

Principal of Laparoscopic Surgery

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Laparoscopic or “minimally invasive” surgery is a specialized technique for performing surgery. In the past, this technique was commonly used for gynecologic surgery and for gall bladder surgery.

Aims

Minimal Somatic trauma

lesser Hospital Stay

Faster recuperation

Category

- Laparoscopy.
- Thoracoscopy.
- Endoluminal endoscopy.
- Perivisceral endoscopy.
- Arthroscopy and Intra-articular Surgery.
- Combined Approach.

Dimension of Laparoscopic Surgery

Diagnostic Laparoscopic Surgery

Non Specific Abdominal Pain

B.A.T

Staging of Intra abdominal Malignancy

Secondary Infertility in Females

□ Therapeutic Laparoscopic Surgery

Lap. Cholecystectomy □

Lap. Splenectomy □

Lap Thyroidectomy □

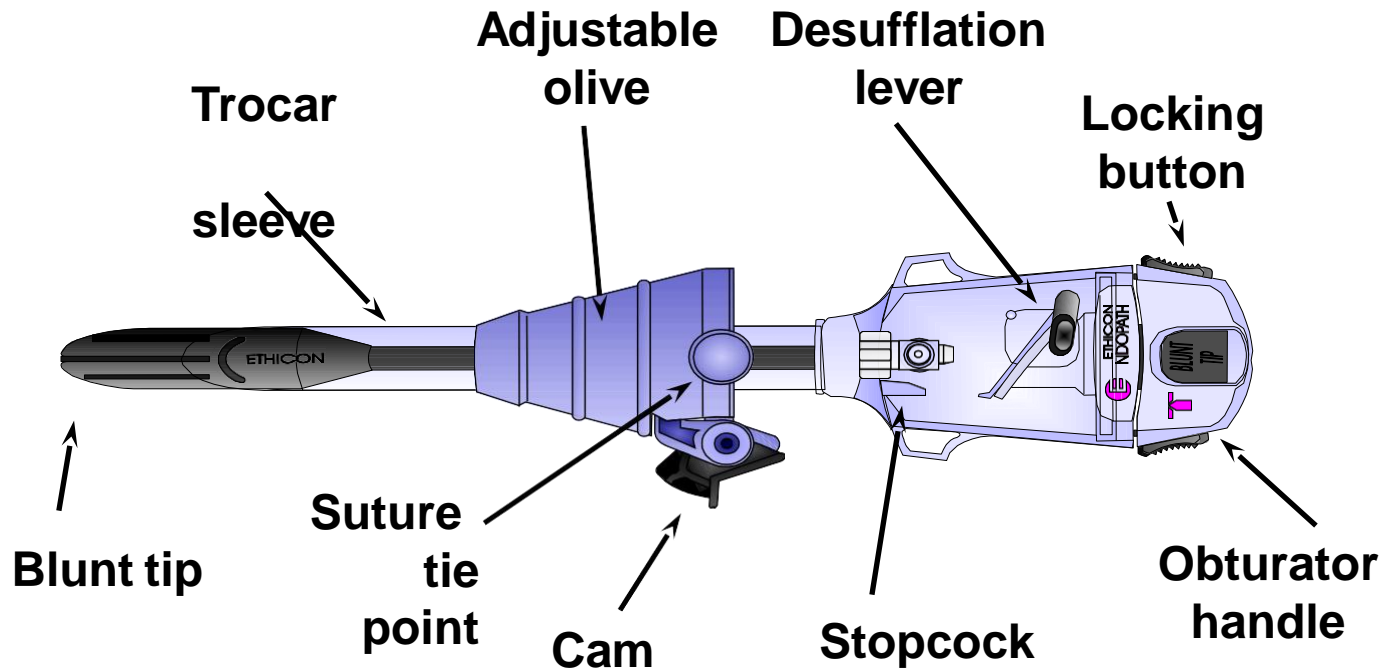
Lap. Ligation of Varicose vein perforators □

