

CIRA Case of the Week

June 2016

Case Courtesy of Dr. Frédéric Thomas-Chaussé
Universite de Montreal

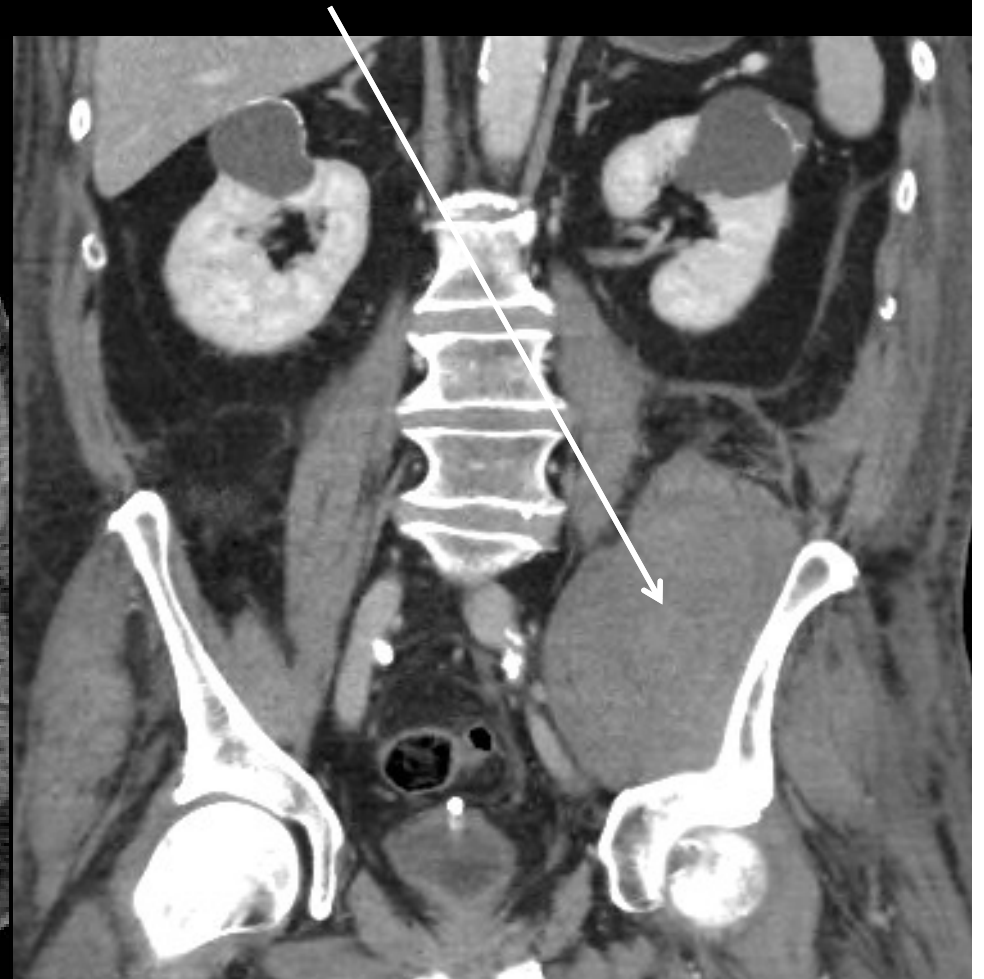
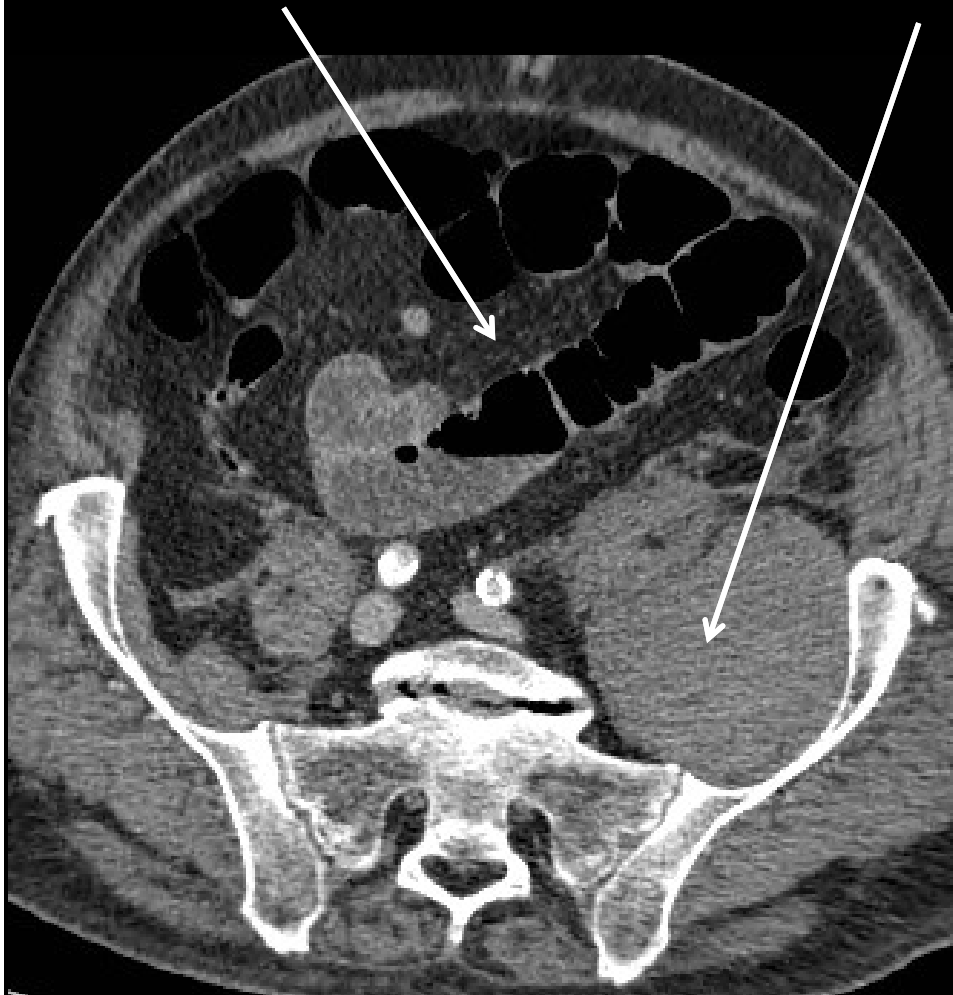
Case

