

Interventional EUS

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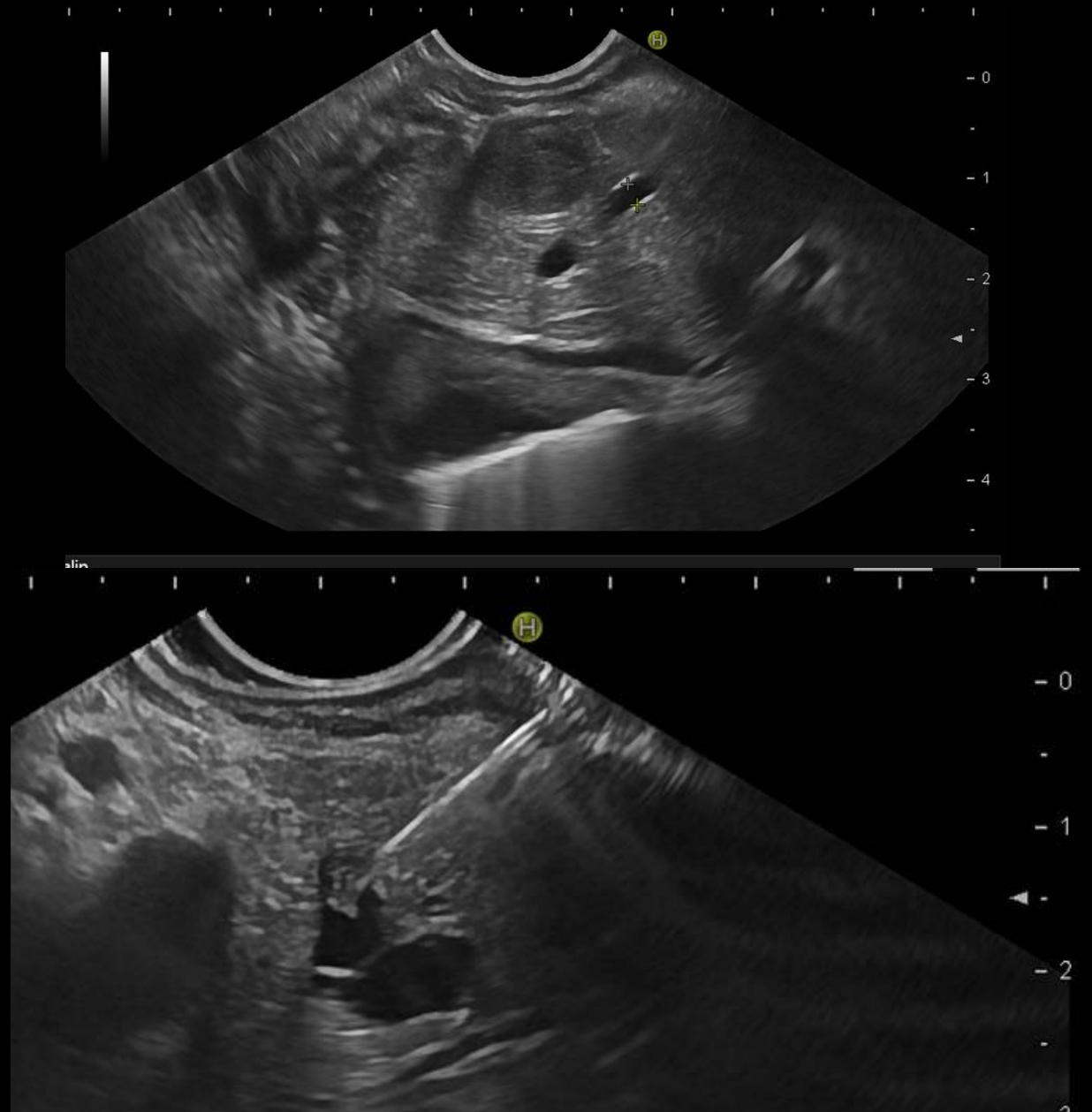
Dept. of clinical medicine, University of Bergen



EUS Advantages

- Short route to nearby structures
- Fine diagnostics
- Superior real time resolution
- Doppler
- Precession

- Platform for intervention





Interventional endoscopy

- Endoscopy + Fluoroscopy + US
- Guide wire
- Medicine+surgery+radiology+oncology
- Complimentary
- Must be flexible, able to adapt
- **Solve problems**



EUS development

Radial EUS 70-80`

Linear EUS 1991

EUS FNA 1992

EUS Pseudocyst drainage 1992

[Surg Endosc.](#), 1991;5(2):79-82.

Endoscopic ultrasound examination of the upper gastrointestinal tract using a curved-array transducer. A preliminary report.


[Vilmann P¹](#), [Khattar S](#), [Hancke S](#).

[Gastrointest Endosc.](#), 1992 Mar-Apr;38(2):172-3.

Endoscopic ultrasonography with guided fine needle aspiration biopsy in pancreatic disease.

[Vilmann P¹](#), [Jacobsen GK](#), [Henriksen FW](#), [Hancke S](#).

Endosonography-guided drainage of a pancreatic pseudocyst

[H. Grimm](#), MD , [K.F. Binmoeller](#), MD, [N. Soehendra](#), MD

Department of Endoscopic Surgery, University Hospital Hamburg, Hamburg, Germany

SEMS 1988

EUS-BD 2001

EUS-PD 2002

2003

LAMS 2012

[Endoscopy](#). 2001 Oct;33(10):898-900.

Endoscopic ultrasound-guided bilioduodenal anastomosis: a new technique for biliary drainage.

[Giovannini M](#)¹, [Moutardier V](#), [Pesenti C](#), [Bories E](#), [Lelong B](#), [Delpero JR](#).

[Gastrointest Endosc](#). 2002 Jul;56(1):128-33.

EUS-guided pancreaticogastrostomy.

[François E](#)¹, [Kahaleh M](#), [Giovannini M](#), [Matos C](#), [Devière J](#).