Lap. Cardiac bypass surgery □

Lap. Biopsy taken from Lungs and Liver □

**Different
use in Instrument
Laparoscopic
Surgery**

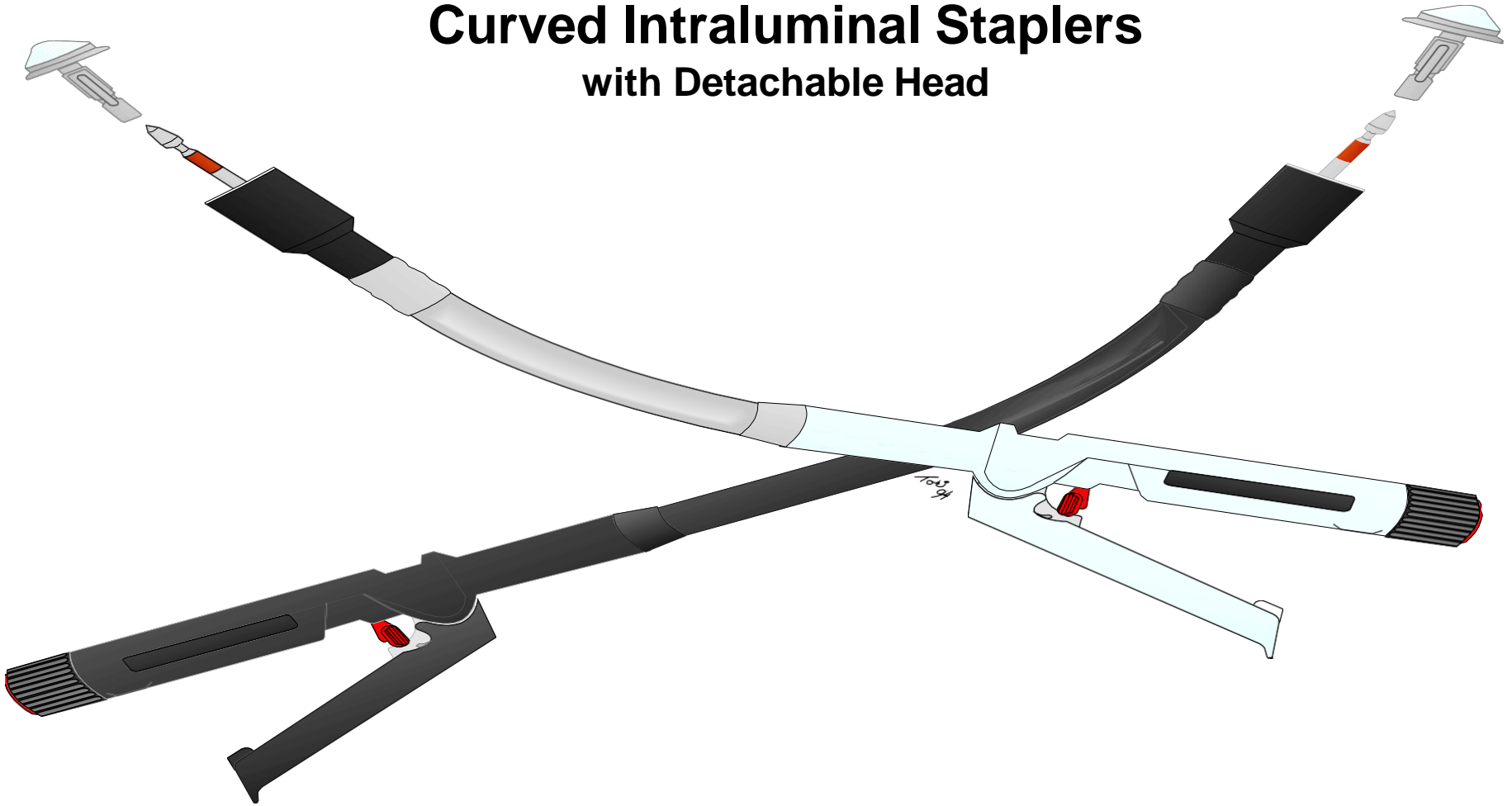
Blunt Tip Trocar



Dilating Tip Surgical Trocar



Curved Intraluminal Staplers with Detachable Head

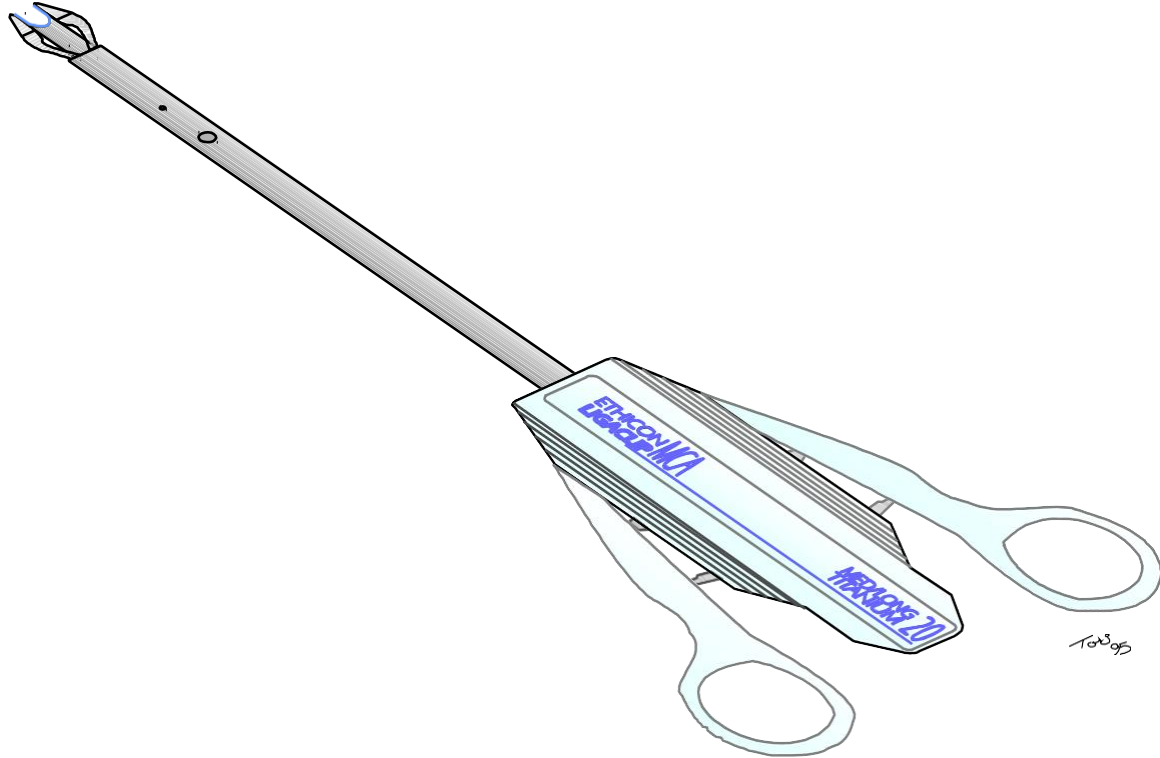


CONVENTIONAL LIGATION

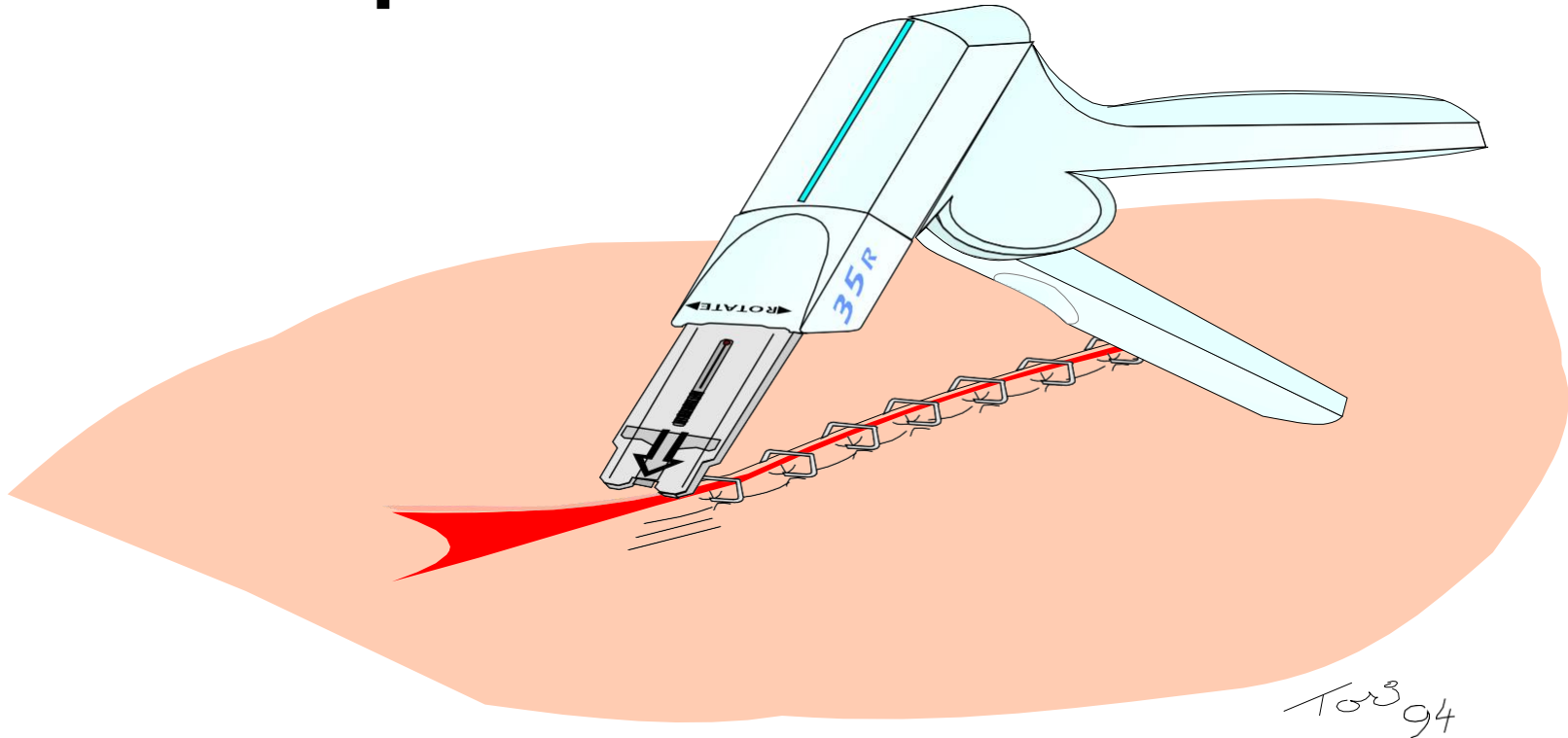
LIGACLIP* Multiple Clip Applicators

ABSOLOK* EXTRA Absorbable Single Clip System

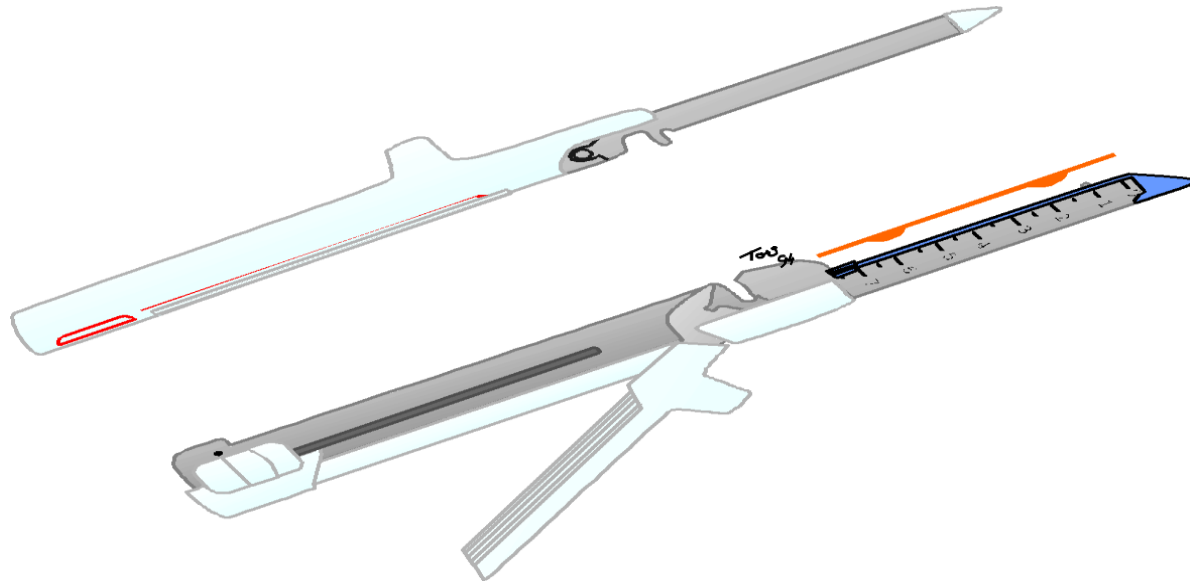
LIGACLIP* EXTRA Single Clip System



Skin Stapler



PROXIMATE* Linear Cutters



Preoperative Evaluation

Aims

The patient is fit for surgery

The patient is fully informed and
consented

Operative difficulty is predicted where
possible

Appropriate theater time and facilities
available

History

Examination

Premedication

Prophylaxis against Thromboembolism

Informed consent

.Urinary catheter and NG tube if needed

General Intraoperative Principles



Operation Theater Setup

Instrument Table

Mayo
Stand

Scrub
Nurse

Assistant



Monitor

Anesthesia

Surgeon

Creating a Pneumoperitonium



Preoperative Problems

Previous Abdominal Surgery

Obesity

Operative Problems

Perforation of hollow viscus

Bleeding

From Major Vessel

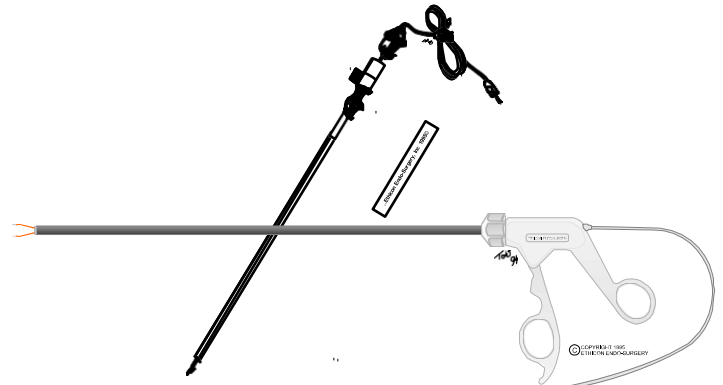
From Gall Bladder Bed

From Trocar Site

? How to Evacuate the Clot

**Principal of Electrosurgery
during
Laparoscopic Surgery**

□ Monopolar diathermy



□ Bipolar Diathermy

Electrosurgery

Electrical Injuries unrecognized at the time of operation patient
.days with abdominal pain and fever 7 -3 present after about

Causes of injury

.Inadvertent touching and grasping

Direct coupling between the tissue and
. the instrument

.Break in insulation

- Direct sparking to bowel from the
 - . diathermy probe
- Passage of current to the bowel from
 - . recently coagulated tissue

