How to cope with unexpected incidents during laparoscopic hepatectomy

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Our experiences

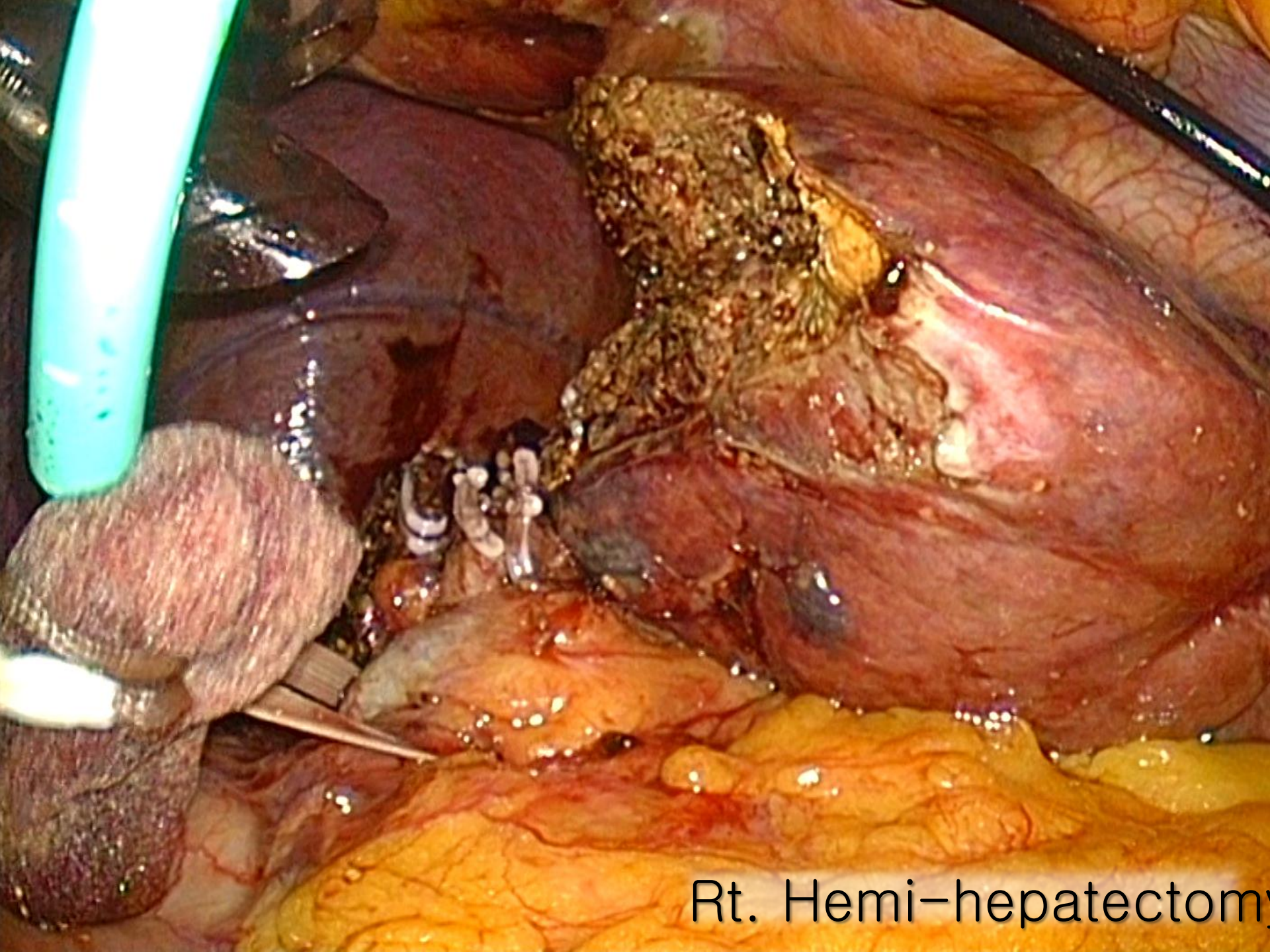
Aug. 2008 - Apr. 2013 (57 months)

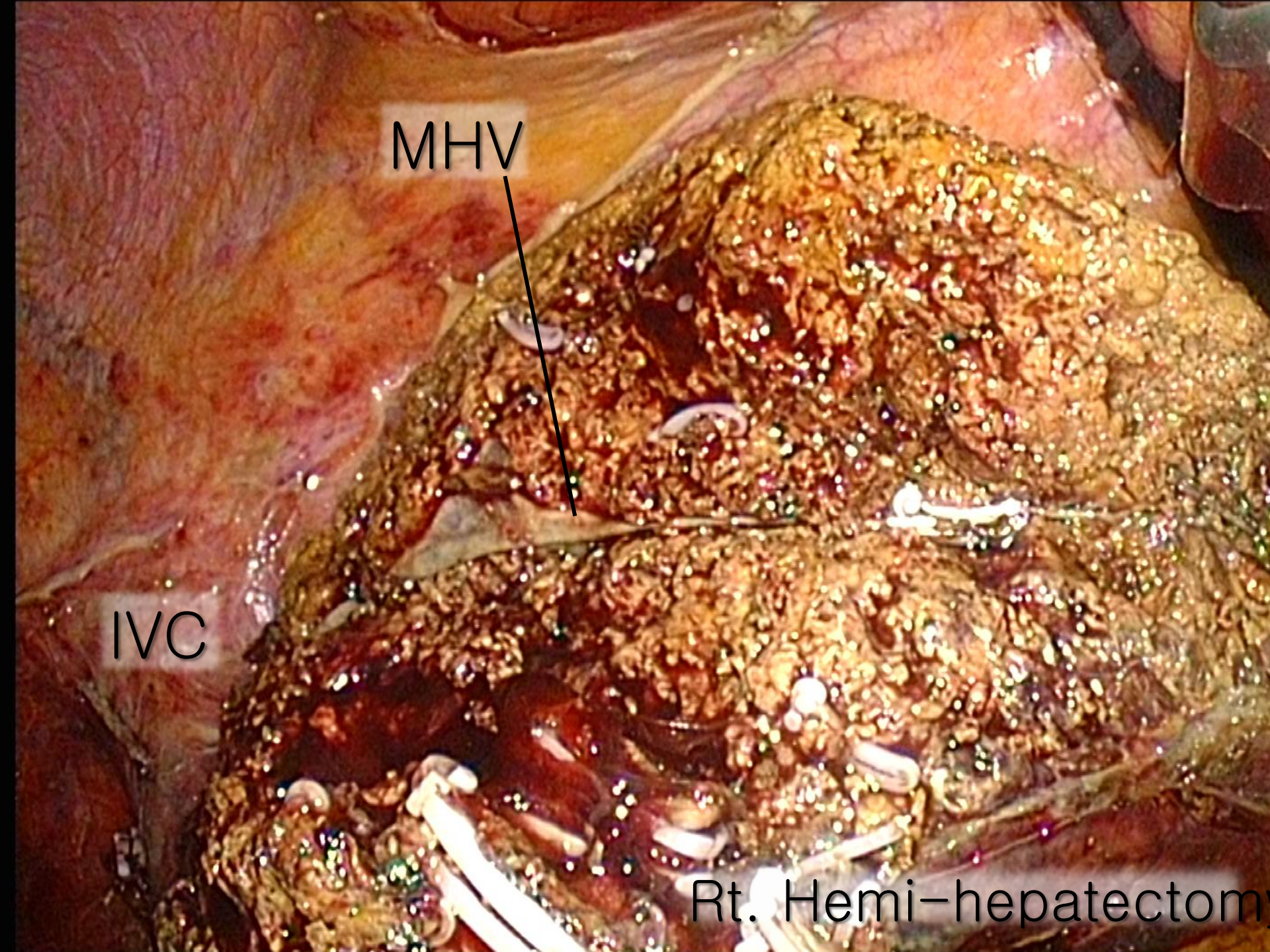
Lap-assisted-H	8
Totally (pure) Lap-H	121
Anatomical hepatectomy	63