Hepaticogastrostomy
Choledochosudenotomy
Cholecysticoduodenostomy

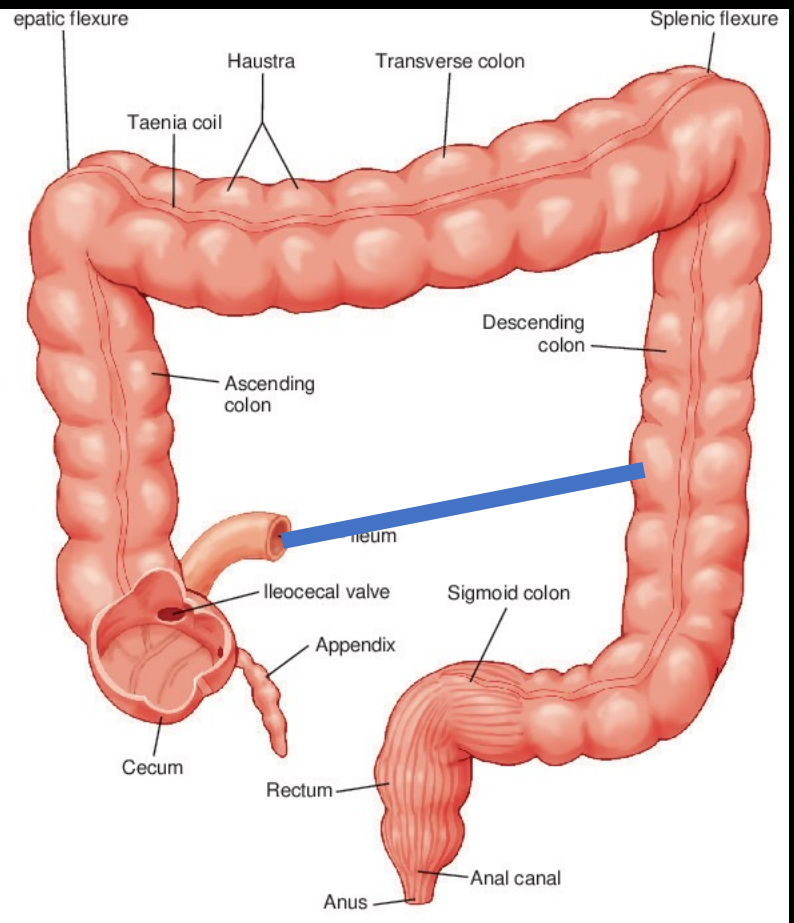
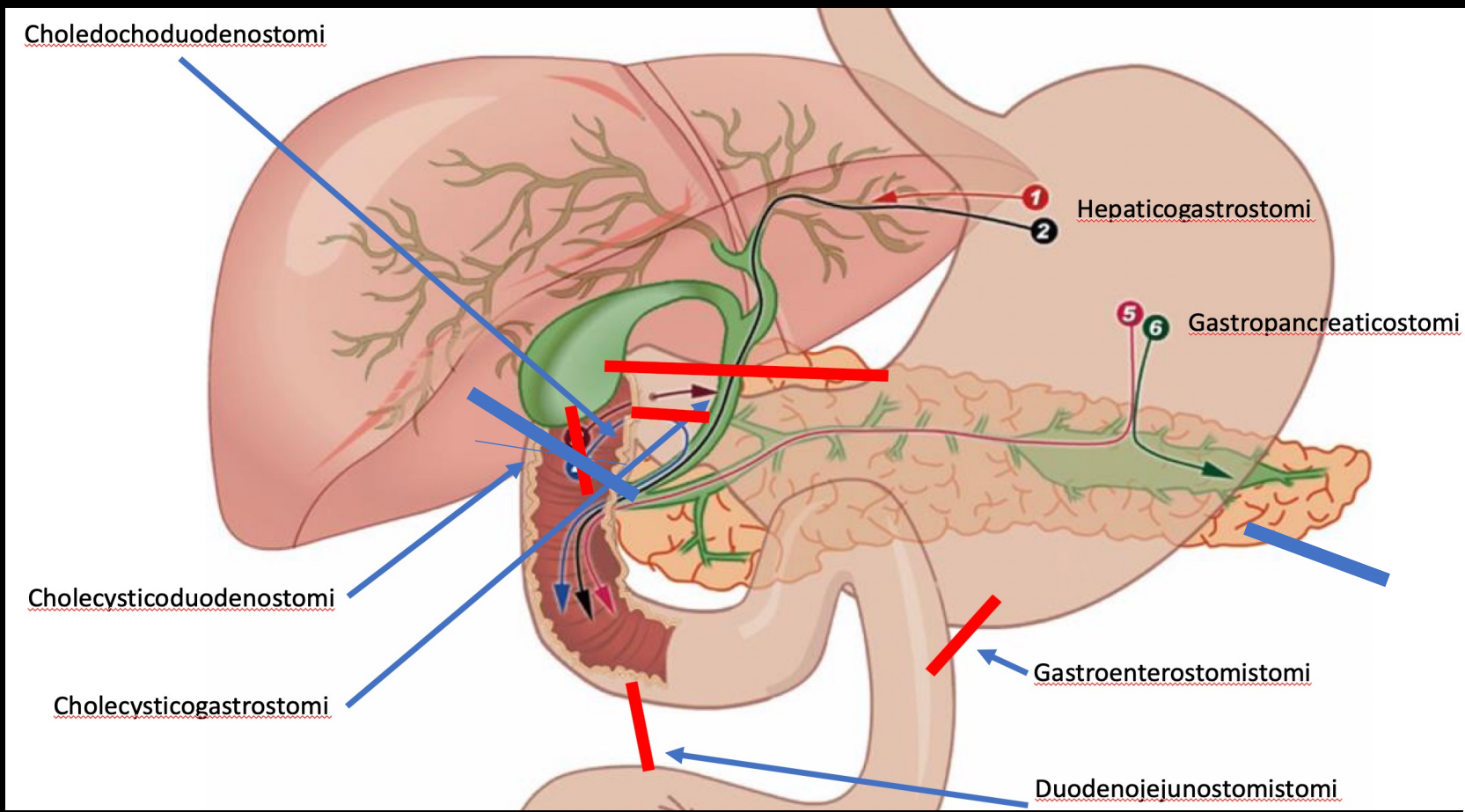
Antegrade treatment