Postoperative Care



Nausea

Shoulder Pain

Abdominal Pain

Analgesia

Oral fluids

Oral feeding

Drains

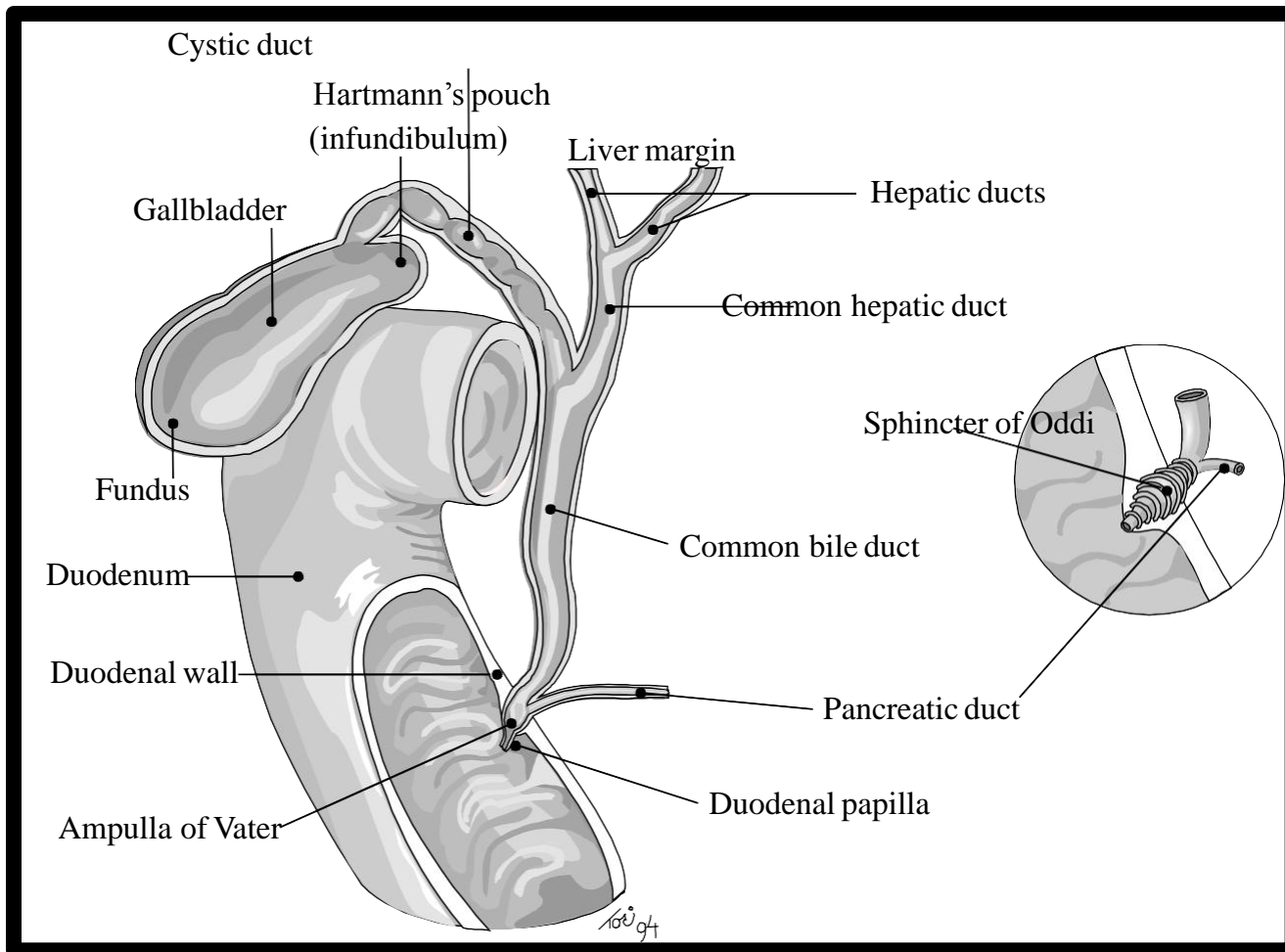
Mobility and Convalescence

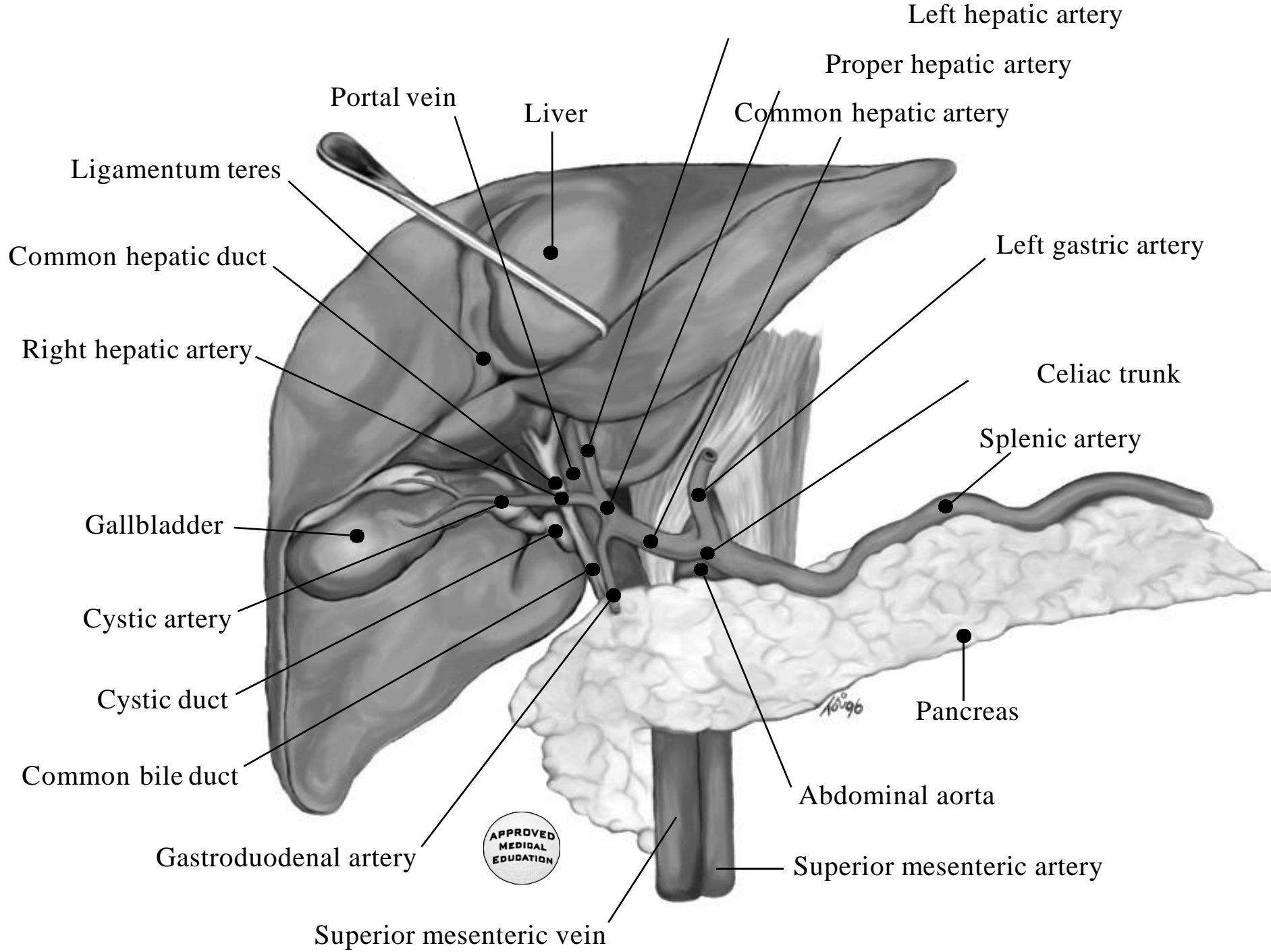
Discharge from the Hospital

.Skin Sutures

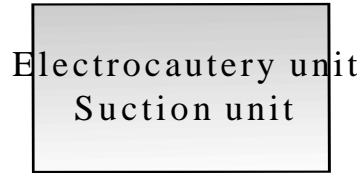
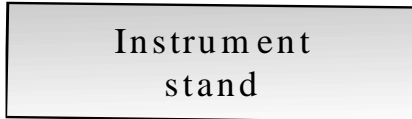
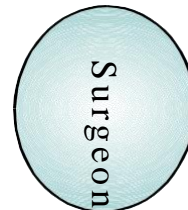
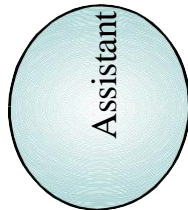
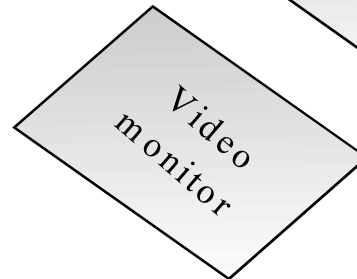
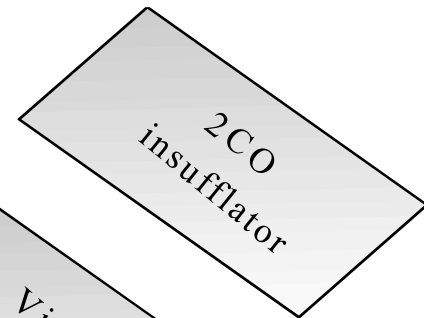
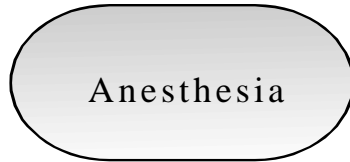
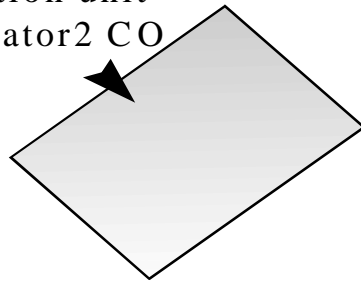
**Principal Of
Common
Laparoscopic Procedure**

Laparoscopic Cholecystectomy



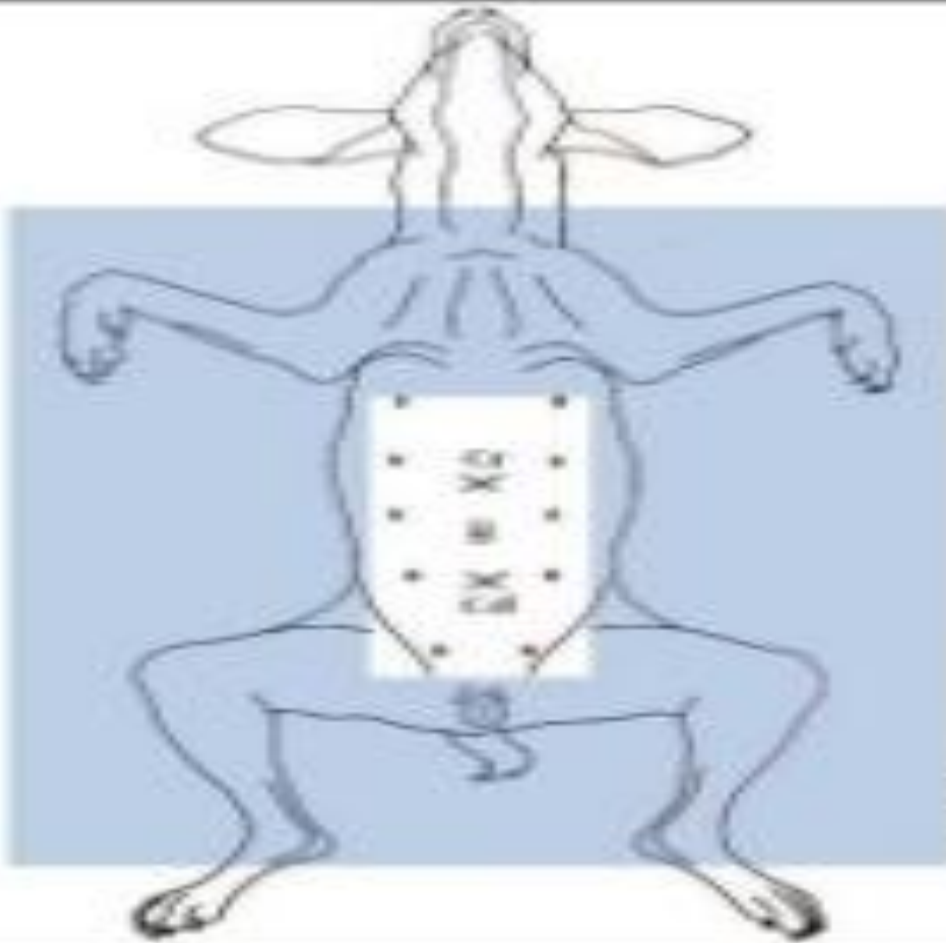


Video monitor
Light source
Camera
VCR
Suction unit
insufflator2 CO





mm trocar 5
midclavicular



mm or 5
mm trocar 10/12
subxiphoid

mm trocar 5
anterior
axillary

mm or 10/11
mm trocar 10/12
umbilicus

Port Placement

Laparoscopic Cholecystectomy (Hook)