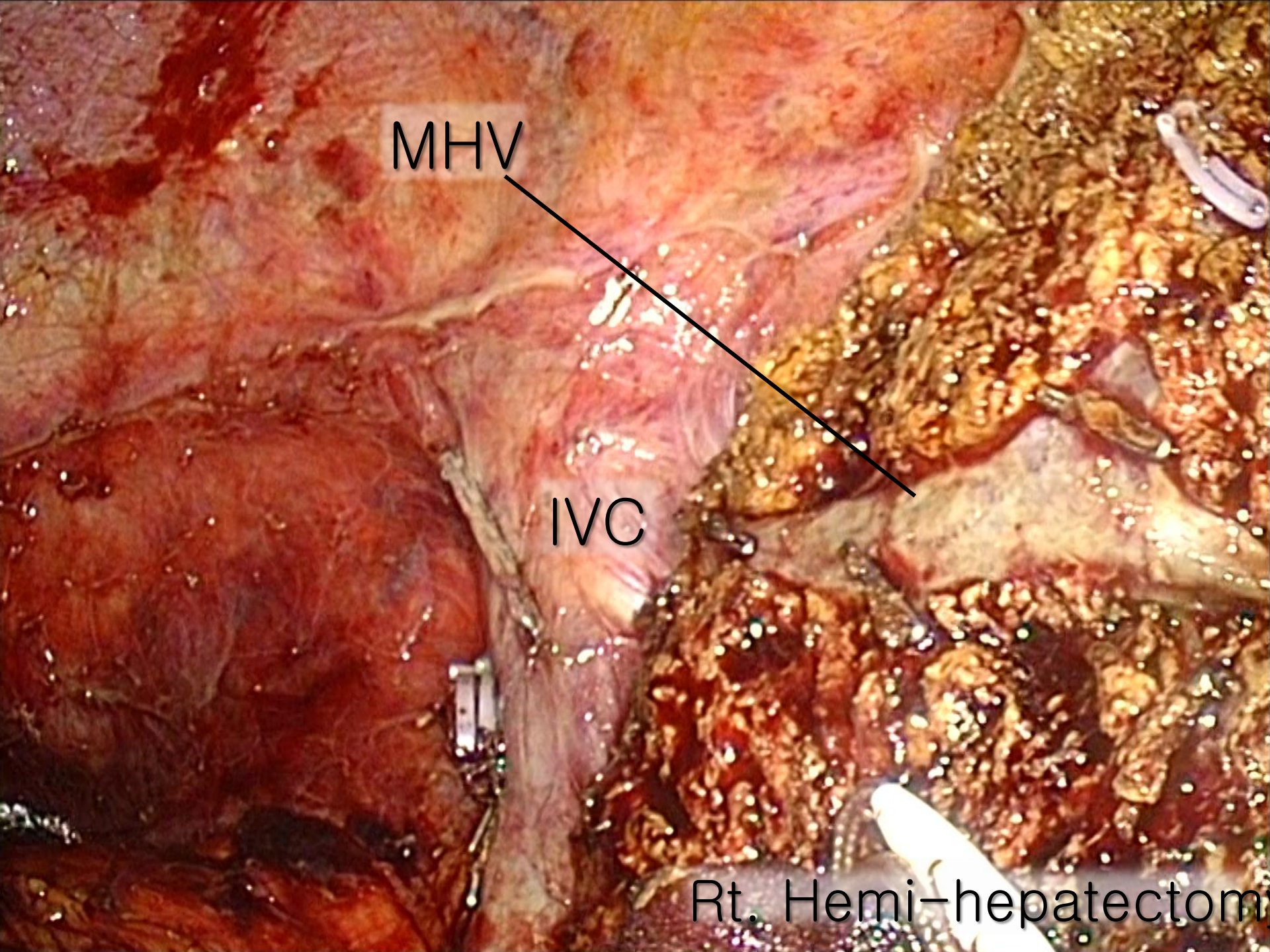
Our standardized procedures

Essential points

- dissection by CUSA
- inflow control by Pringle's maneuver
- exposing Glissonean branches
  and hepatic veins clearly
- without pre-coagulation of the cutting plane