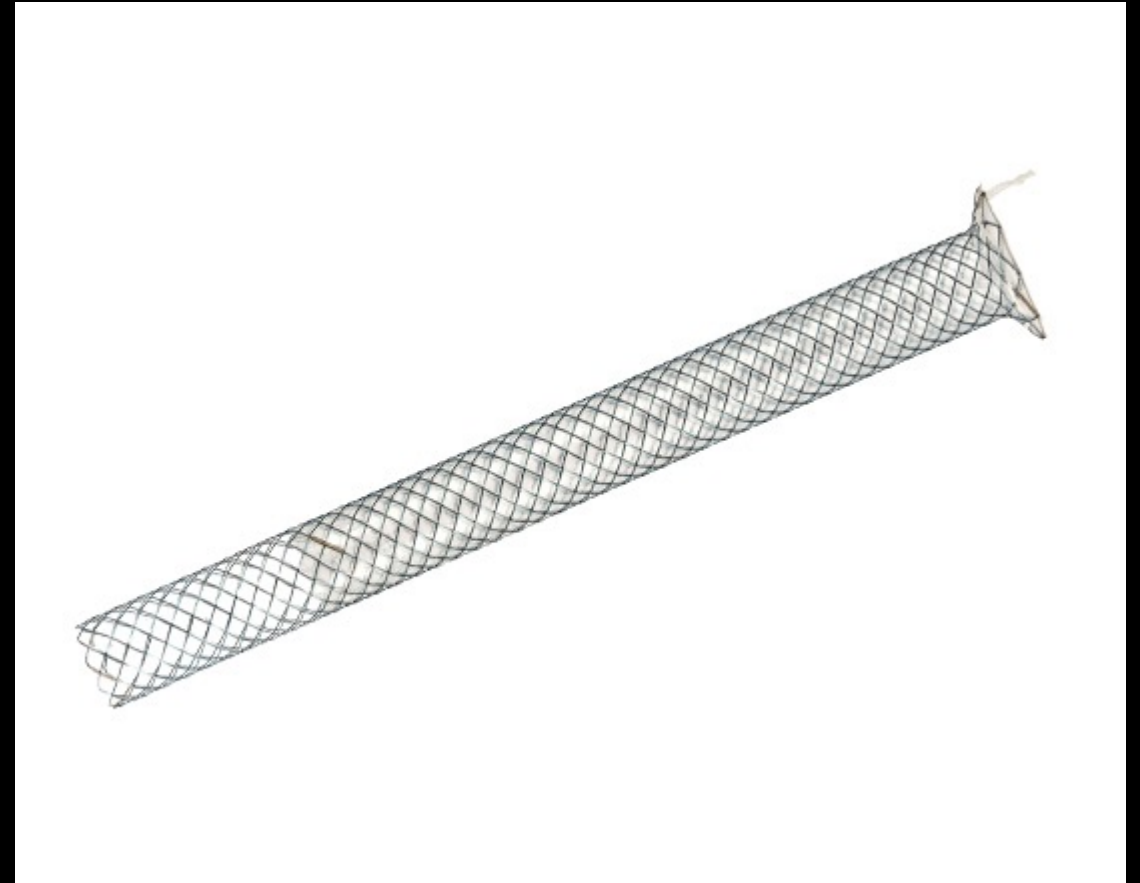
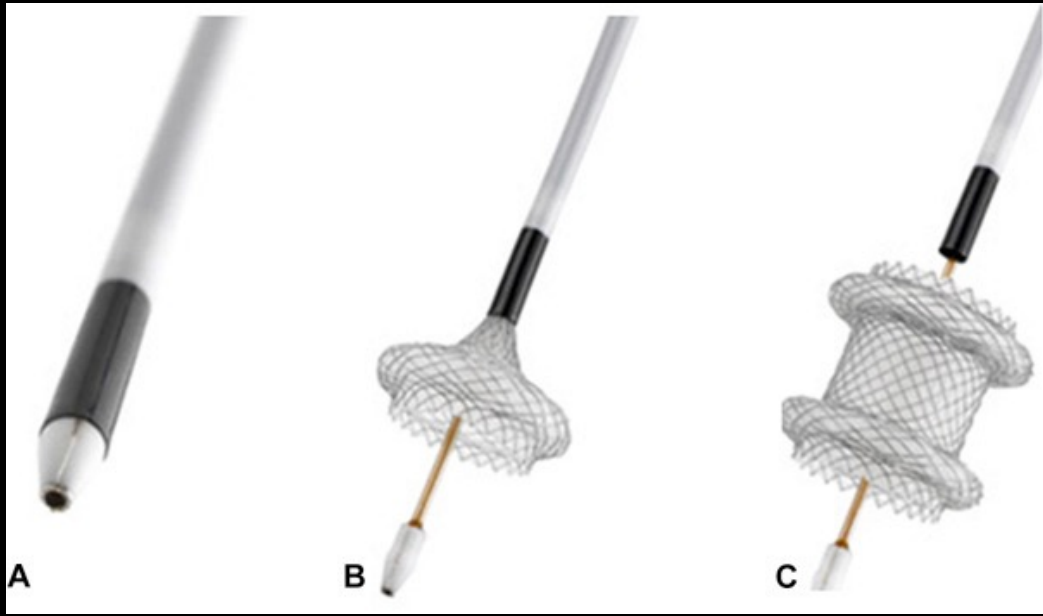
Gastroenterostomy
EDGE

EUS vascular therapy ect....

Potential targets for EUS-guided drainage

- Facts: A lot of physiological bodily functions are based tubes
- Drainage of bile
- Fluid collection; peri-pancreatic, liver, spleen
- Drainage of pancreatic juice
- Leakage, complications to surgery/pancreatitis
- Abscess
- Malignant decompression