- 82 year old male
- POD #2 of CABG and aortic valve replacement
- Sudden fall in hematocrit from 98 to 70 with intense abdominal pain
- CT scan ordered by the ICU team

CT scan results

Slight ileus

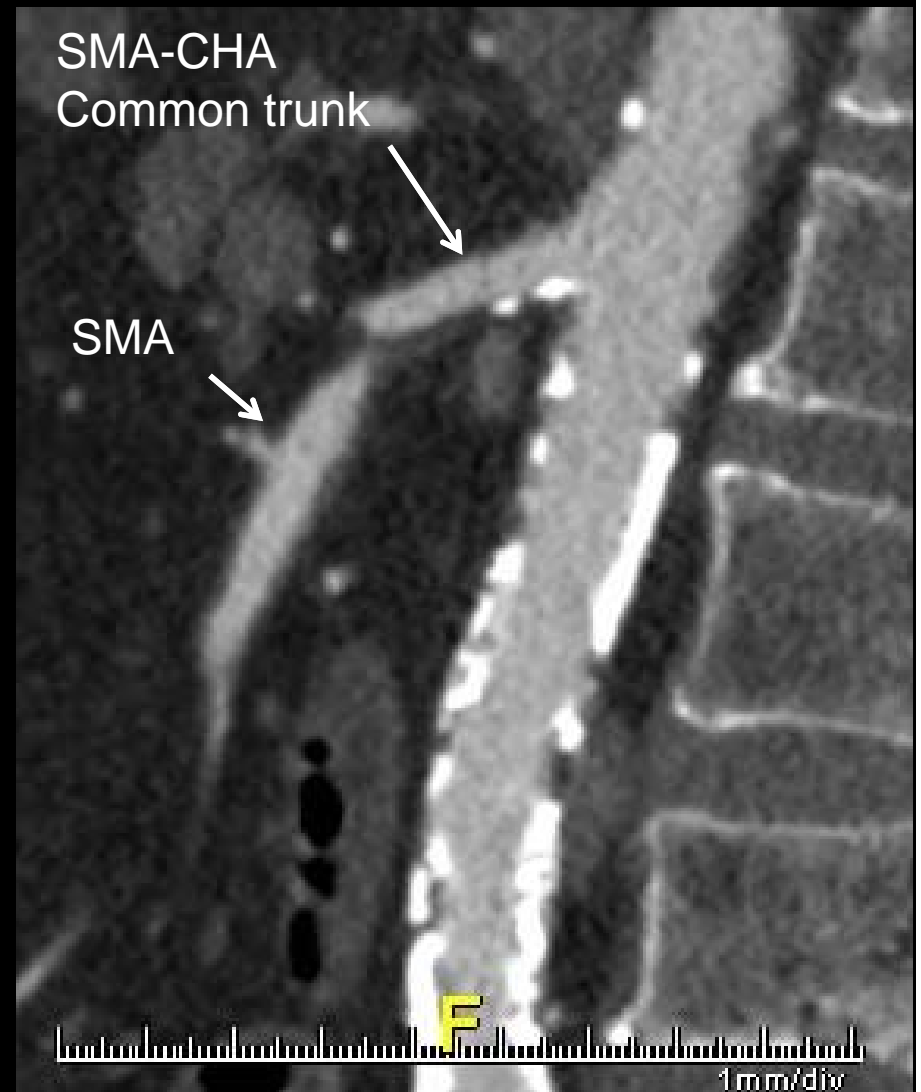
Left iliac muscle hematoma
without active bleeding



Ct scan results

Vascular findings:

- ⊗ High-grade stenosis/thrombosis of the SMA
- ⊗ Stenosed IMA
- ⊗ Splenic artery and left gastric artery originating independently from the aorta
- ⊗ Common trunk feeding the SMA and the common hepatic artery (CHA)