Rt. Hemi-hepatectomy


MHV
IVC
Rt. Hemi-hepatectomy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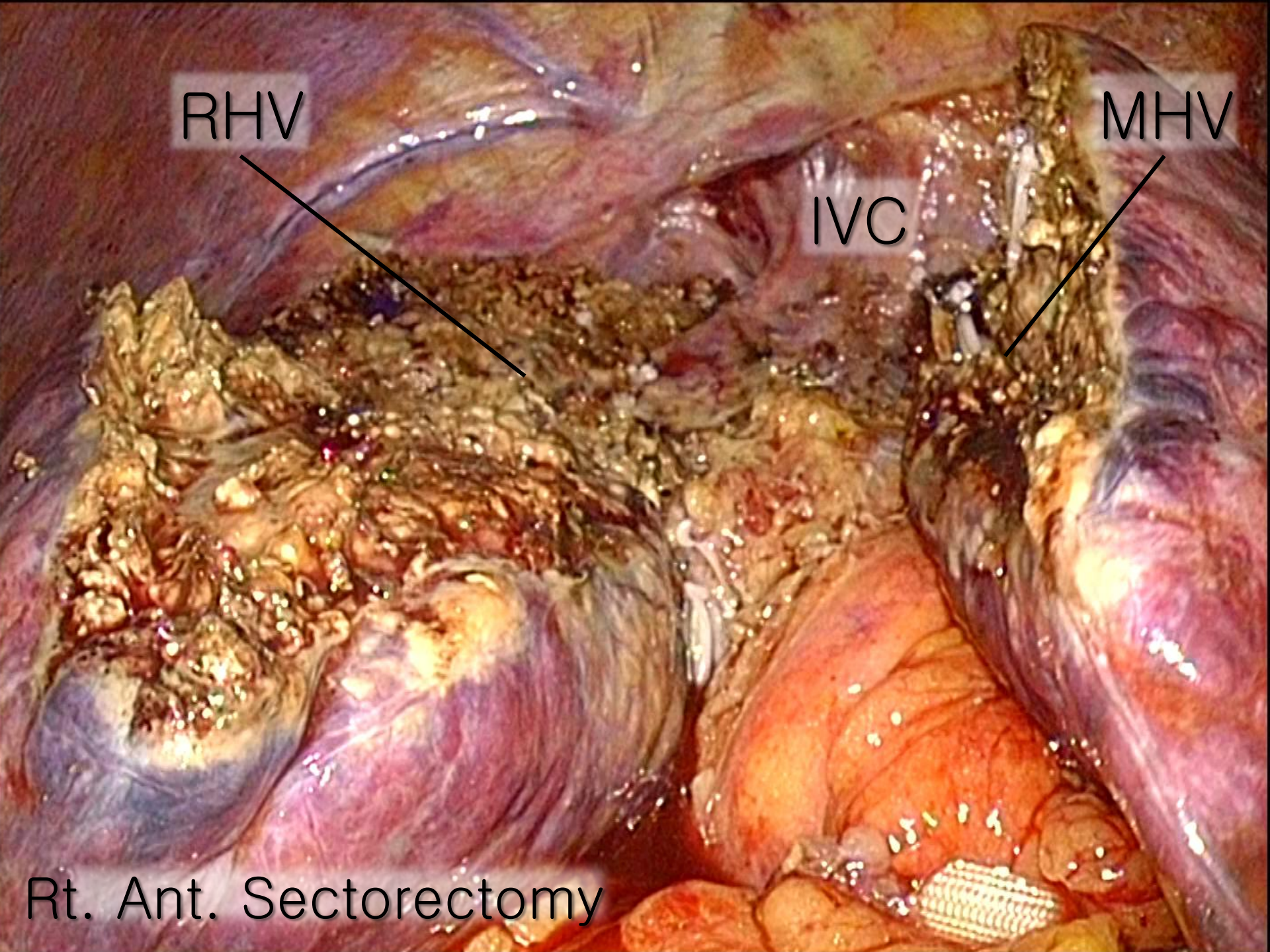
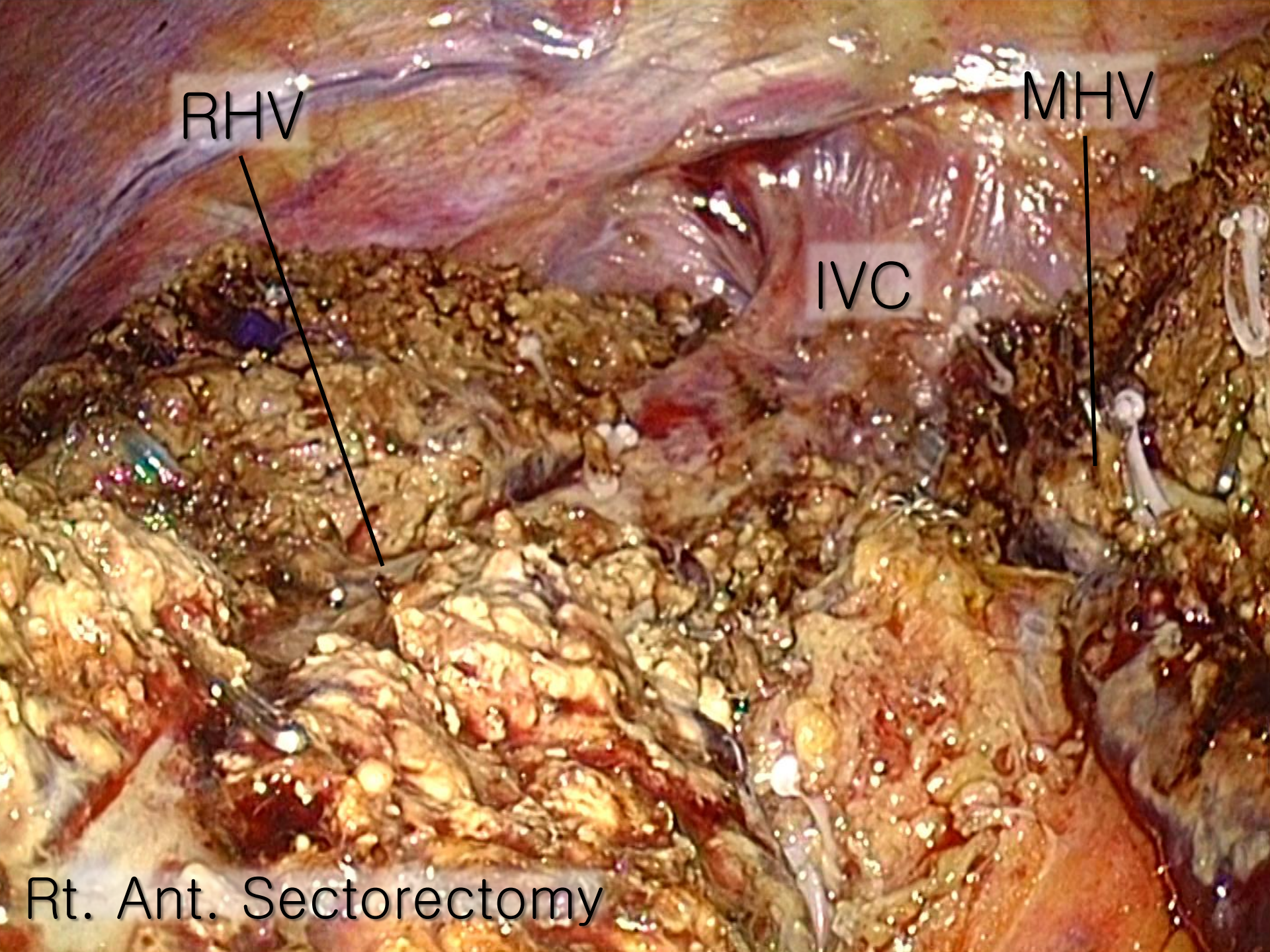

RHV
IVC
MHV
Rt. Ant. Sectorectomy


RHV
MHV
IVC
Rt. Ant. Sectorectomy

Our standardized procedures

<u>Most important techniques</u>

- utilization of the unique view
  from the caudal side

- avoid splitting the hepatic vein

Utilization of the unique view from the caudal side

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Conversion to the open surgery	3
Mortality	0
Complications	
abscess	1
port site infection	2
ascites	2
biloma / bile leakage	3

Our experiences

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Our experiences

Aug. 2008 - Mar. 2013 (55 months)

Conversion to the open surgery 3

Excessive time

S8 segmentectomy HCC in fibrotic liver

Positive stump of Glisson

S8 segmentectomy Meta. from Colon Ca.