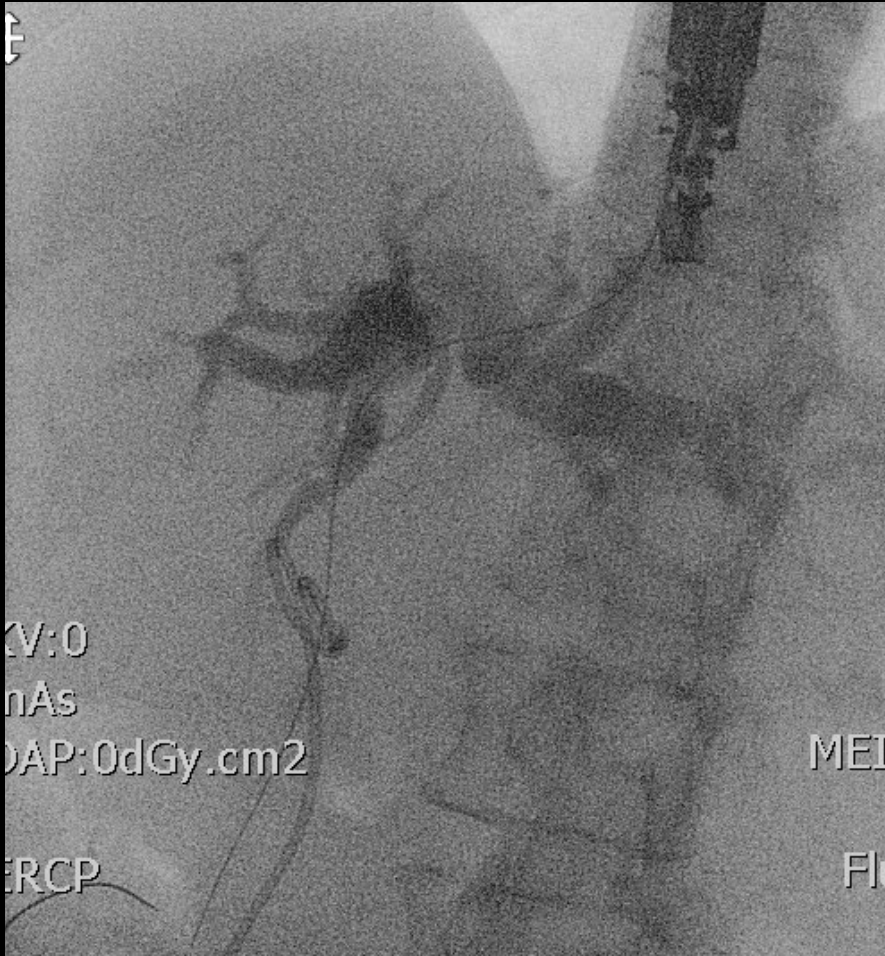
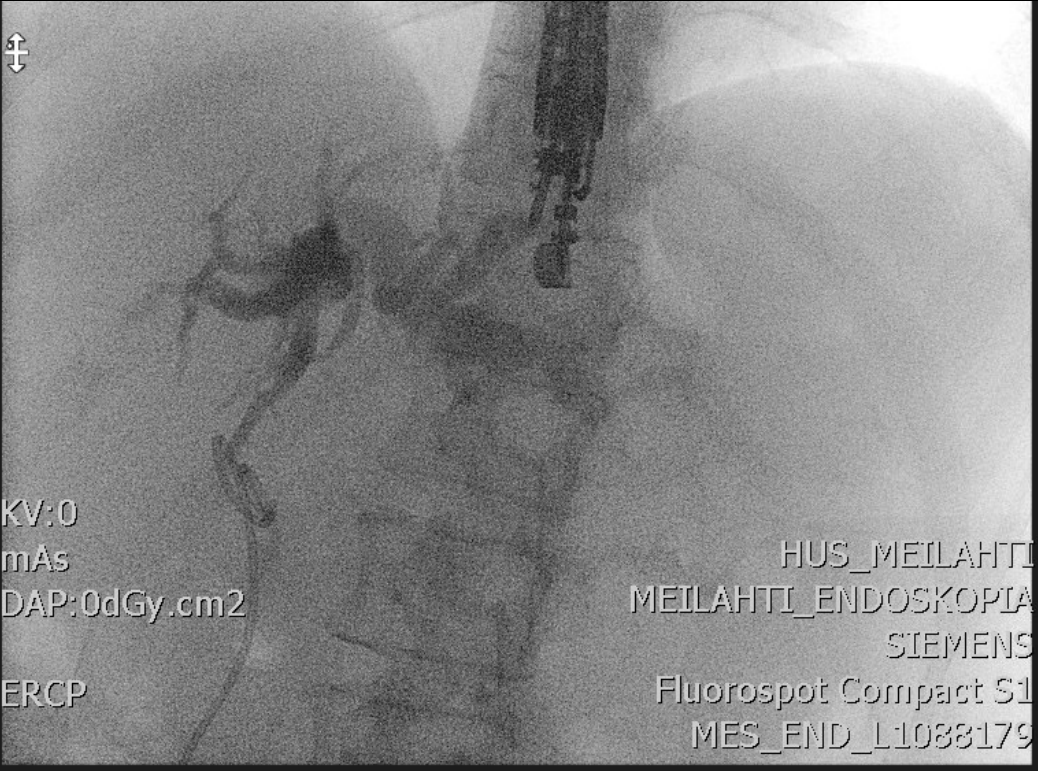




EUS biliary drainage

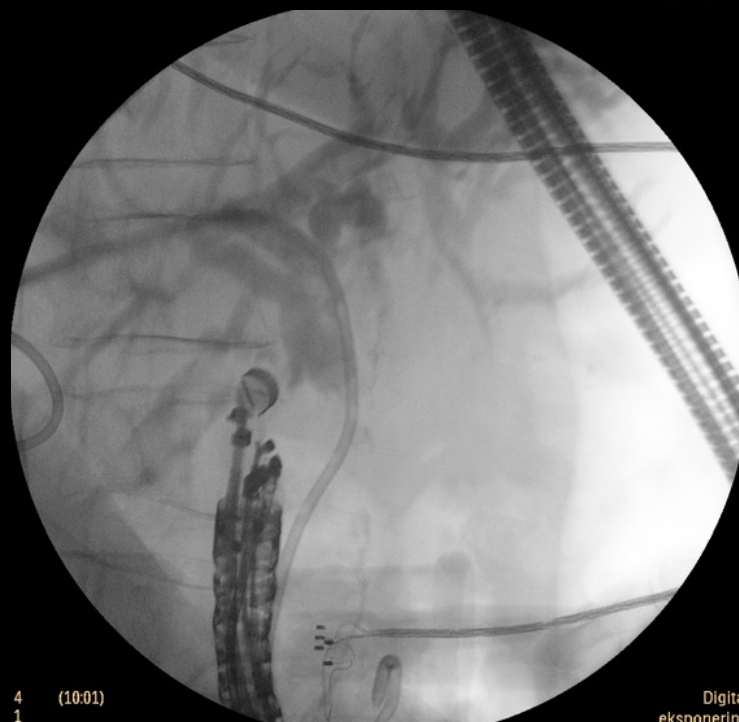
- alternative to percutaneous trans hepatic biliary drainage (PTBD) for patients in whom endoscopic retrograde cholangiopancreatography (ERCP) has failed.
- >90% success rate
- Clinical result equal to PTBD
- Lower complication rate than PTBD
- Less pain
- More comfortable for the patient
- “automatic drainage system”
- The bile is emptied into the GI tract, more physiological
- Stay at home – less to handle