SMA-CHA
Common trunk

Occlusion

SMA



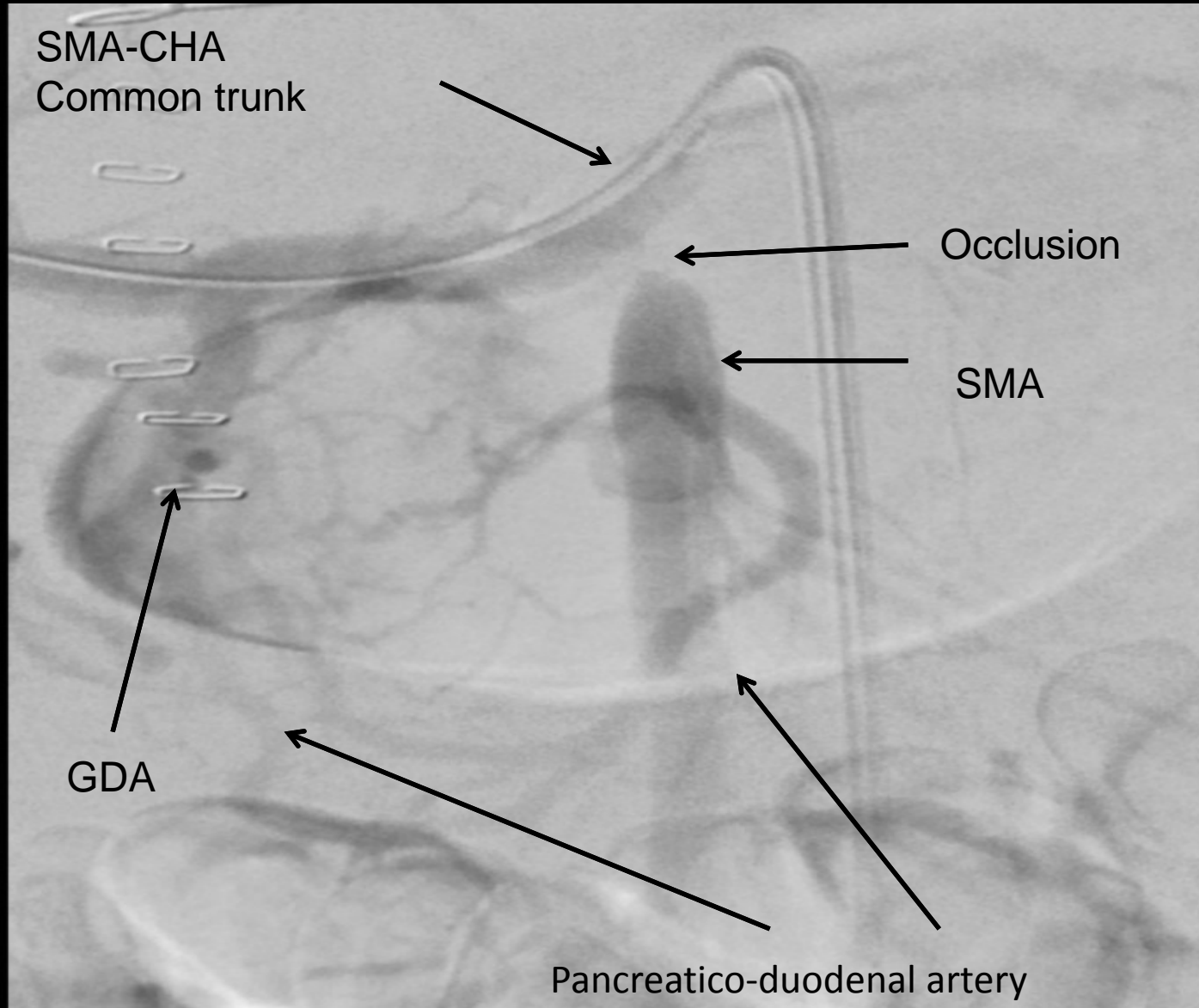
3D view of the vascular anatomy showing occlusion of the proximal SMA

Clinical diagnosis of mesenteric ischemia

- No sign of small bowel necrosis (only ileus)
- High-grade obstruction of the SMA and IMA
- History of abdominal claudication
- Persistent ileus
- Lactate not returning to normal values

Antegrade recanalization procedure

- Right common femoral artery retrograde access
- 8 Fr guiding catheter into proximal SMA
- SIM-1 catheter and Terumo 0.035-in guidewire
- 3000 units of heparin



Angiography of the SMA-CHA common trunk

Failure of the antegrade recanalization

- Could not cross occlusion via SMA
- Retrograde access was considered (via the GDA)
- 3 Fr microcatheter with 0.014-in guidewire (300 cm long)
- Easy recanalization!
- 10 mm snare used to capture the 0.014-in guidewire

