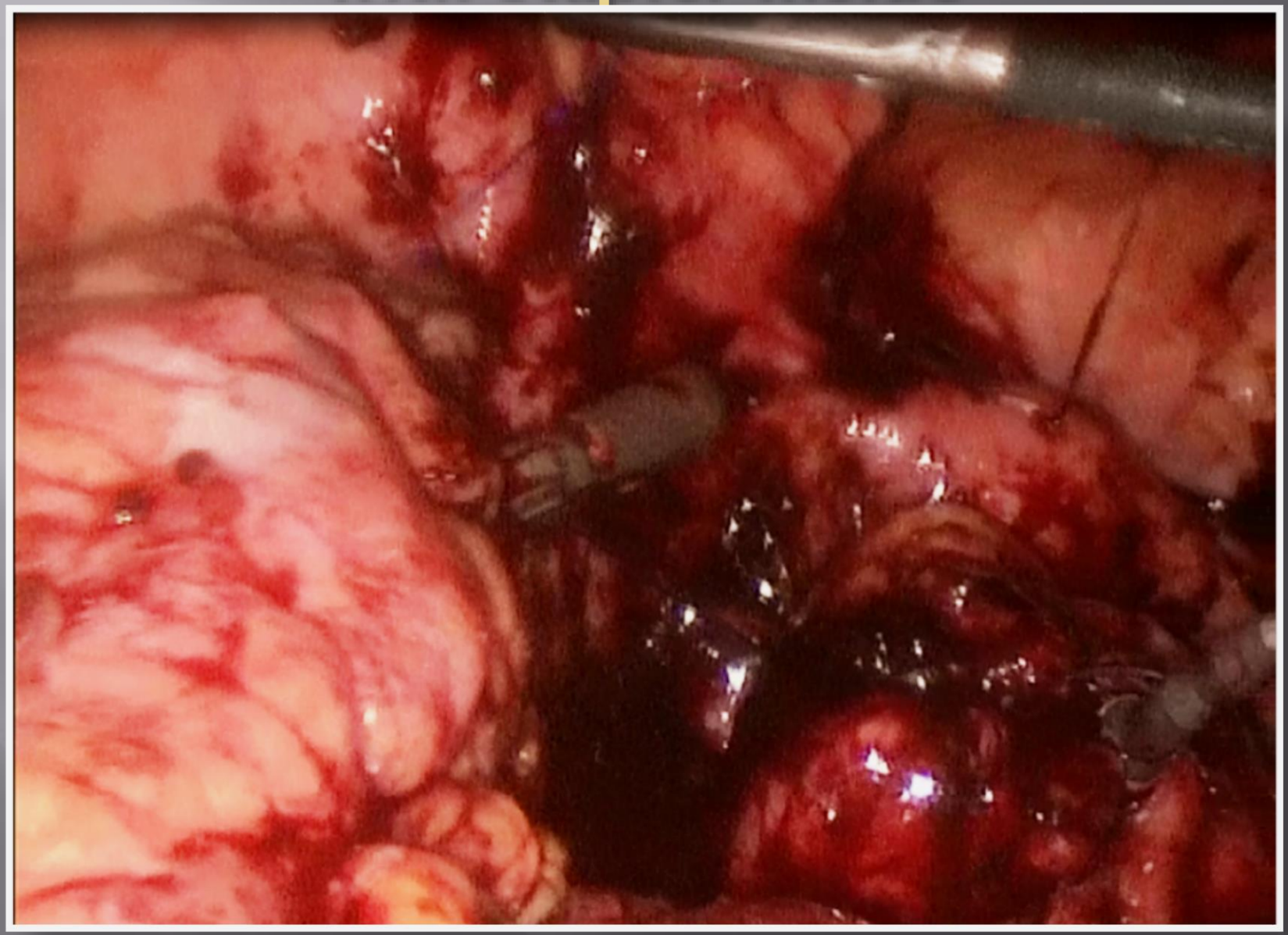




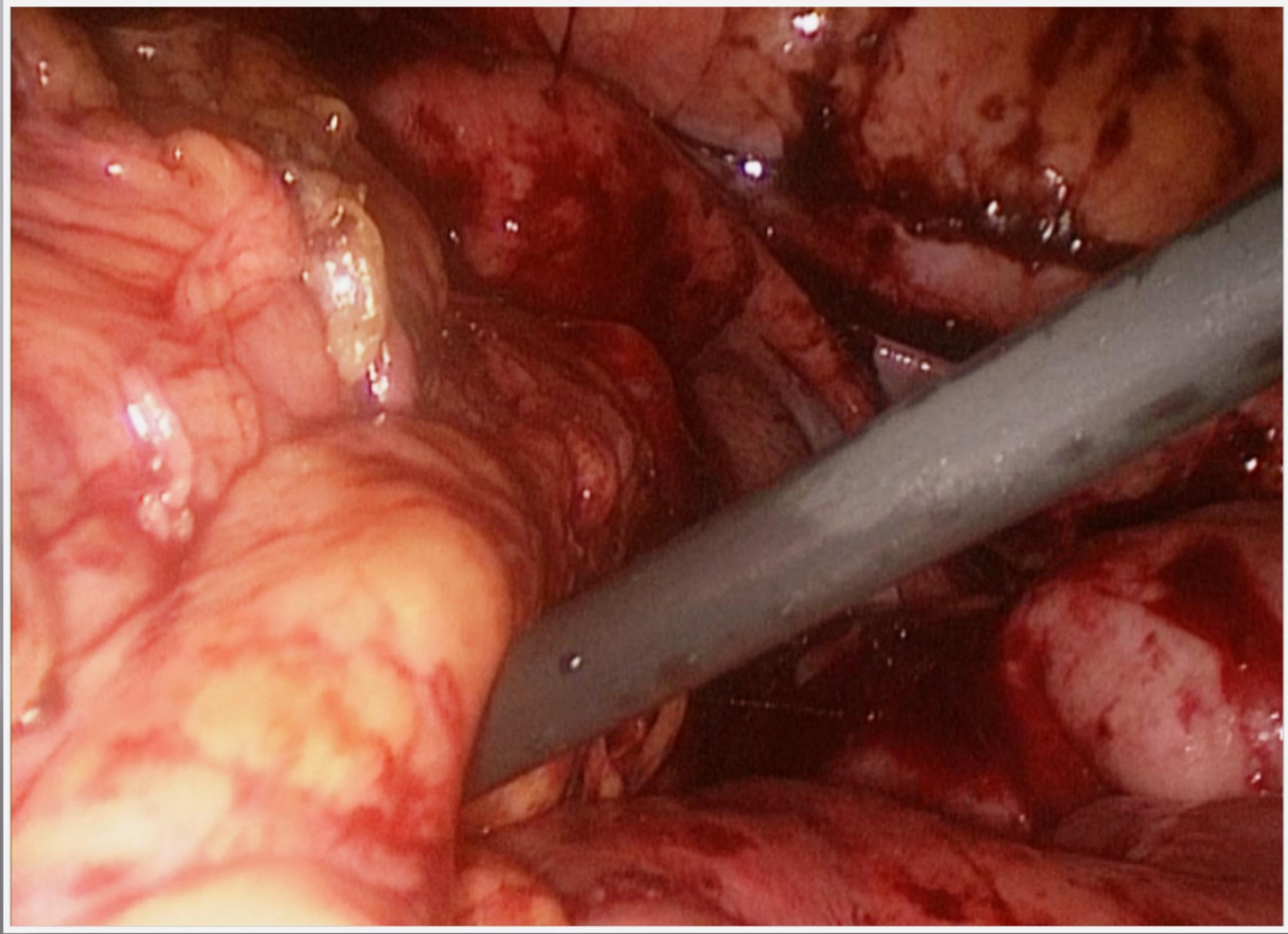




Proximal and distal ends with stapler inside



The anastomosis



Outcome measures

- Operation time, time to pass flatus, time to resumption of diet, hospital stay, and complication rates.

RESULTS

- Between October 2014 and October 2016, 32 patients were included in our study.
- 14 patients had LHR and 18 had OHR.

Table [1]Indications for the initial Hartmann procedure

procdure * indication Crosstabulation

Count

		indication				
		obs . rectoigmoid. cancer	sigmoid, volvulus	perf,sigmoid div	trauma	Total
procdure	LHR	4	6	1	3	14
	OHR	9	4	3	2	18
Total		13	10	4	5	32

- The mean age for LHR was 41.85±12.47 years and for OHR group was 45.17± 14.69years , p value =0.435 not significant.

Table [2]

procdure * sex Crosstabulation

Count

		sex		Total
		MALE	FEMALE	
procdure	LHR	10	4	14
	OHR	11	7	18
Total		21	11	32

- The Operative time was significantly lower in LHR than OHR p value 0.031.
- As regard intraoperative complication there was one case of bowel injury in LHR and two cases in OHR , however p value was not significant 1.0.

- As regard postoperative complication there were no statistically significant difference between both group p value 0.412.
- Time to pass flatus was significntly lower in LHR p value 0.005.
- Leakage [0 cases in LHR AND 2cases in OHR] rate no statistically significant difference between both group p value 0.492

- Hospital stay was significantly shorter in LHR [6 days versus 12days] p value 0.000.

Conclusions

- we conclude that it seems probable that trained laparoscopic surgeons may perform laparoscopic reversal of Hartmann's procedure as safely as in open surgery while achieving faster recovery, shorter hospital stay and less operative time.