EUS-ERCP Rendez vous





EUS guided Cholecysticoduodenotomy

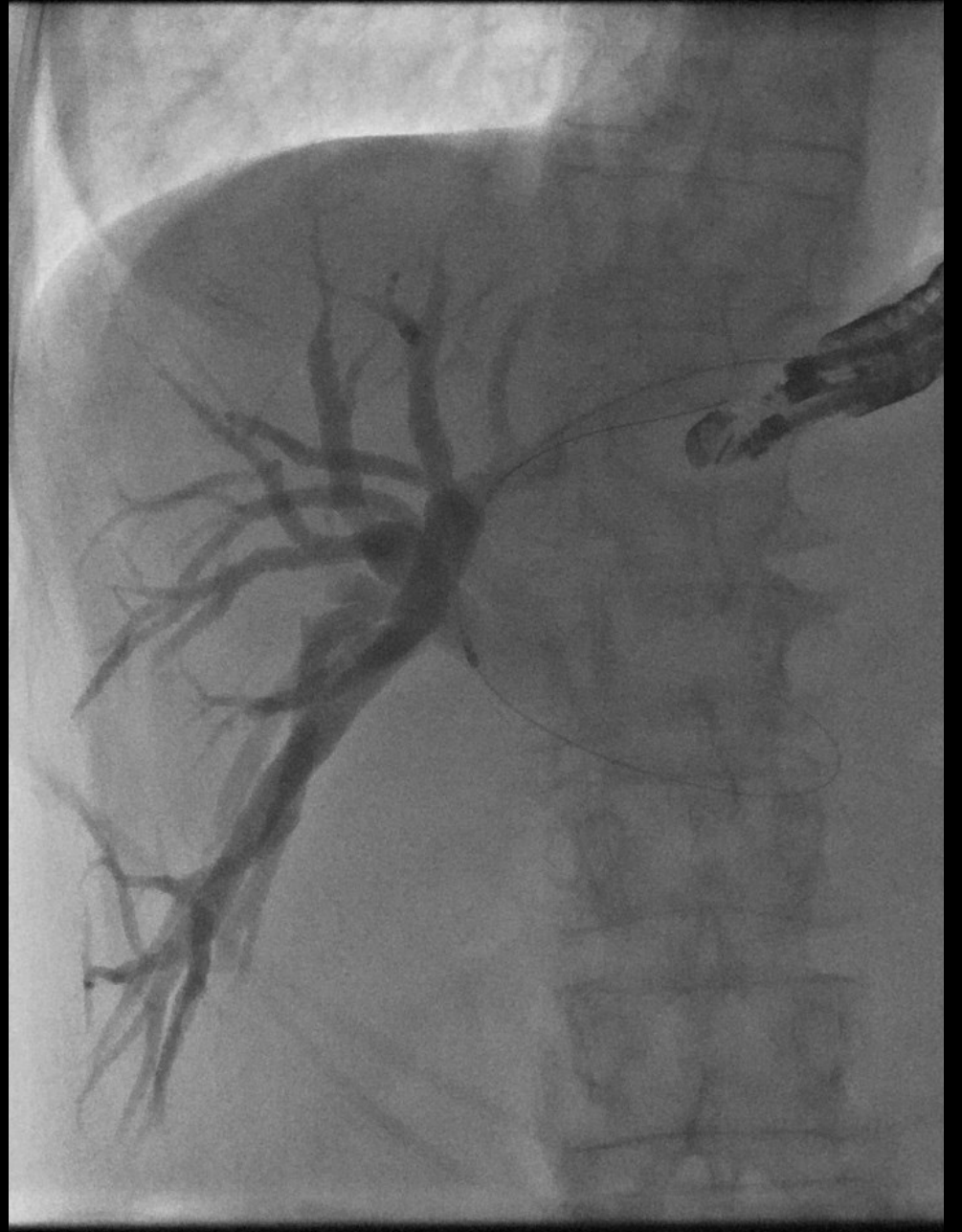
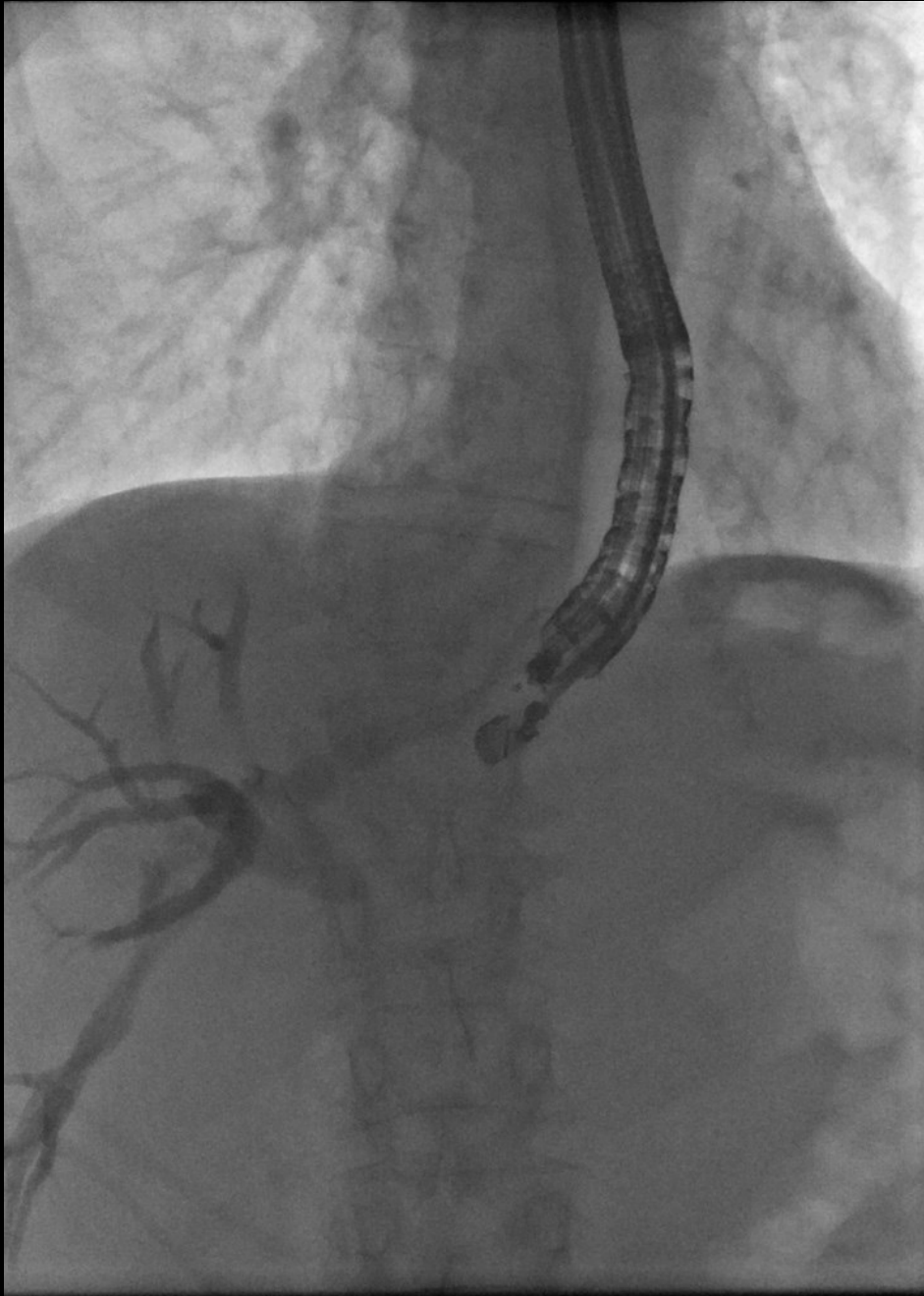