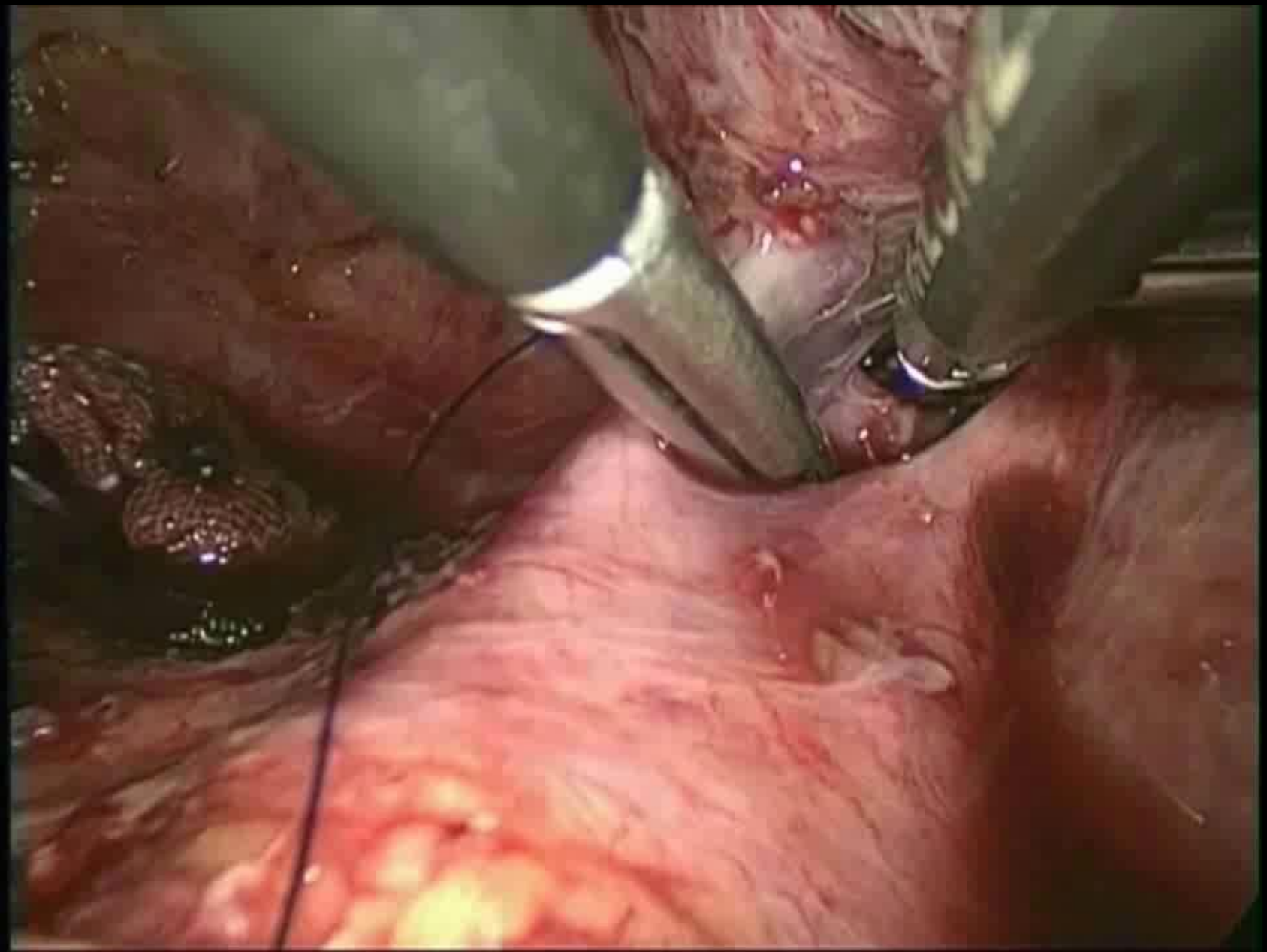
Crash of CUSA

S3 segmentectomy HCC

Therefore, we have never encountered critical bleeding.

No!

The self-destruction　自爆



The Ways to Control the Bleeding during Pure Lap-H

1. stop the bleeding
   compression, grasp, Pringle's maneuver
   adjustment of the pressures

2. find and identify the bleeding point

3. repair the bleeding point
   soft coagulation, division of the vessel
   suture