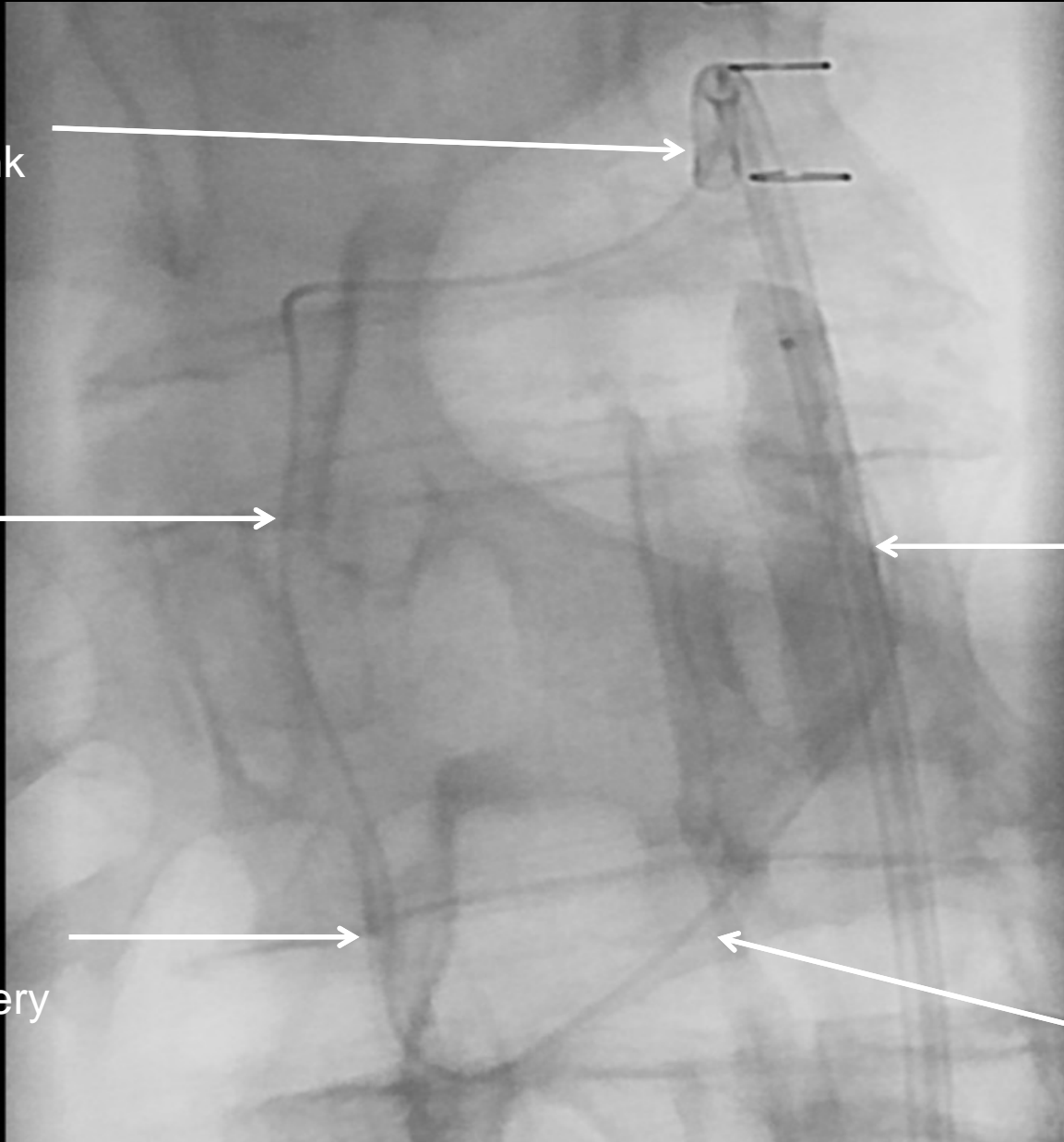
SMA-CHA
Common trunk

GDA

Pancreatico-
Duodenal artery

SMA

Pancreatico-
Duodenal
artery



3Fr microcatheter through the GDA and pancreatico-duodenal artery to reach the SMA