TX : 100%
MI : 0.6
: < 0.4

4 (10.01)
1

Digit
eksponerin



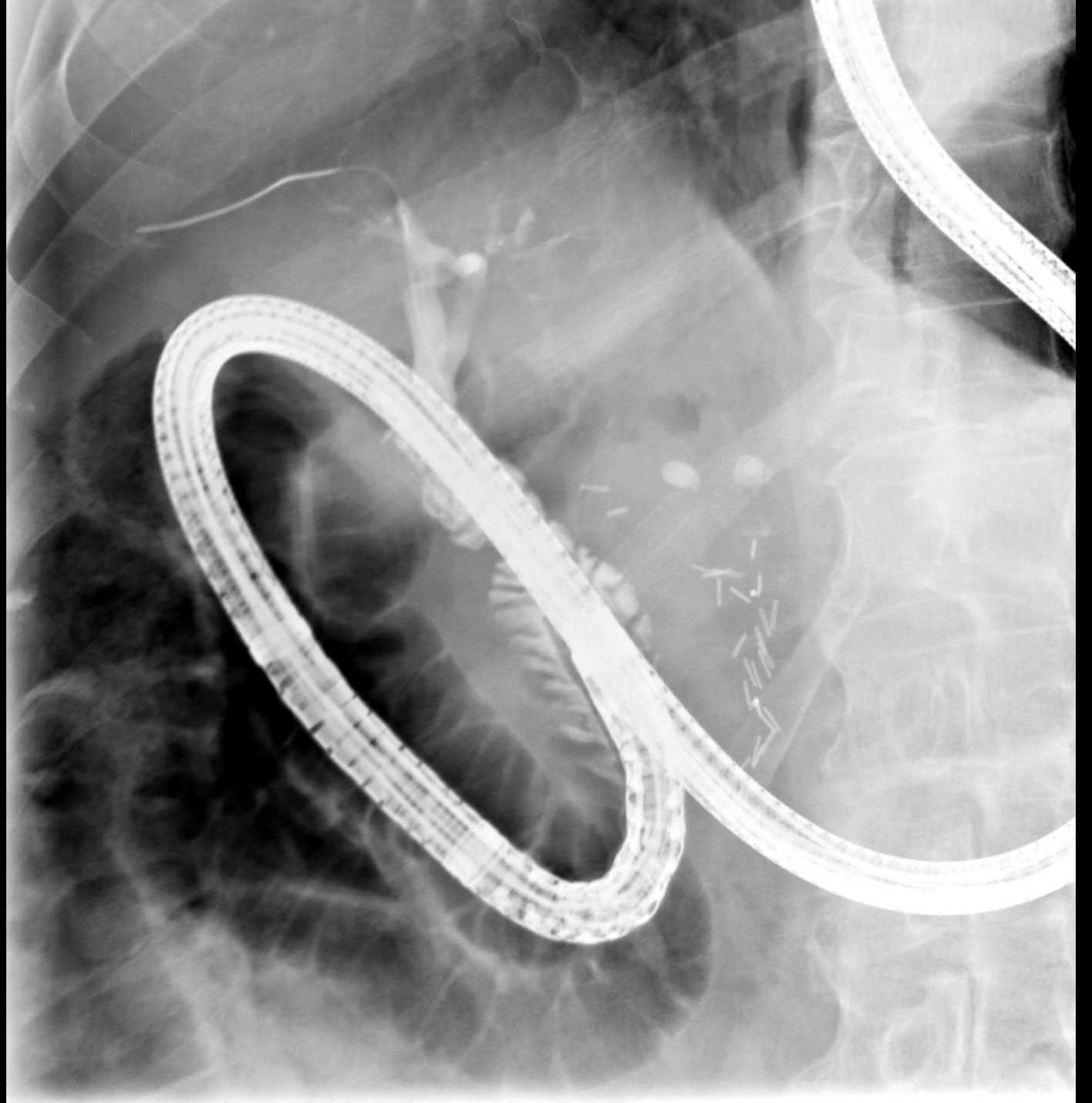


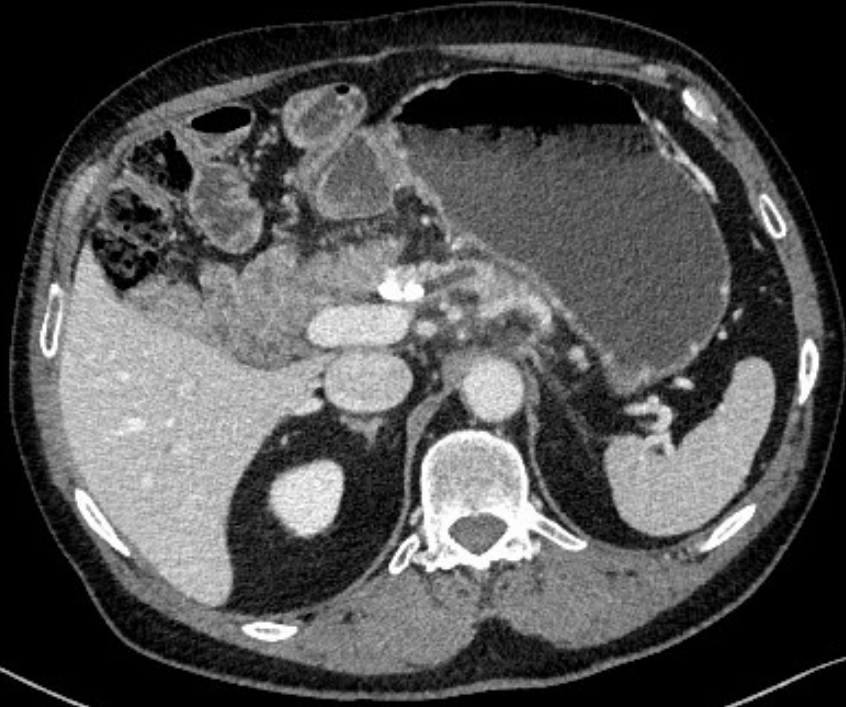


Malignant obstruction & EUS

- High probability of drainage
- Making new doors
- By-pass
- “Higher up in the tree”
- Antegrade therapy
- Rendez-vous