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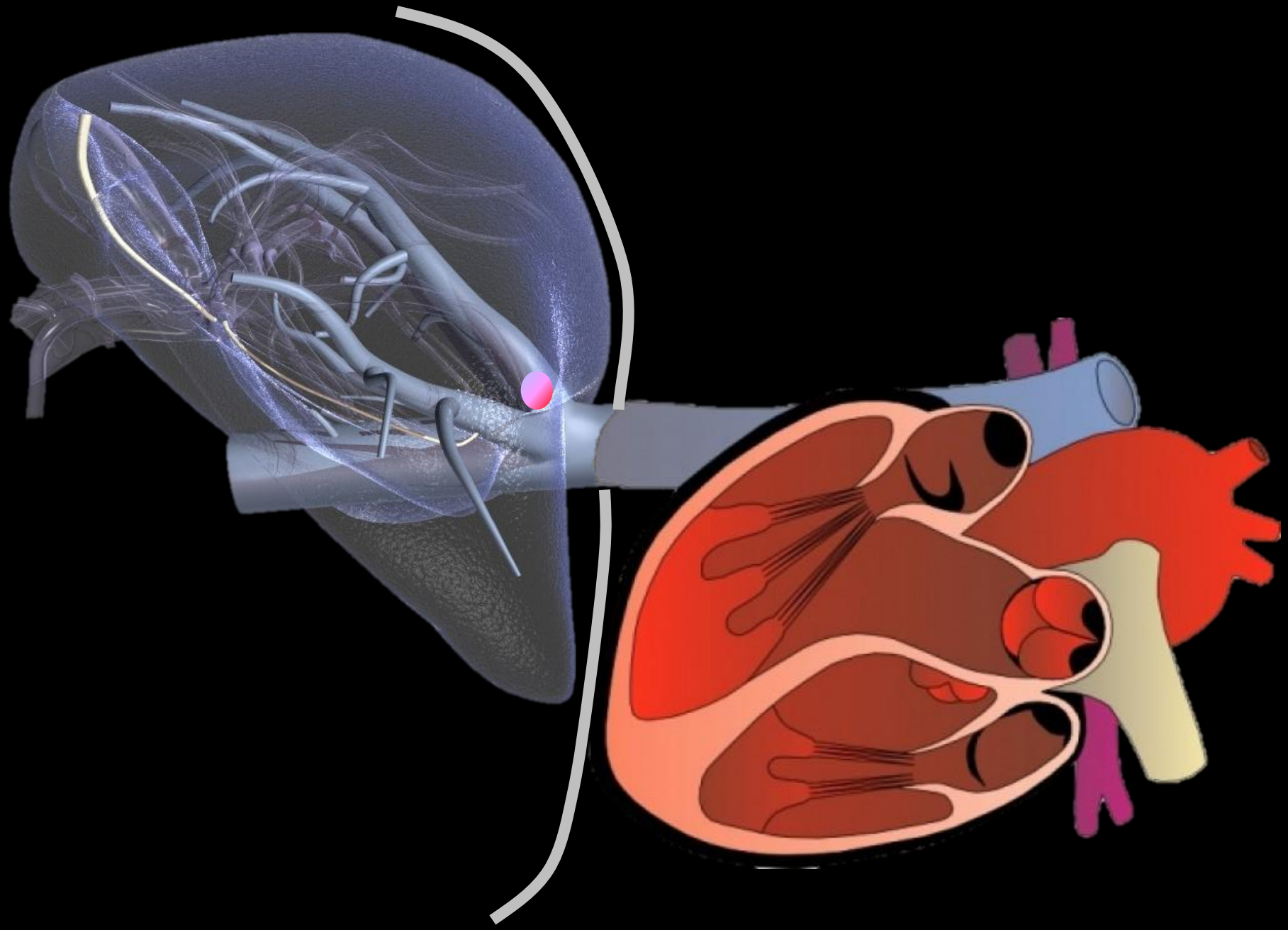
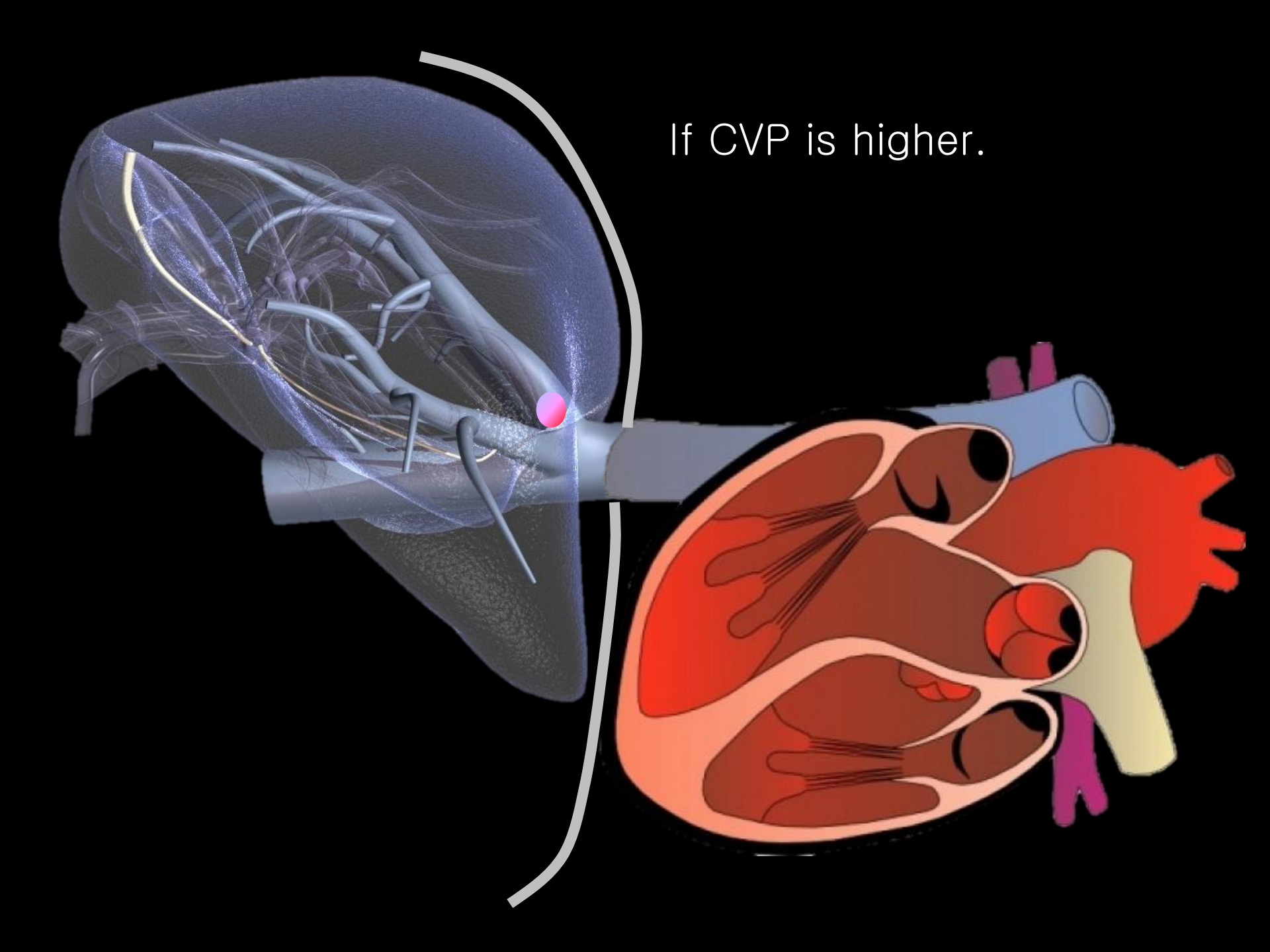
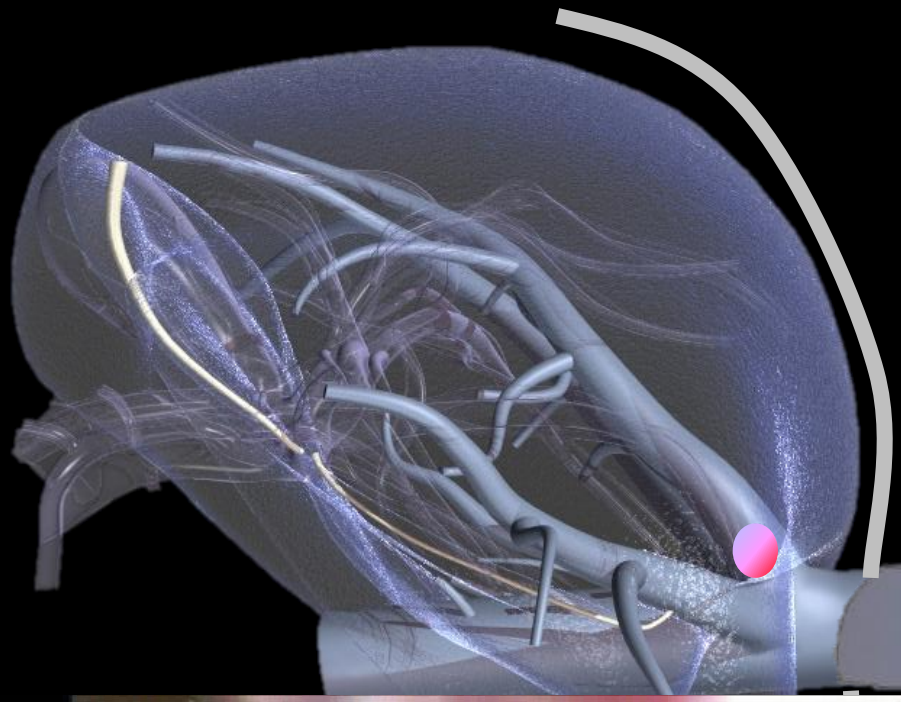
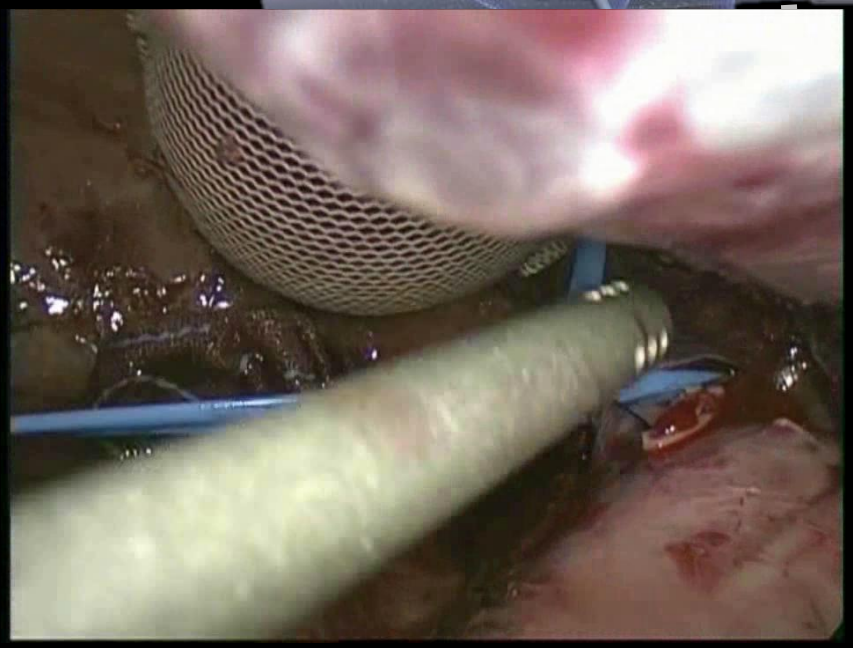


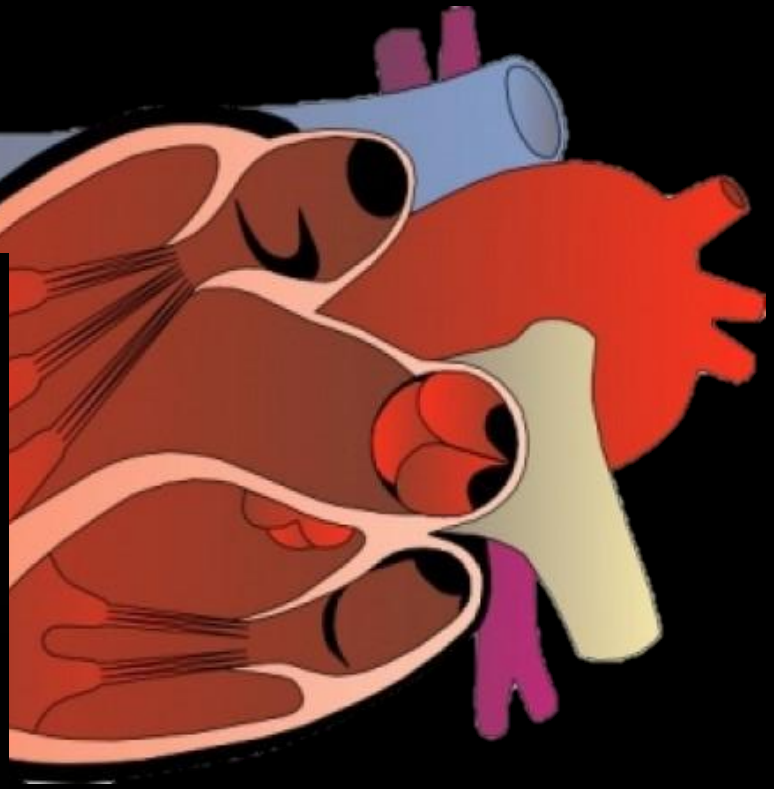

If CVP is higher.