Use the hook blade to
dissect cystic duct and
artery

Ligate with clips

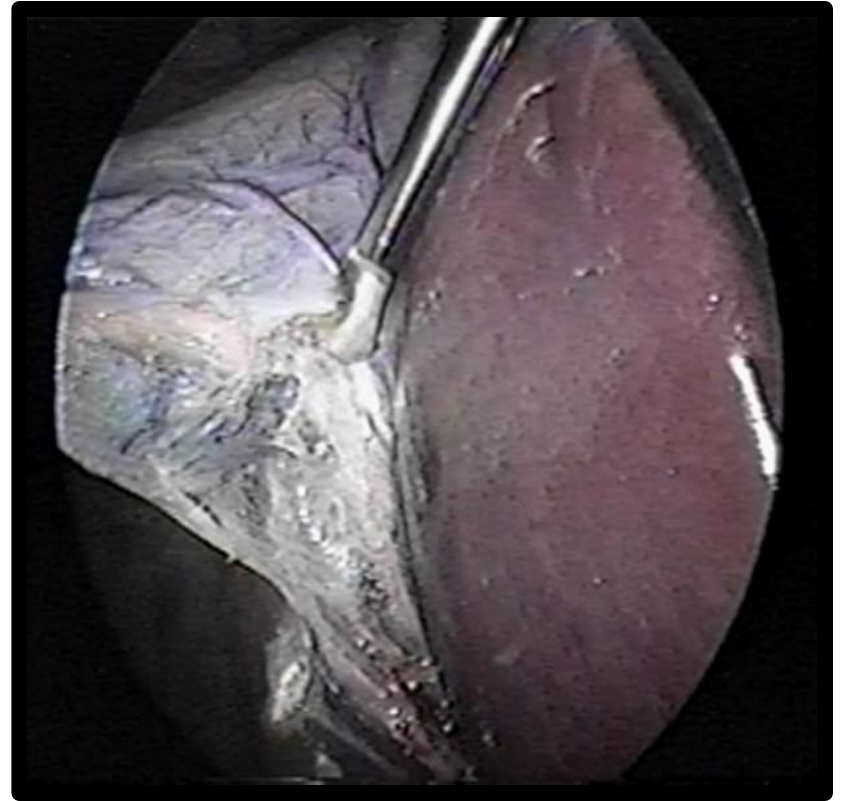
Transect with hook blade



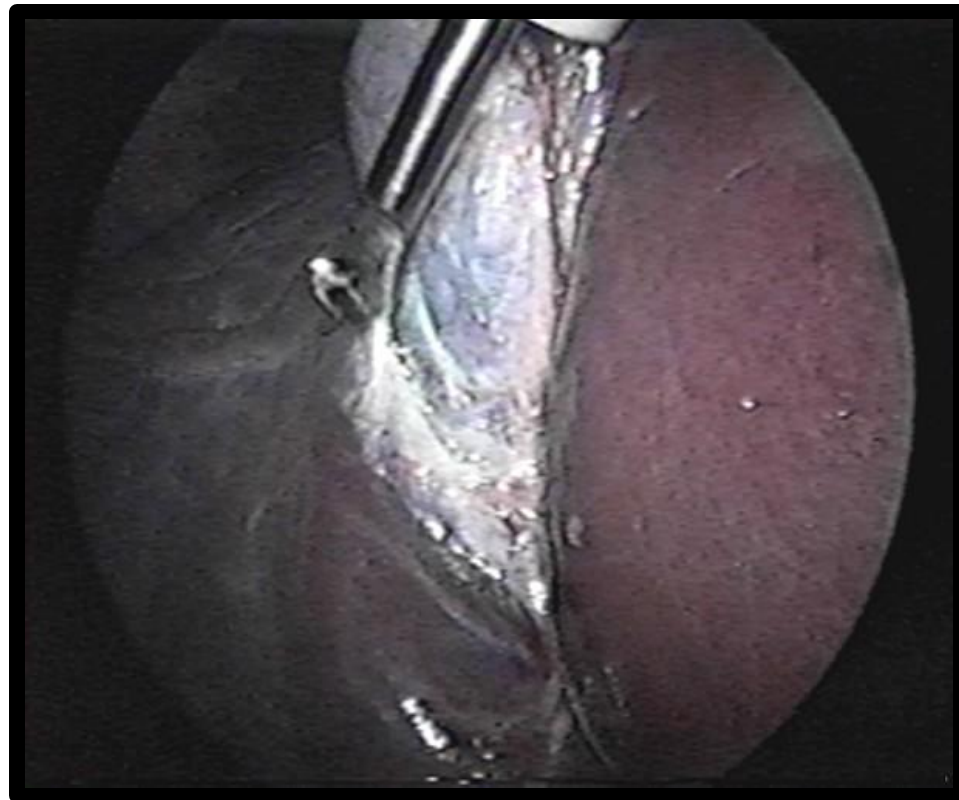
- **Use side of hook for coaptive coagulation prior to transaction**



Cavitationally assisted dissection off the liver bed



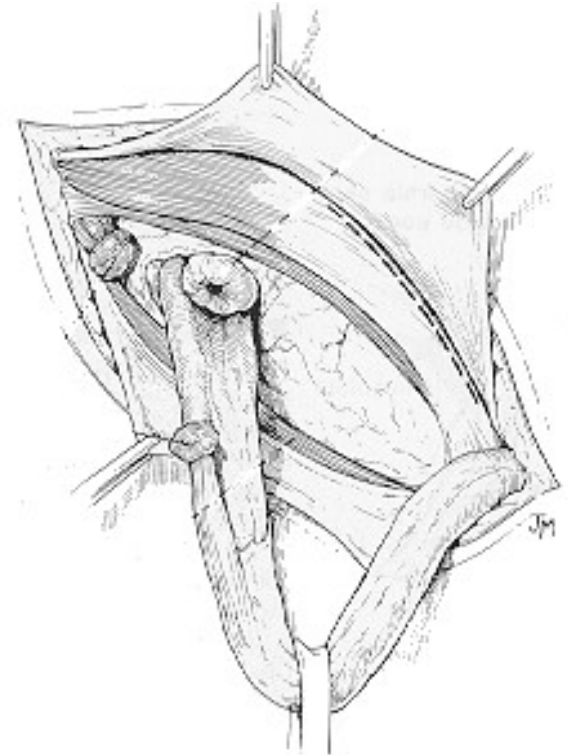
- Back or side of hook blade for small bleeders on the liver bed