Whipple, 3 stones in the PD

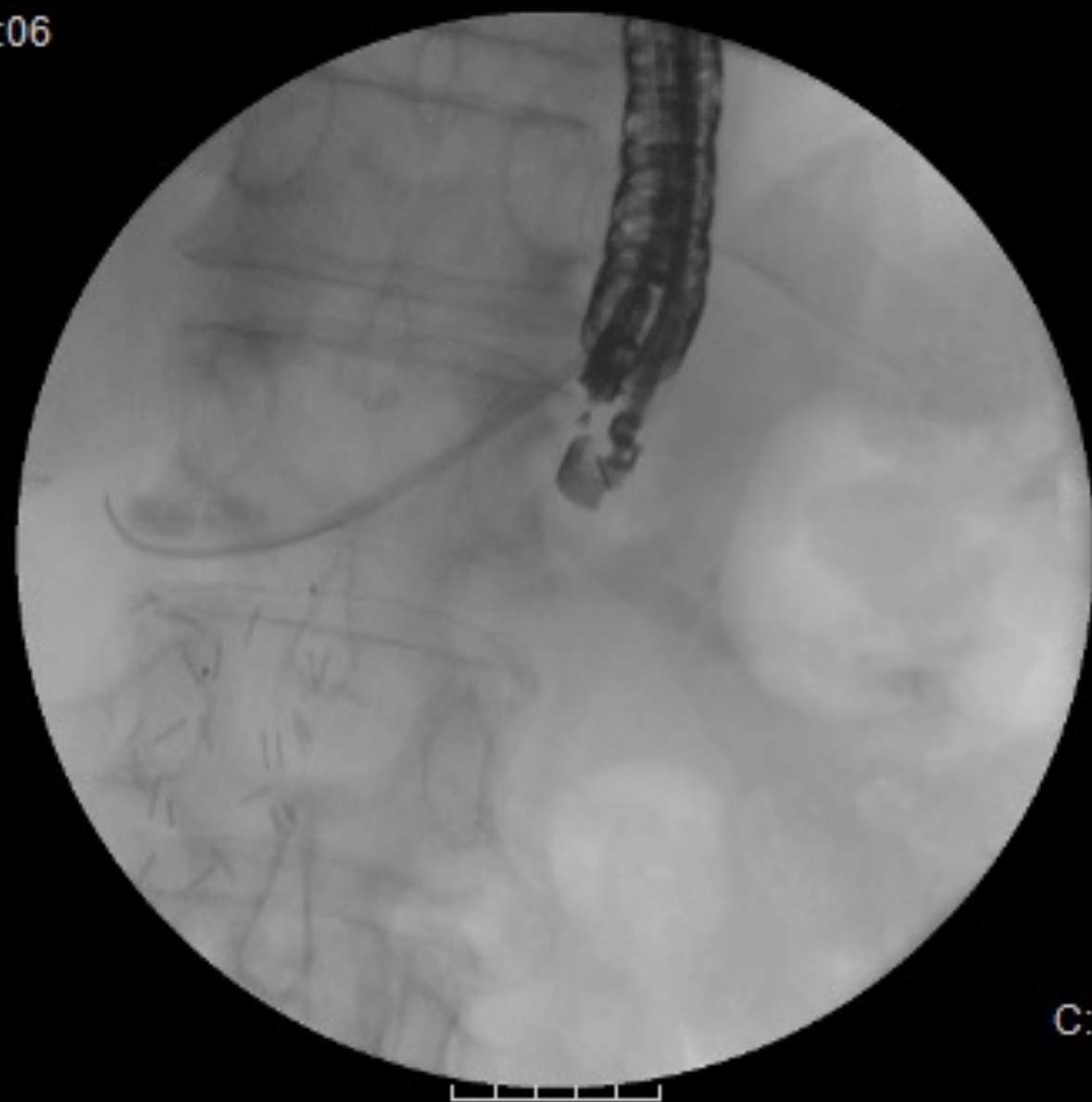




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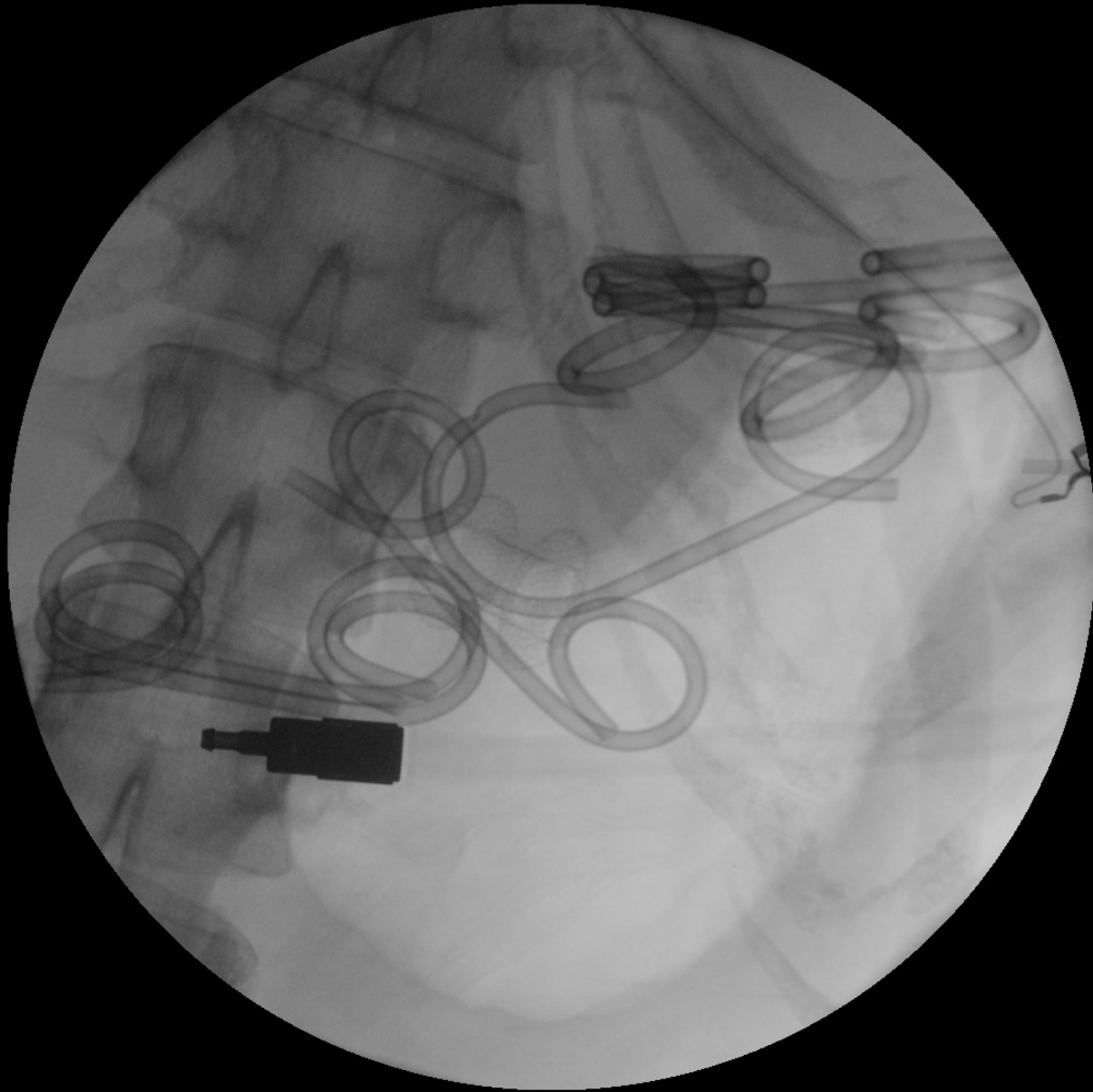