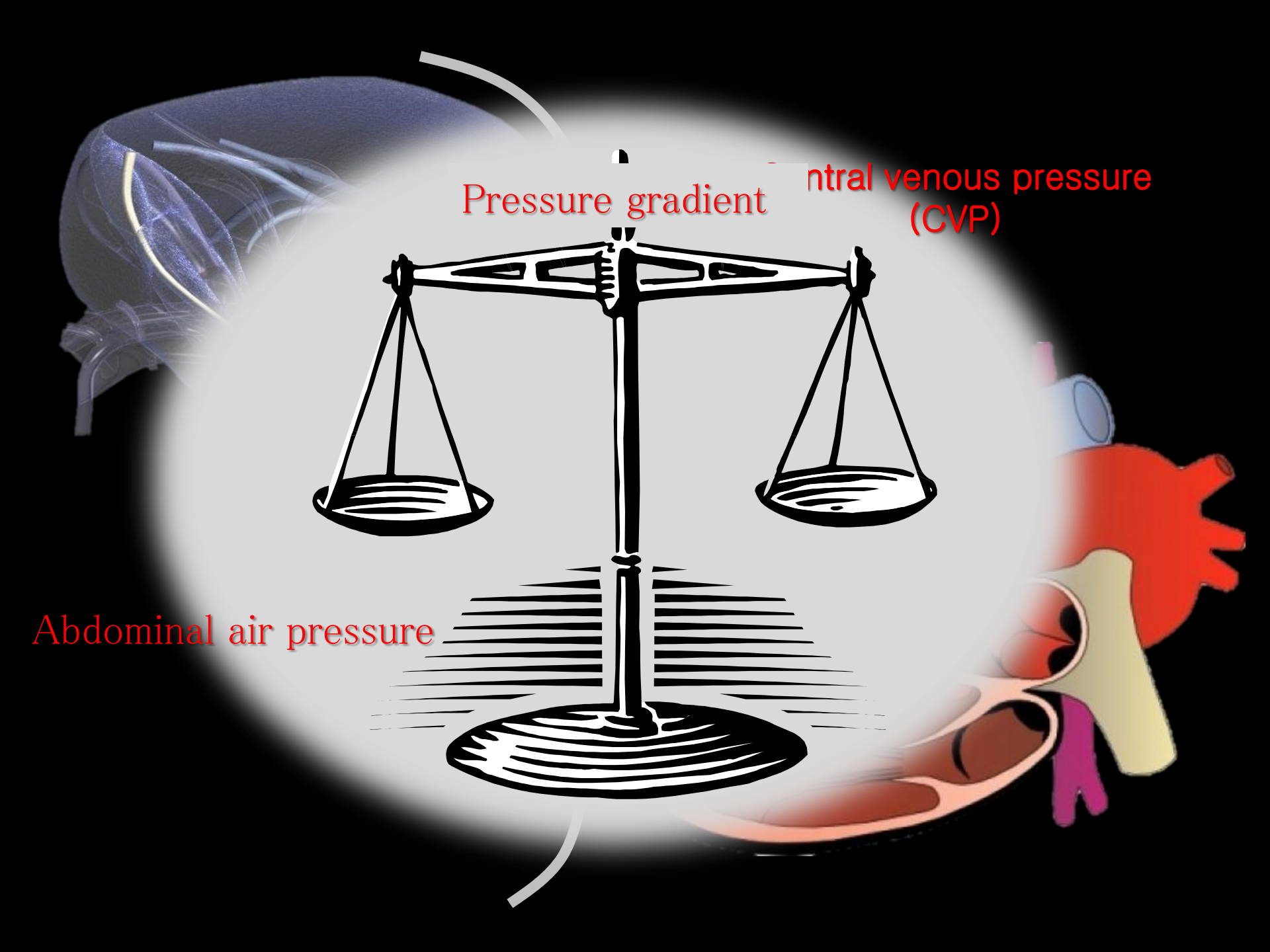
If CVP is higher.

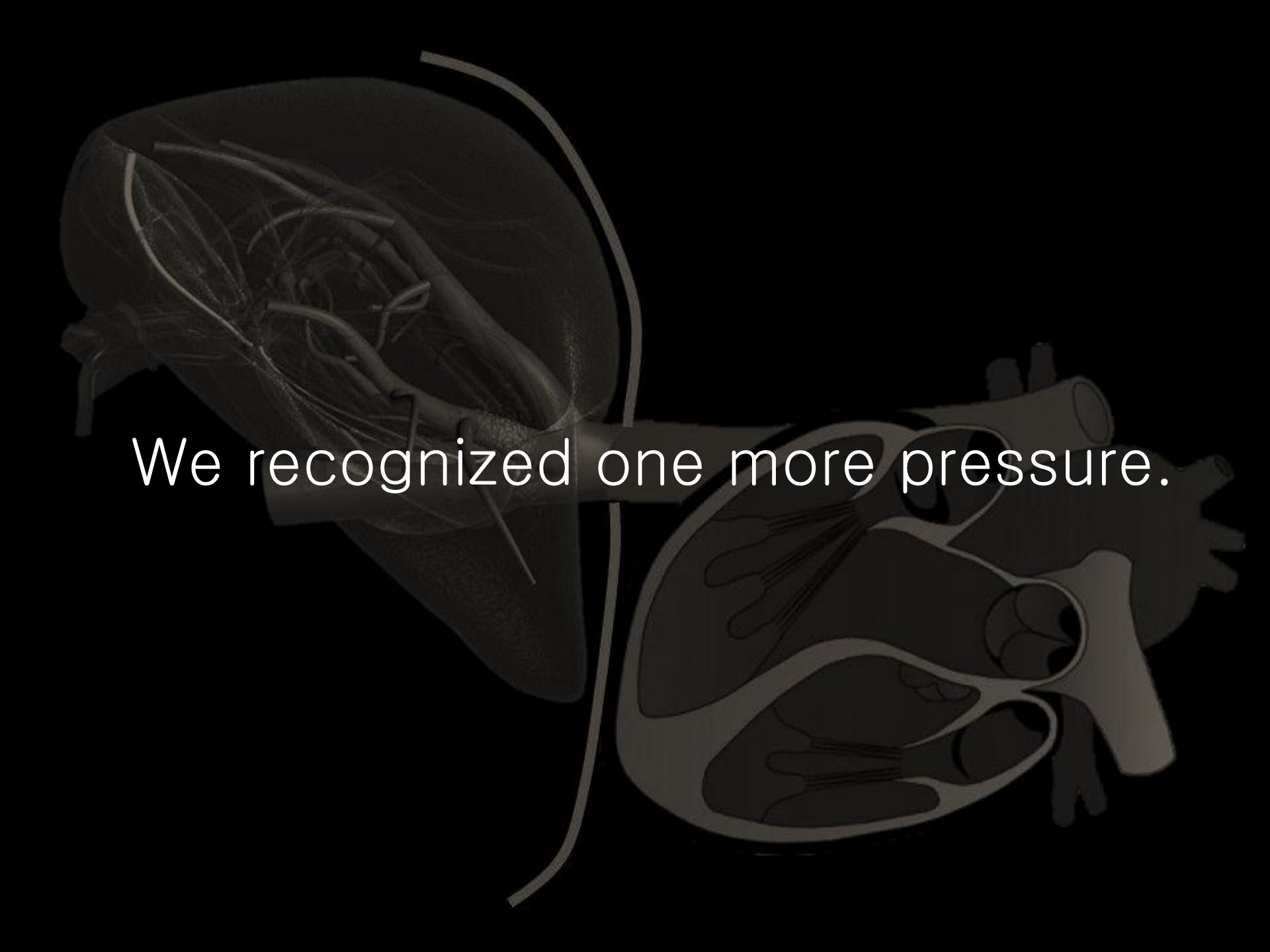
Blood spills out from the hole.