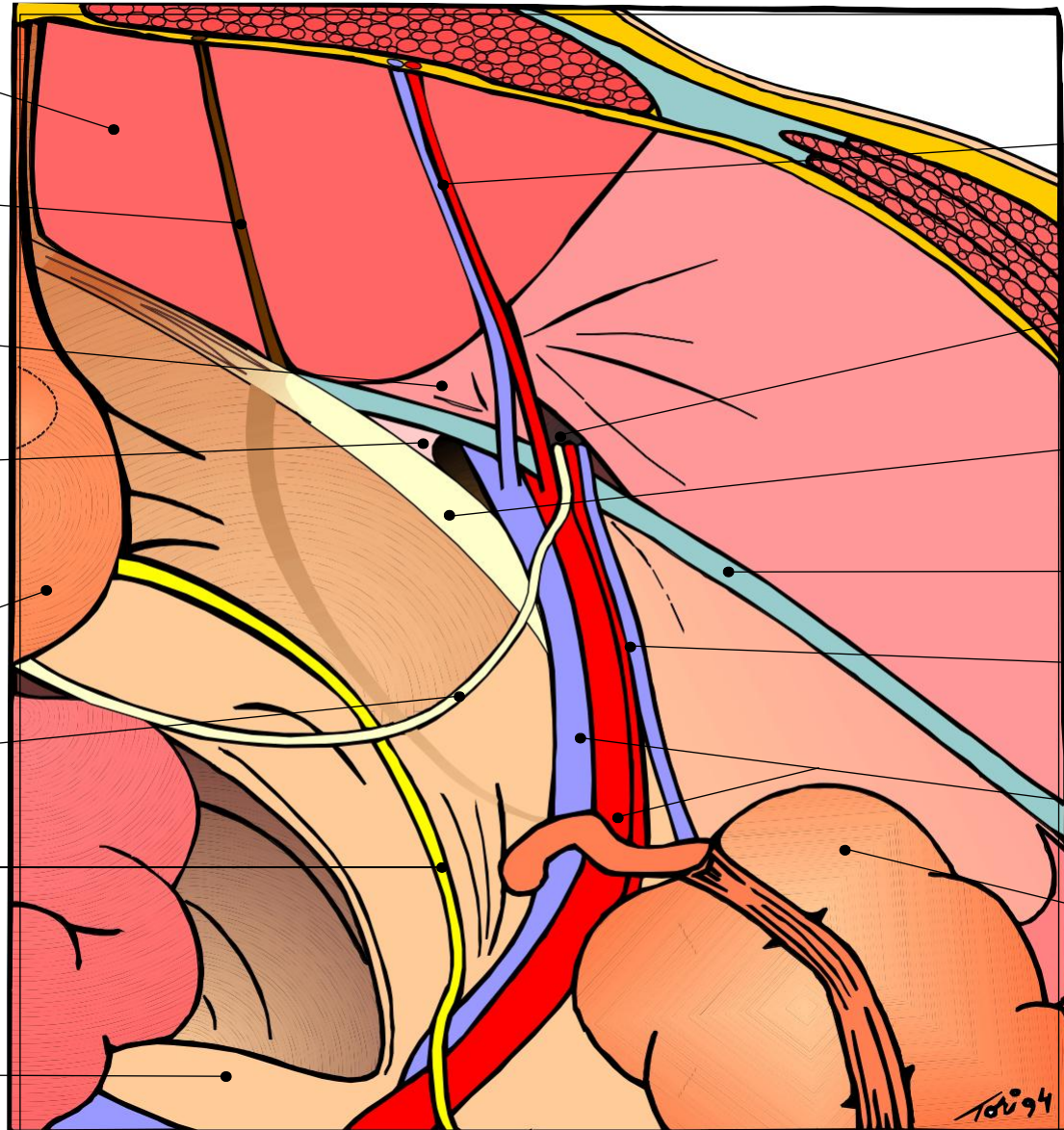
Laparoscopic Inguinal Hernia

Trans Abdominal Preperitoneal repair

Extrapei

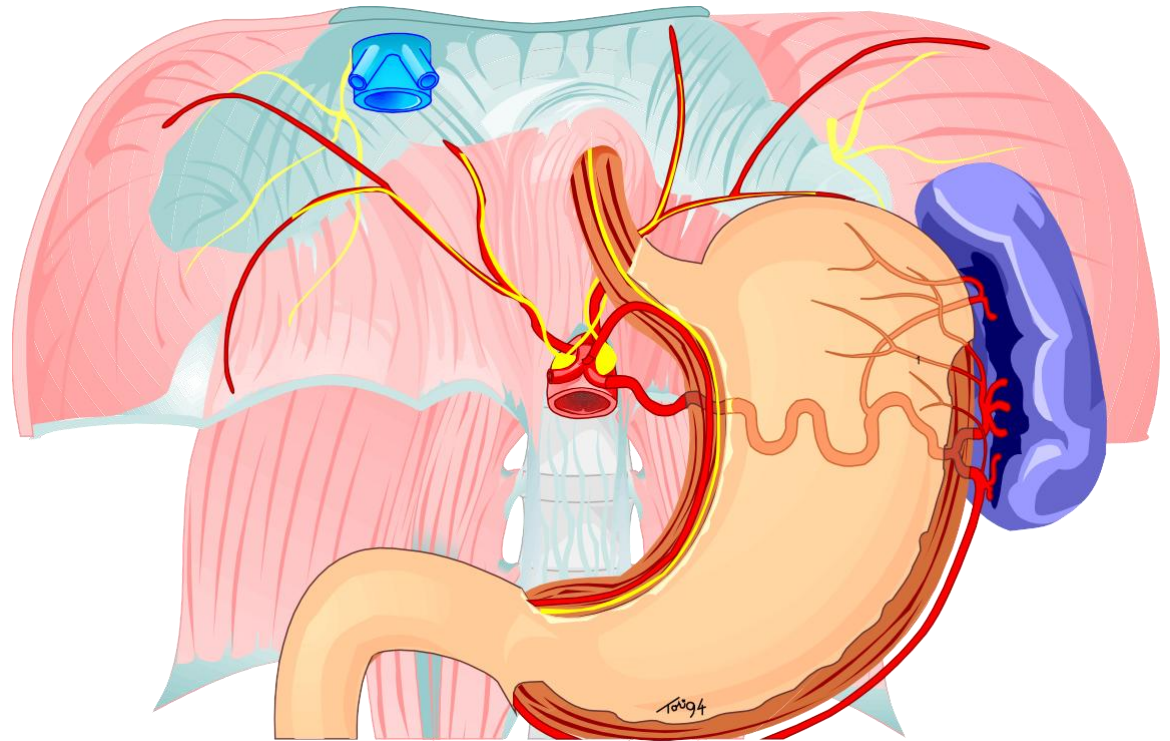


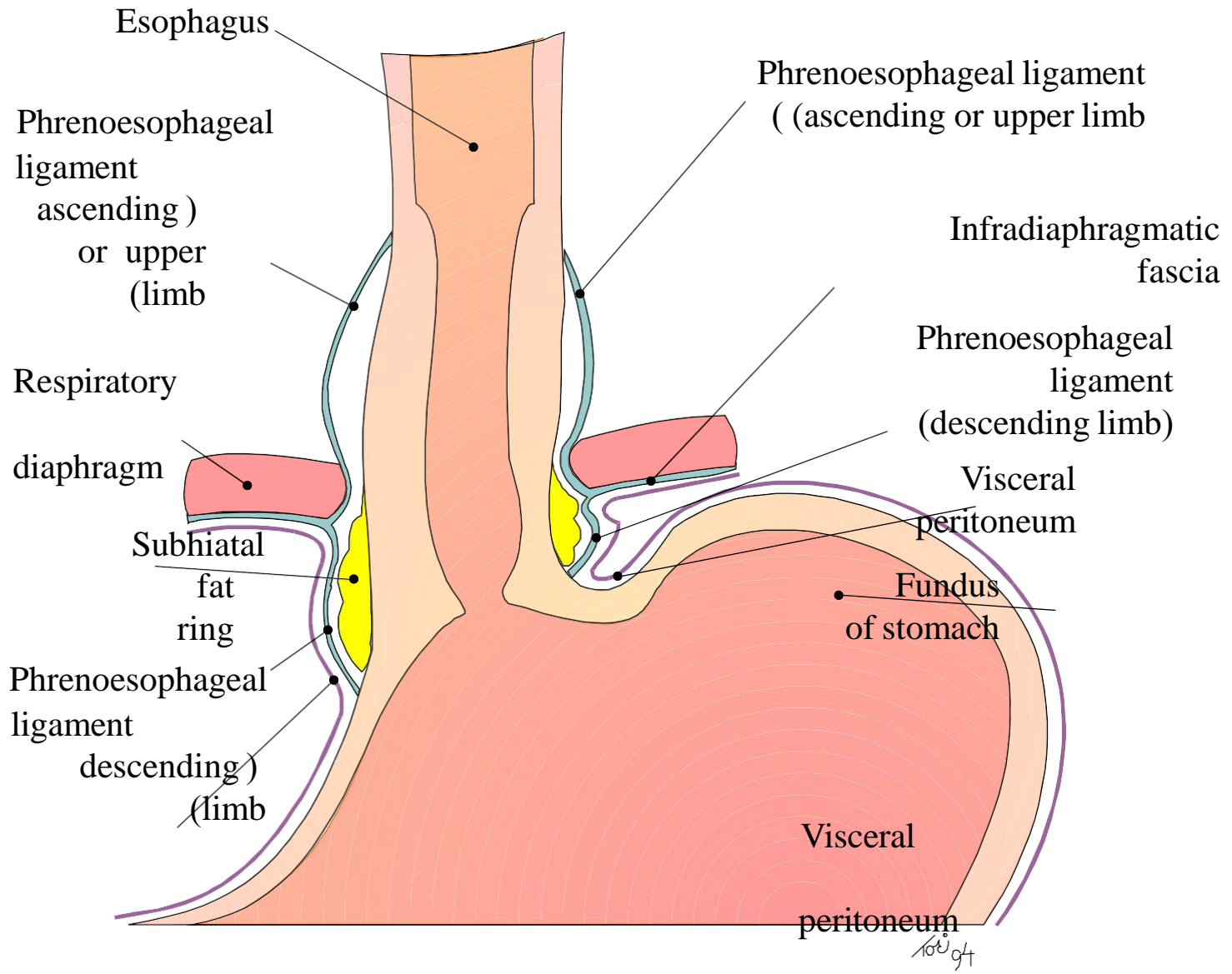
Rectus abdominis
 Medial umbilical ligament
 Hesselbach's triangle
 Lacunar (Gimbernat's) ligament
 Urinary bladder
 Vas deferens
 Ureter
 Sacral promontory



Inferior epigastric vessels
 Internal inguinal ring
 Cooper's ligament
 Iliopectineic tract
 Testicular vessels
 External iliac vessels
 Cecum