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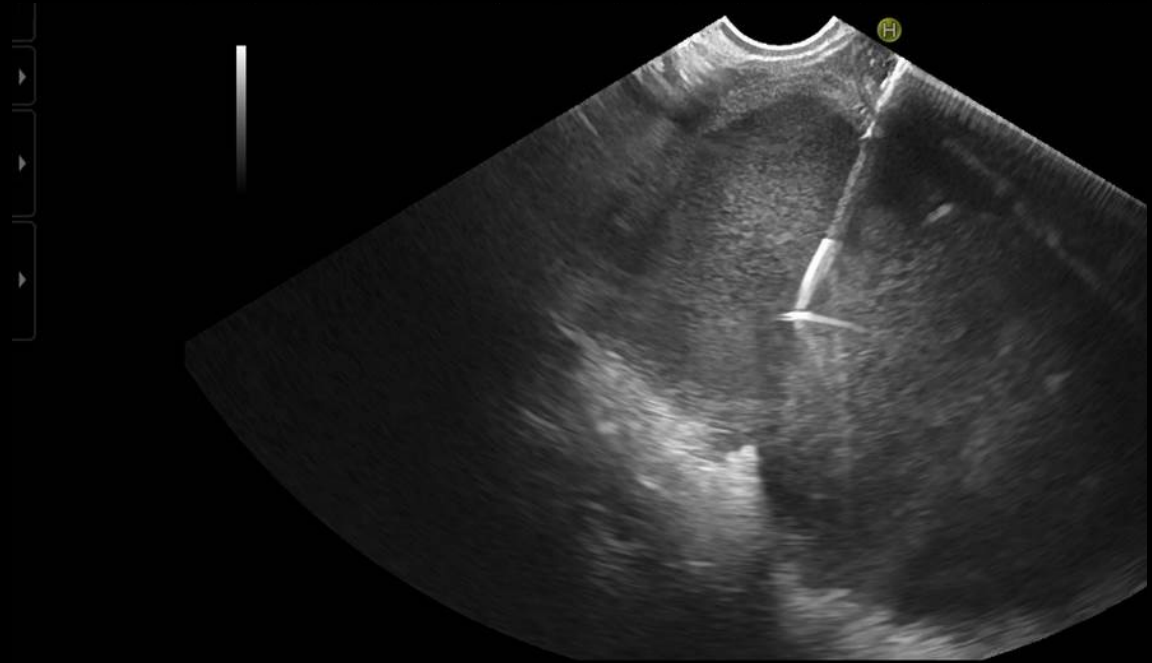


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BG:25 DR:65



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