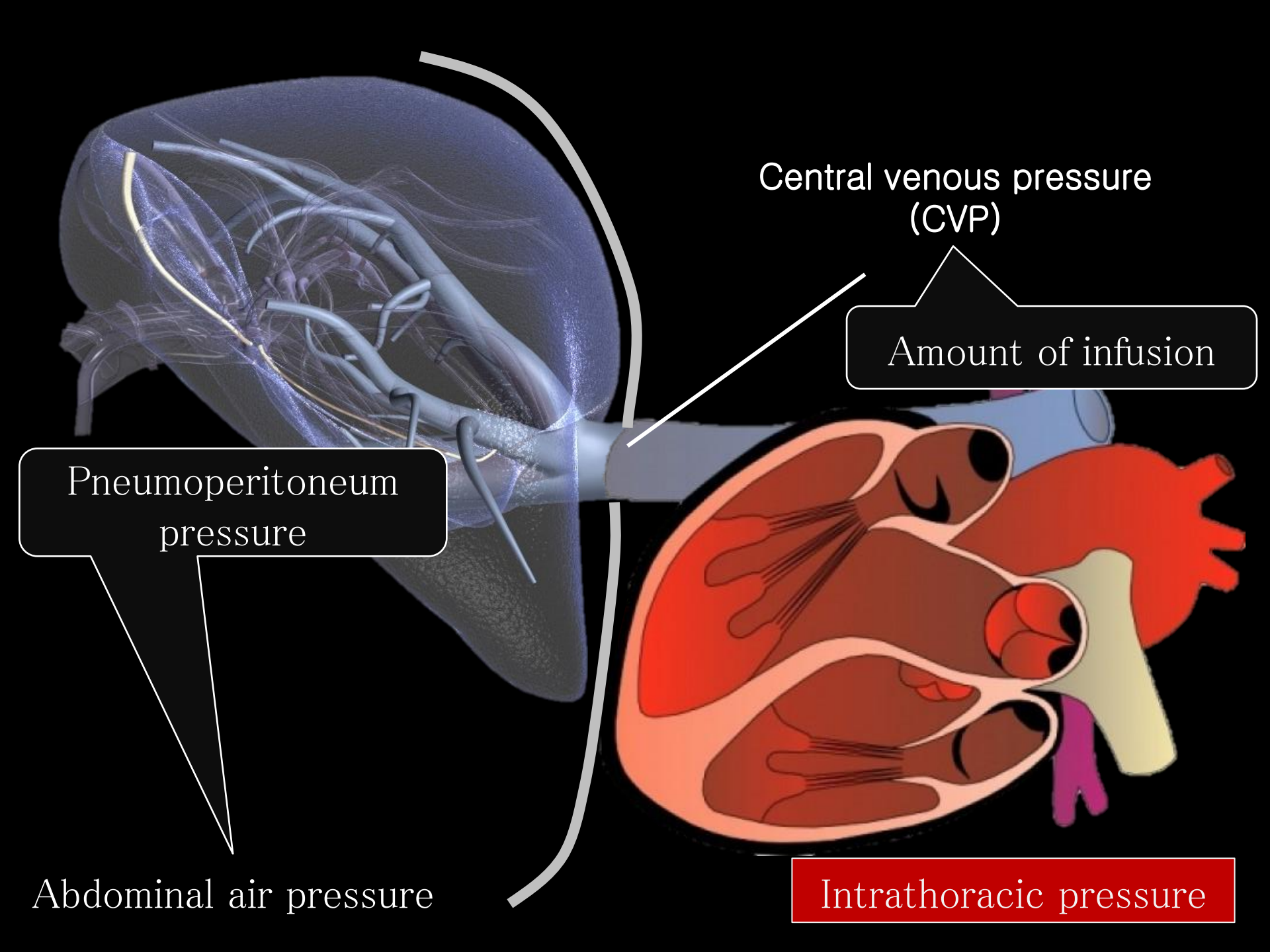


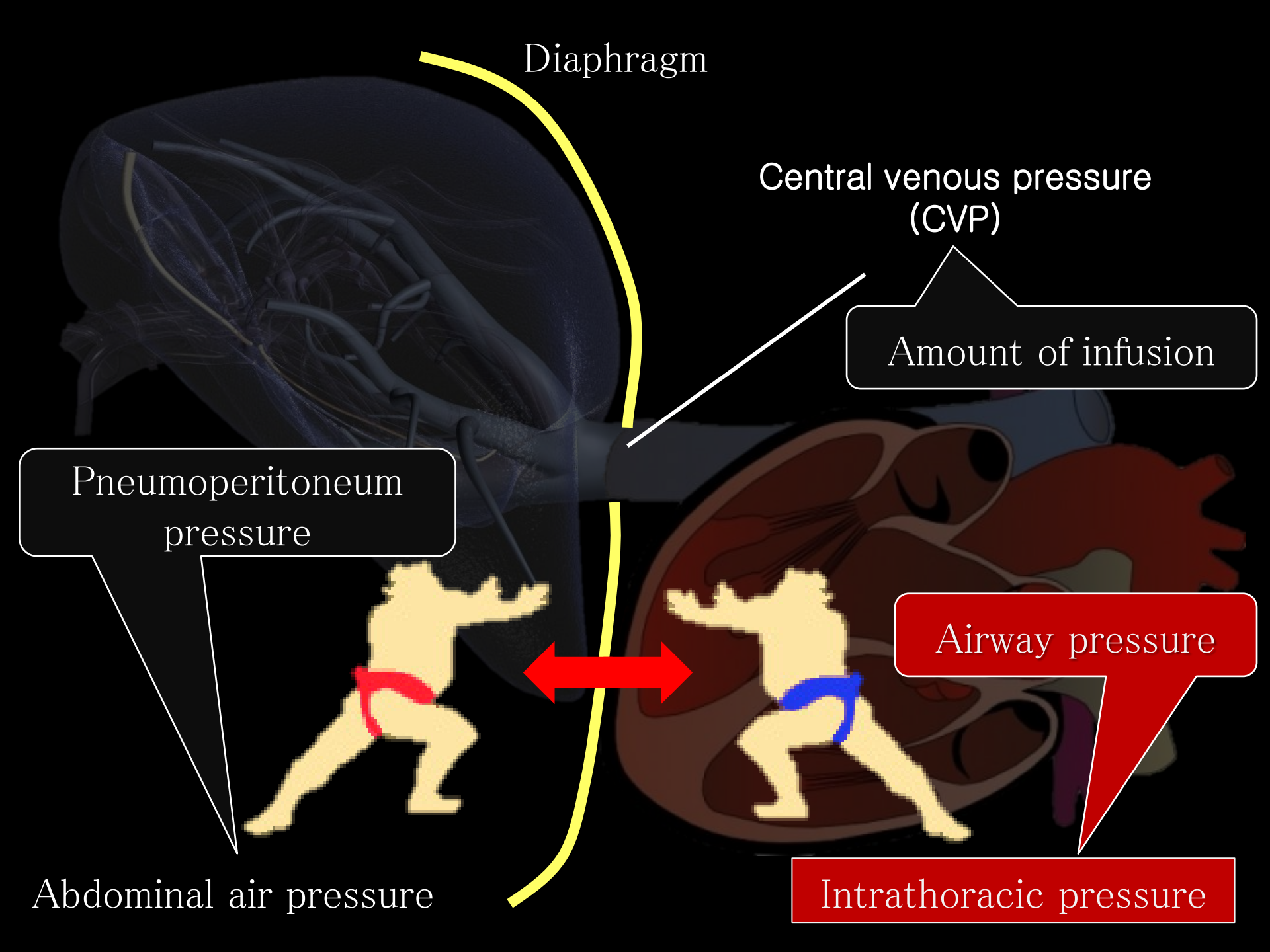


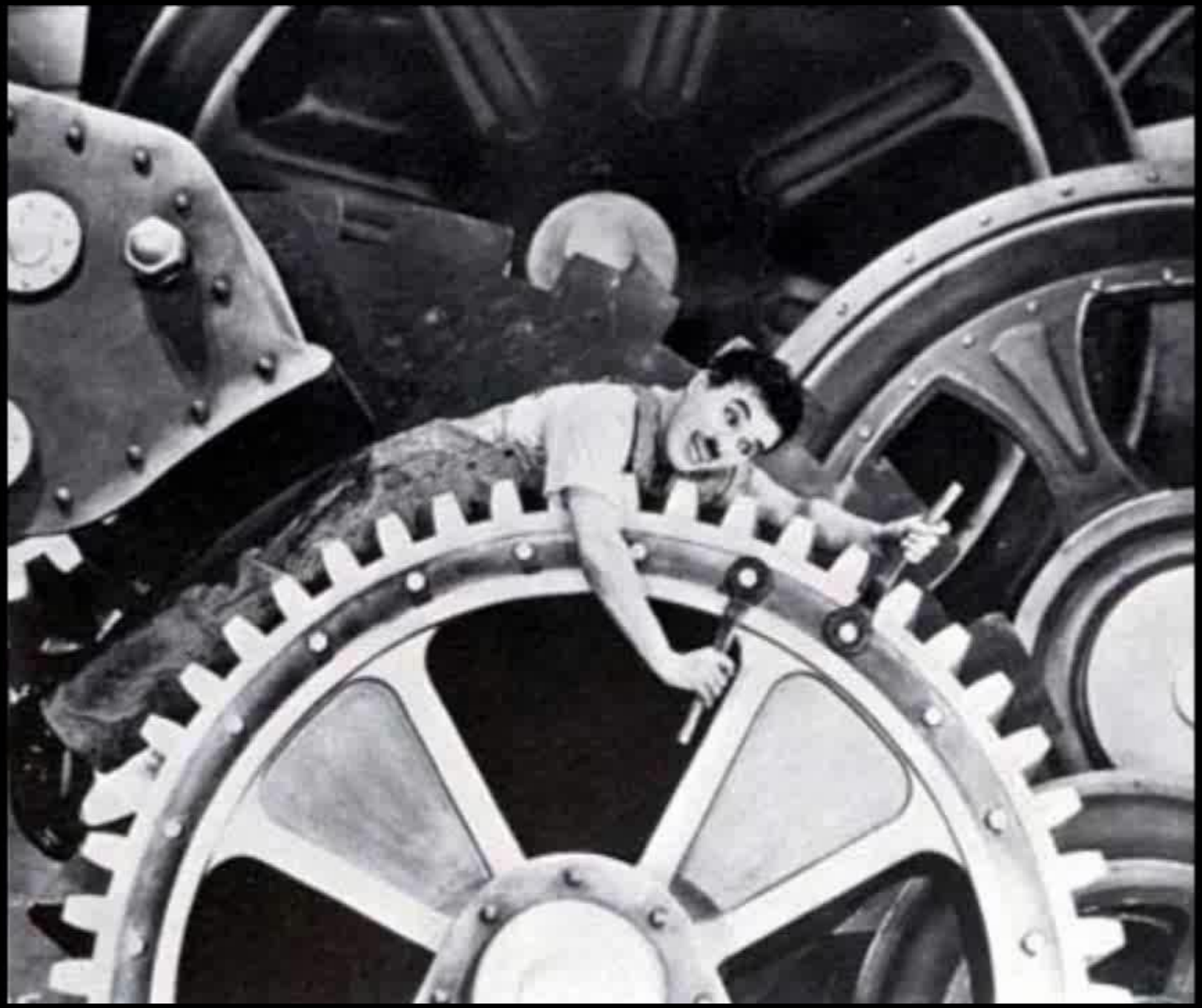



Pressure gradient
ntral venous pressure
(CVP)
Abdominal air pressure


We recognized one more pressure.


Central venous pressure
(CVP)
Amount of infusion
Pneumoperitoneum
pressure
Abdominal air pressure
Intrathoracic pressure


Diaphragm
Central venous pressure
(CVP)
Amount of infusion
Pneumoperitoneum
pressure
Airway pressure
Abdominal air pressure
Intrathoracic pressure