Laparoscopic Antireflux Surgery





**Ligaments of the Esophageal Hiatus
(anterior view)**

NISSEN FUNDOPLICATION



1Fig.
Liver



2Fig.
Crura



3Fig.
Short gastric vessels
divided



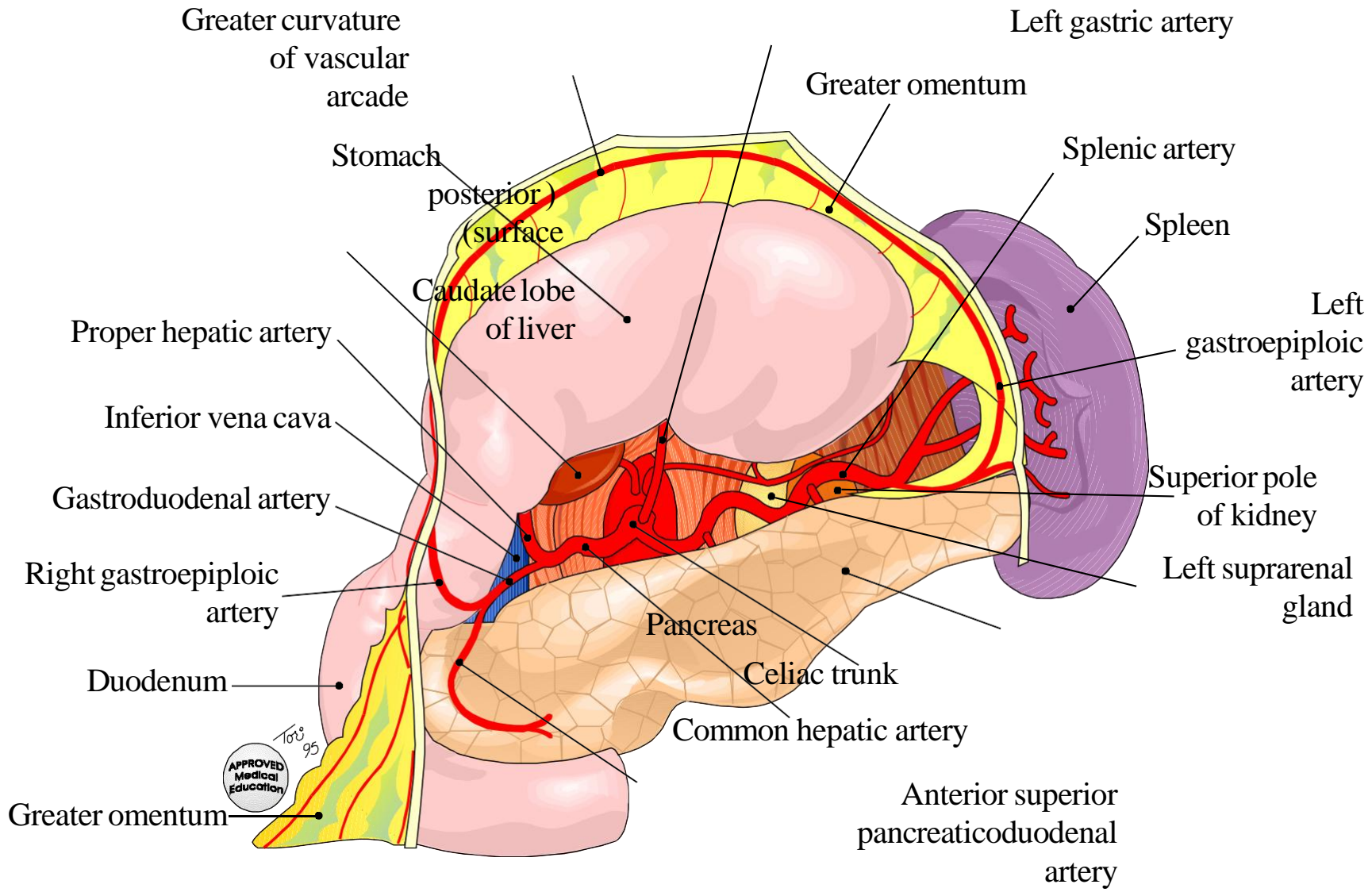
4Fig.
Wrap created



5Fig.
Wrap fixated

Laparoscopic

Splenectomy



100 95
 APPROVED Medical Education

Splenic Artery Anatomy

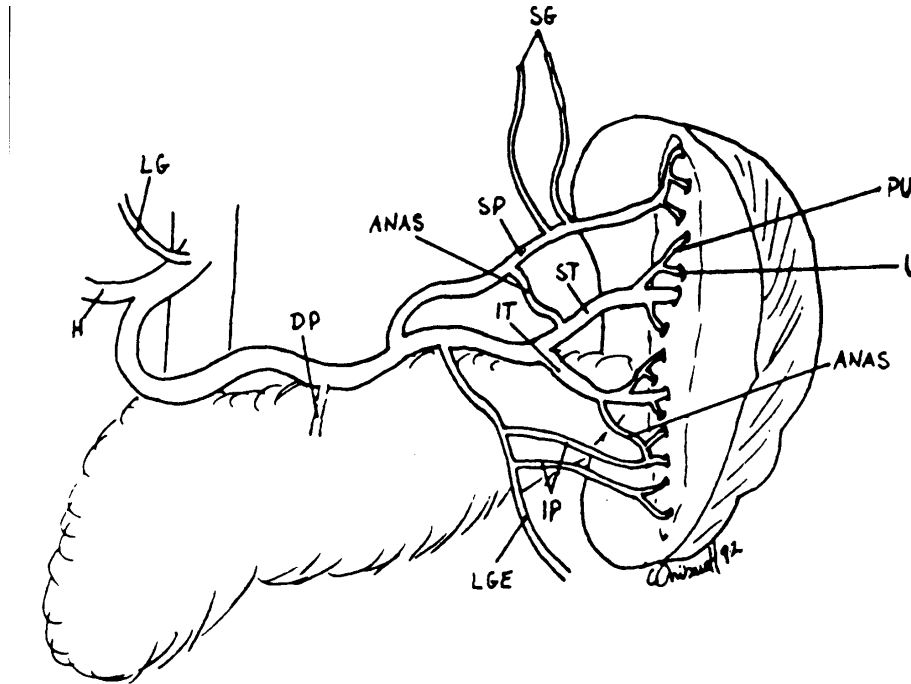
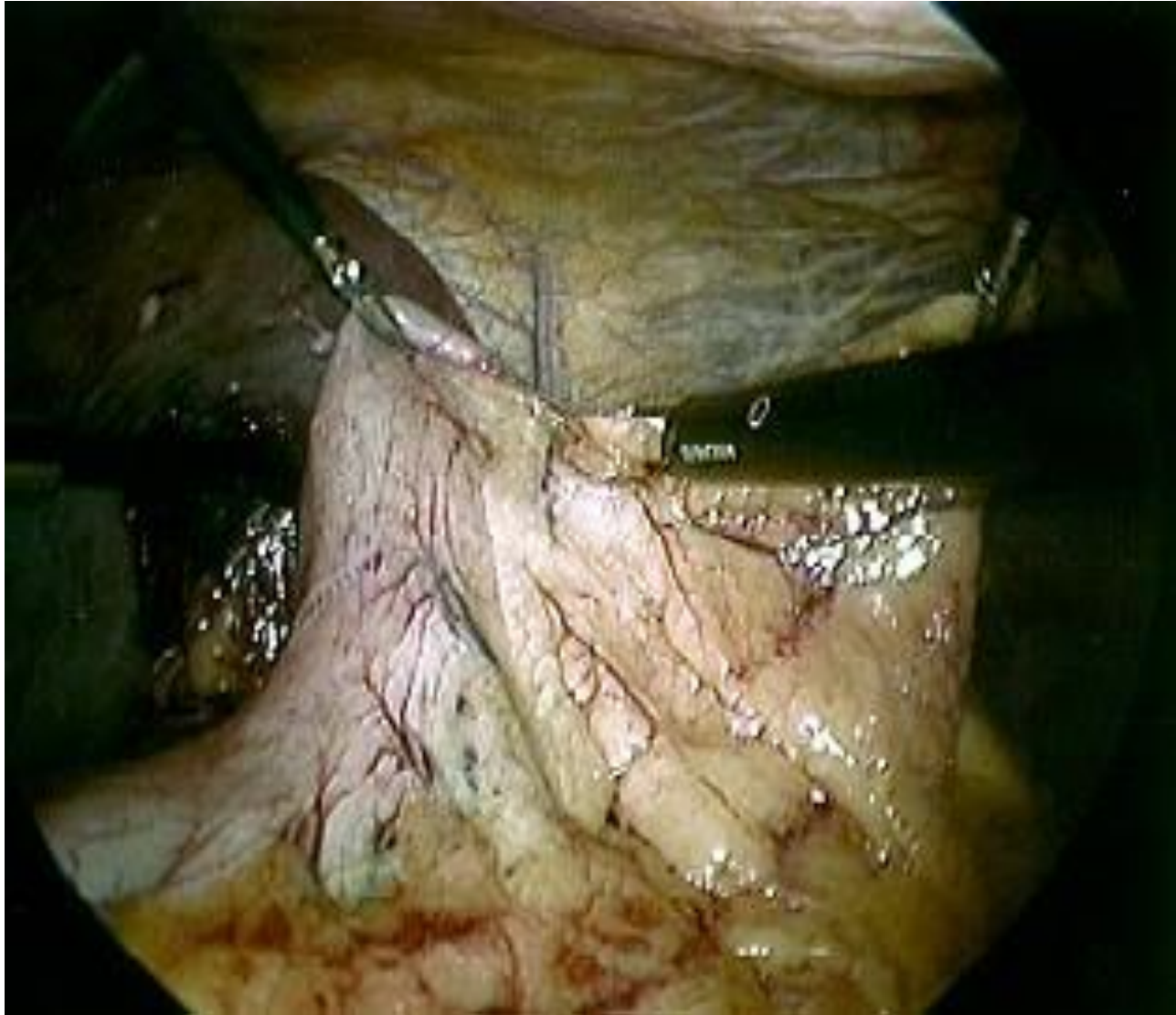
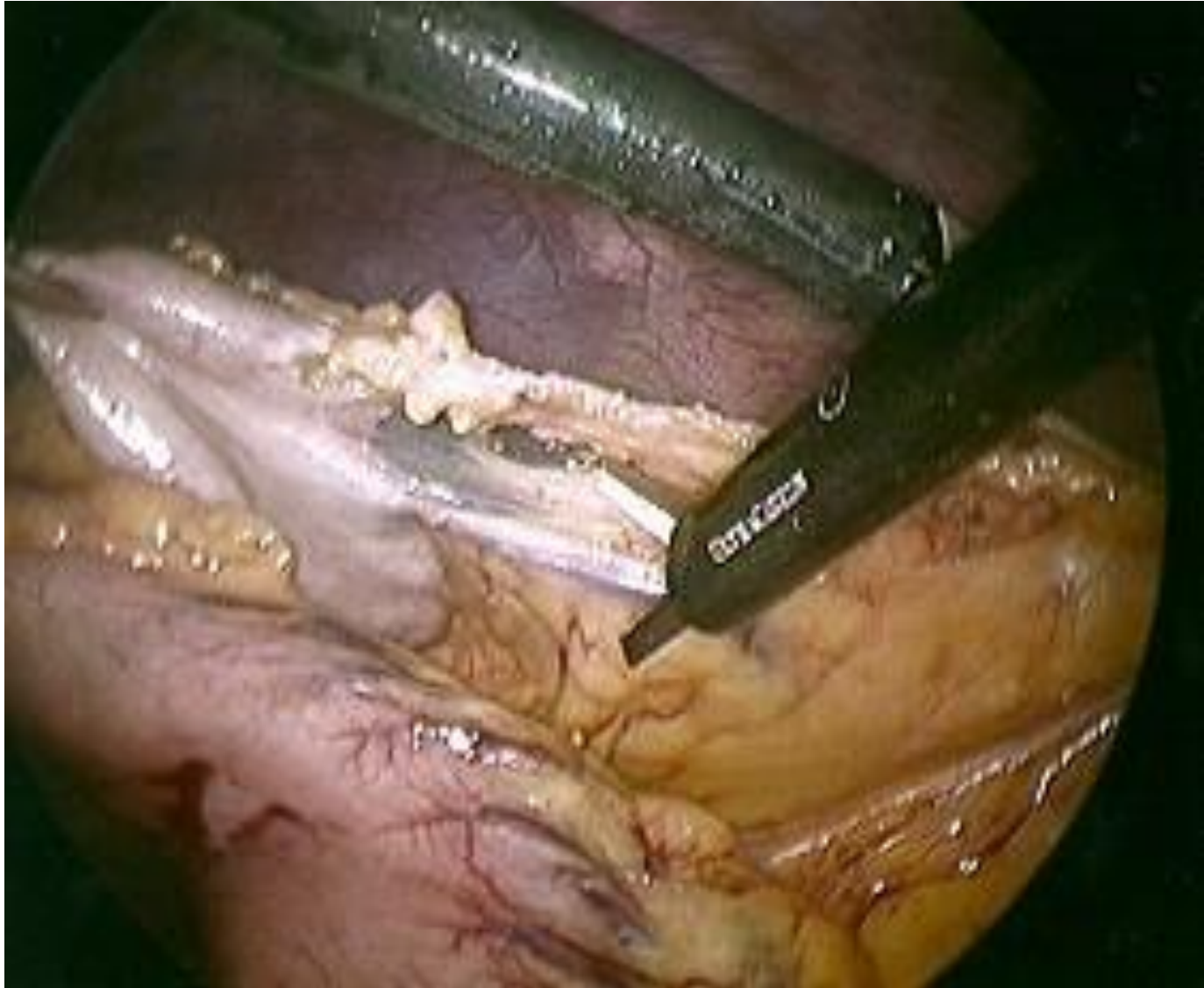


FIG. 1. Distributed type of vascularization. LG = left gastric artery, H = hepatic artery, DP = dorsal pancreatic artery, SG = short gastric arteries, ANAS = anastomosis, SP = superior polar artery, ST = superior terminal artery, IT = inferior terminal artery, IP = inferior polar arteries, LGE = left gastroepiploic artery, PU = penultimate branch, U = ultimate branch.

Division of short gastric vessels



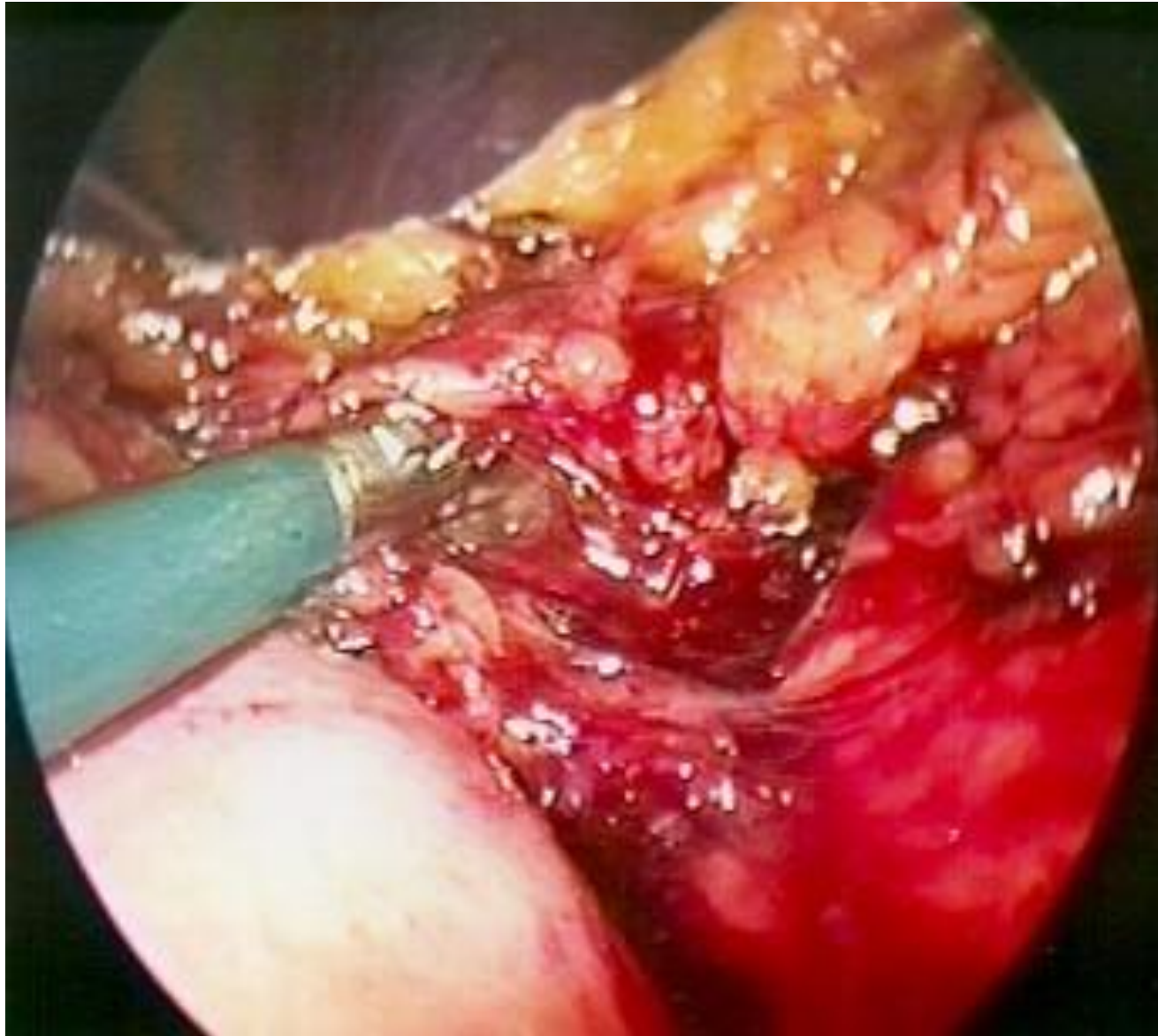
Division of short gastric vessels



Division of short gastric vessels



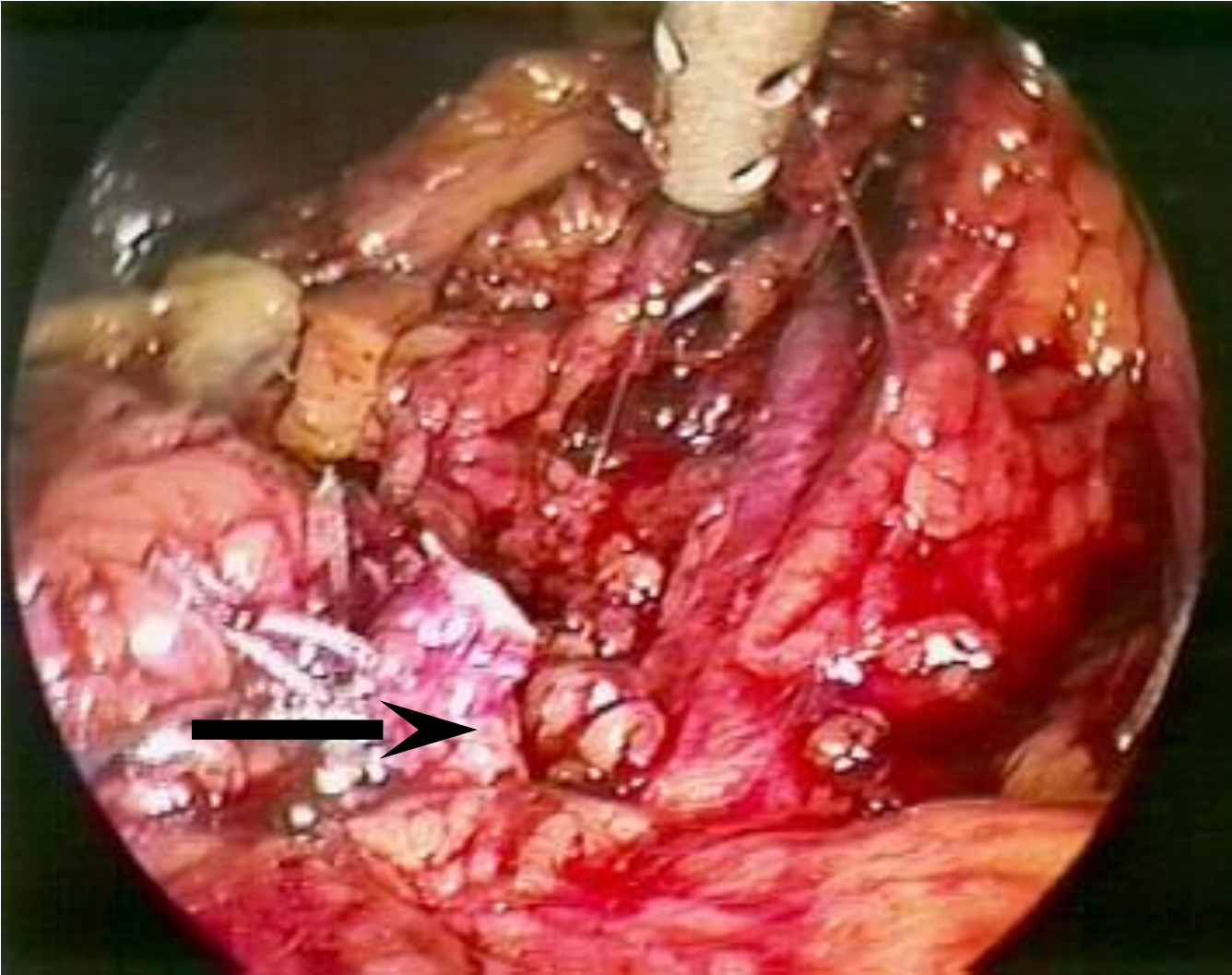
Dissection of Spleenic Vessels



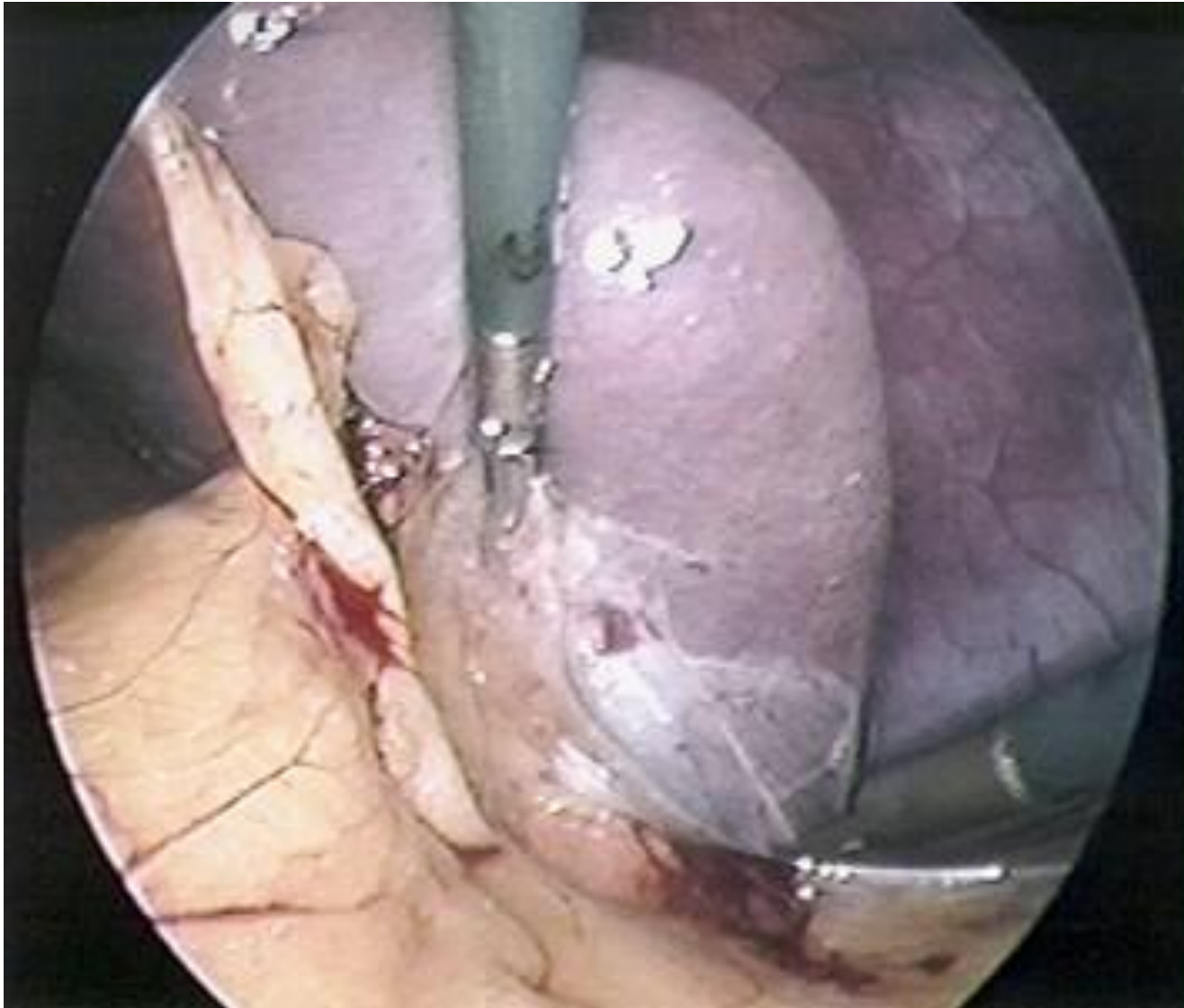
Ligating Splenic Artery



Divided splenic artery and vein