Communication with anesthesiologist is very important.

Adjustment of the pressure

Basic state of the pressure

The abdominal pressure 10

mmHg

Infusion dry side

The airway pressure

normal

During control the bleeding from the HV

1. Occluding the hilum inflow

2. Reduction of the airway pressure

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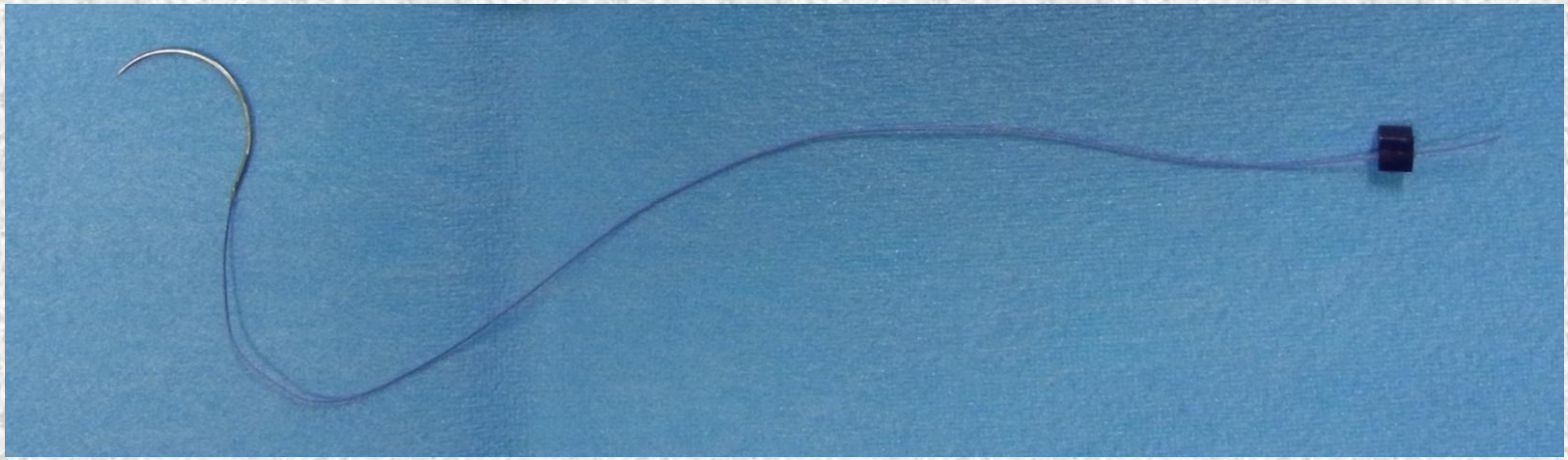
- LAPRA-TY®

4-0 Vicryl with an SH-1 needle, 5-8 cm in length



Thank you for your kind attention.

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