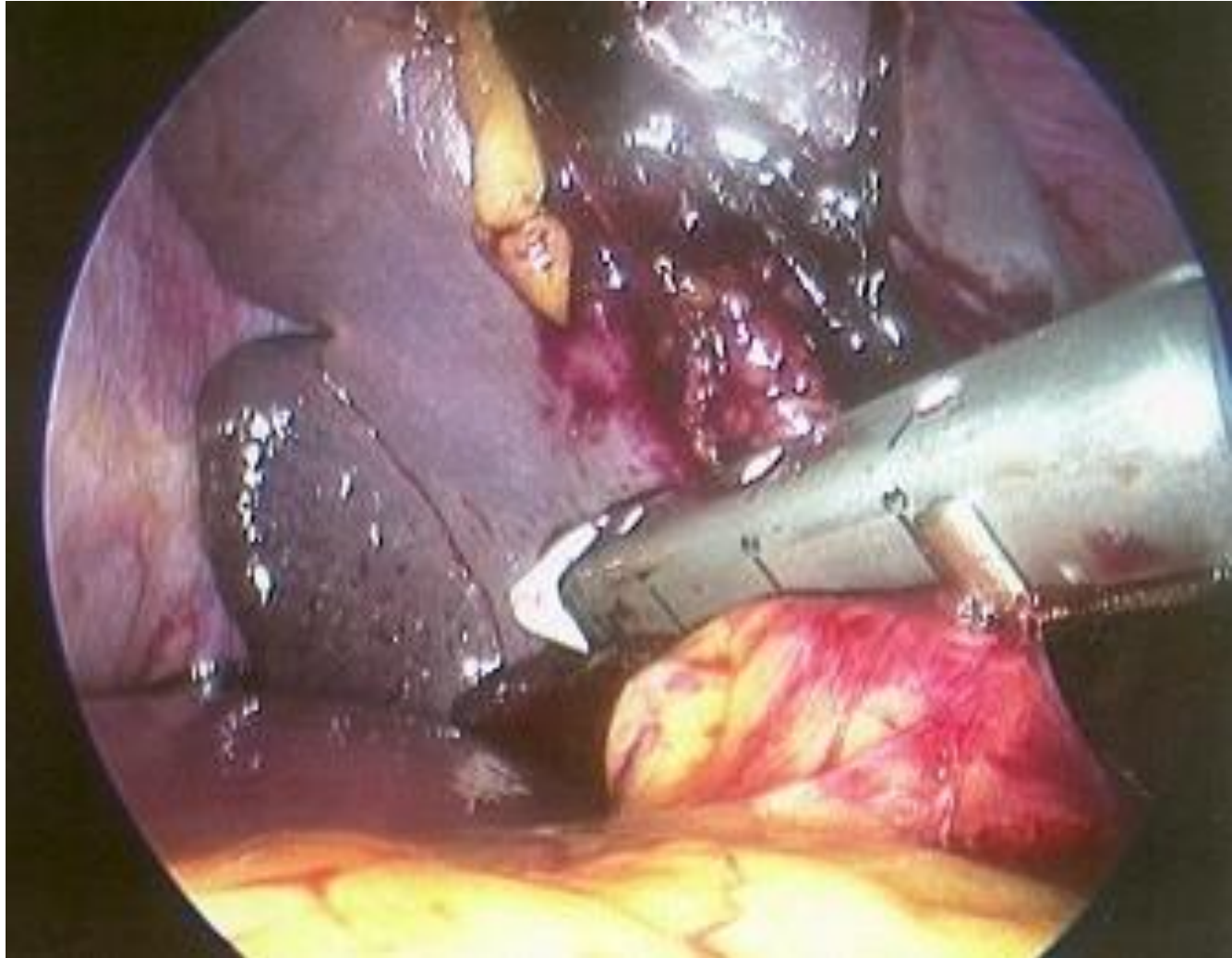
Exposure of Inferior Pole Ligaments



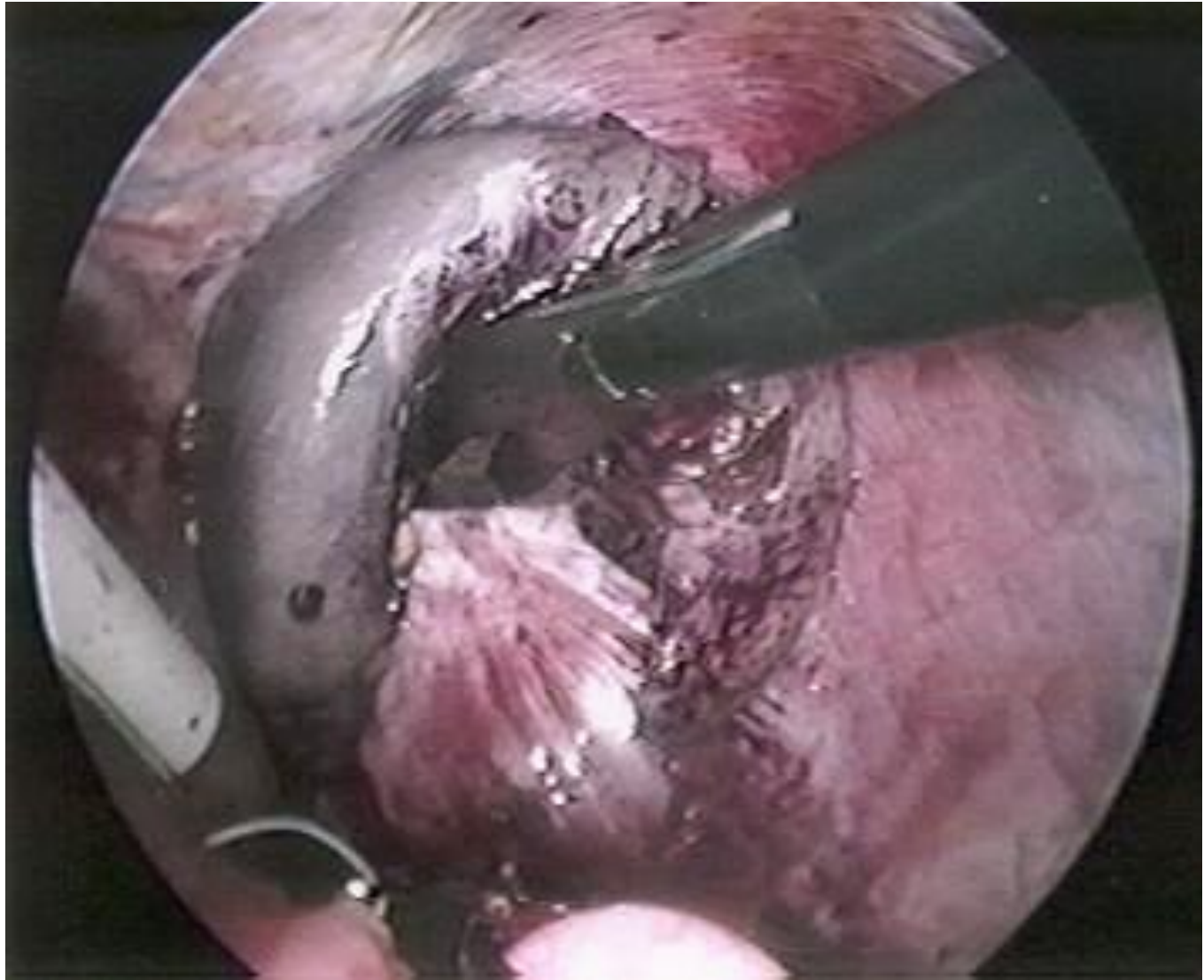
Direct Approach to Hilum



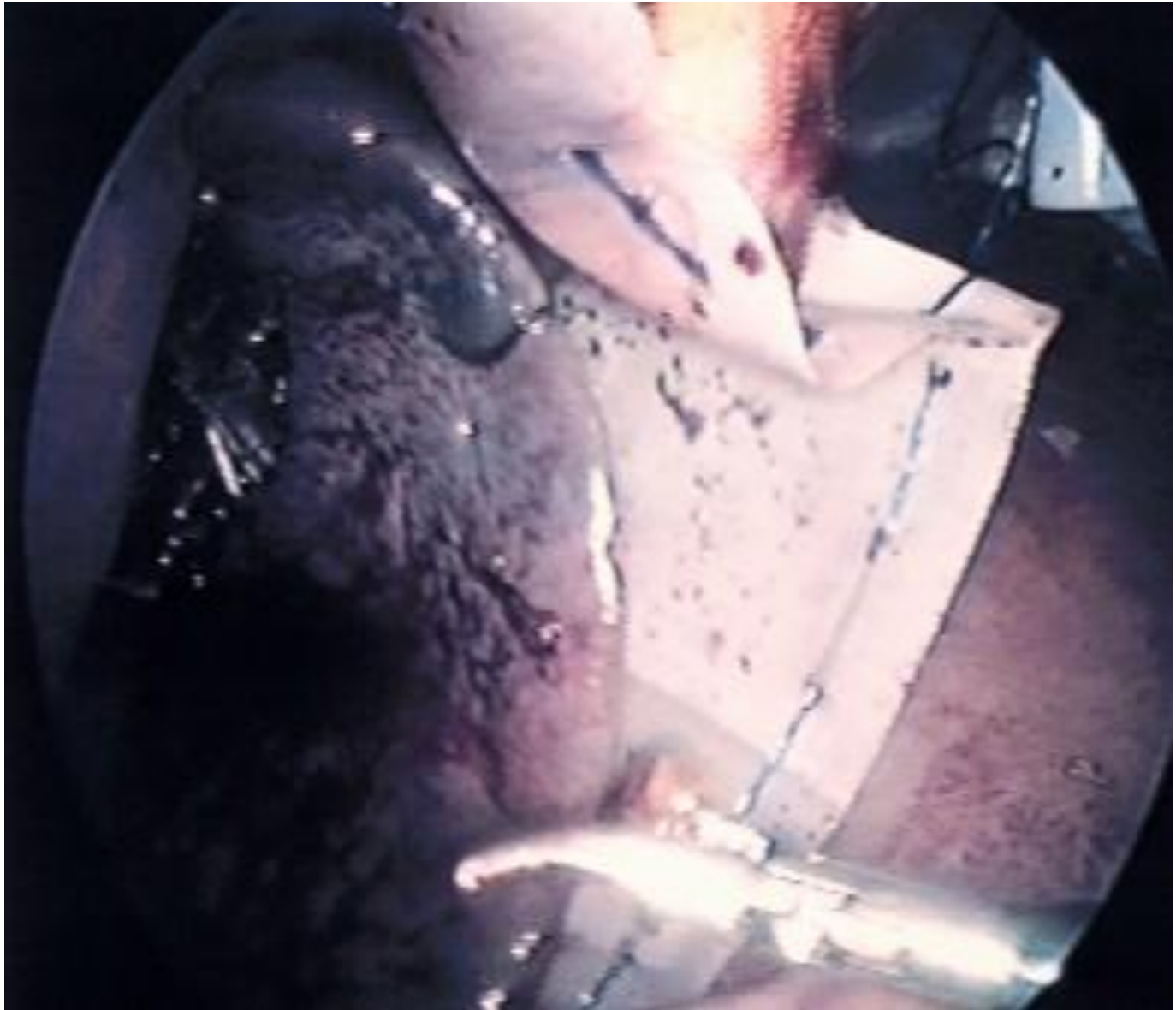
Division of Hilum with Endoscopic Stapler



Completion of Splenectomy



Spleen Placed in Bag



Bagged Spleen



Removed Spleen





Thank

You