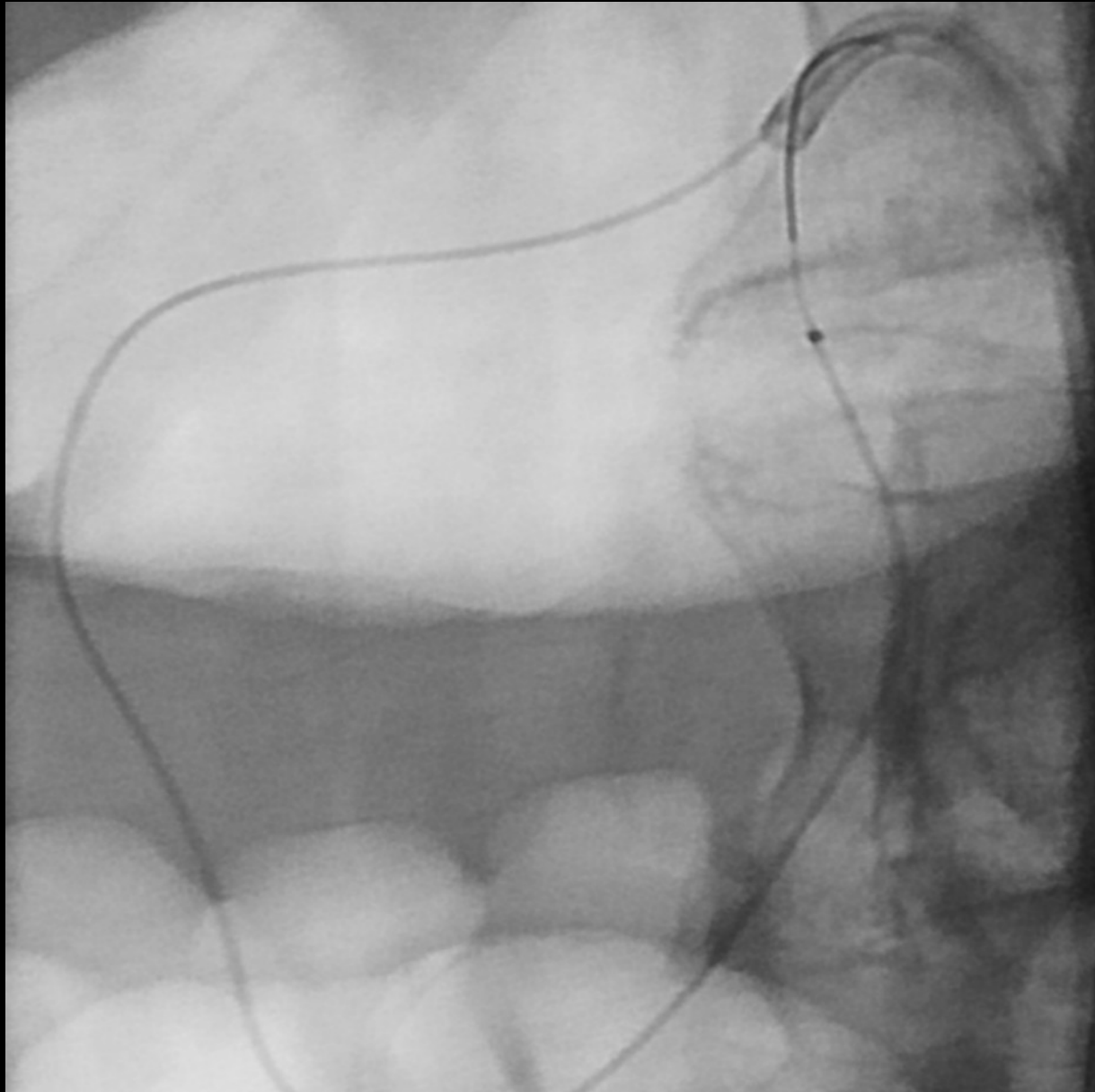


← SMA

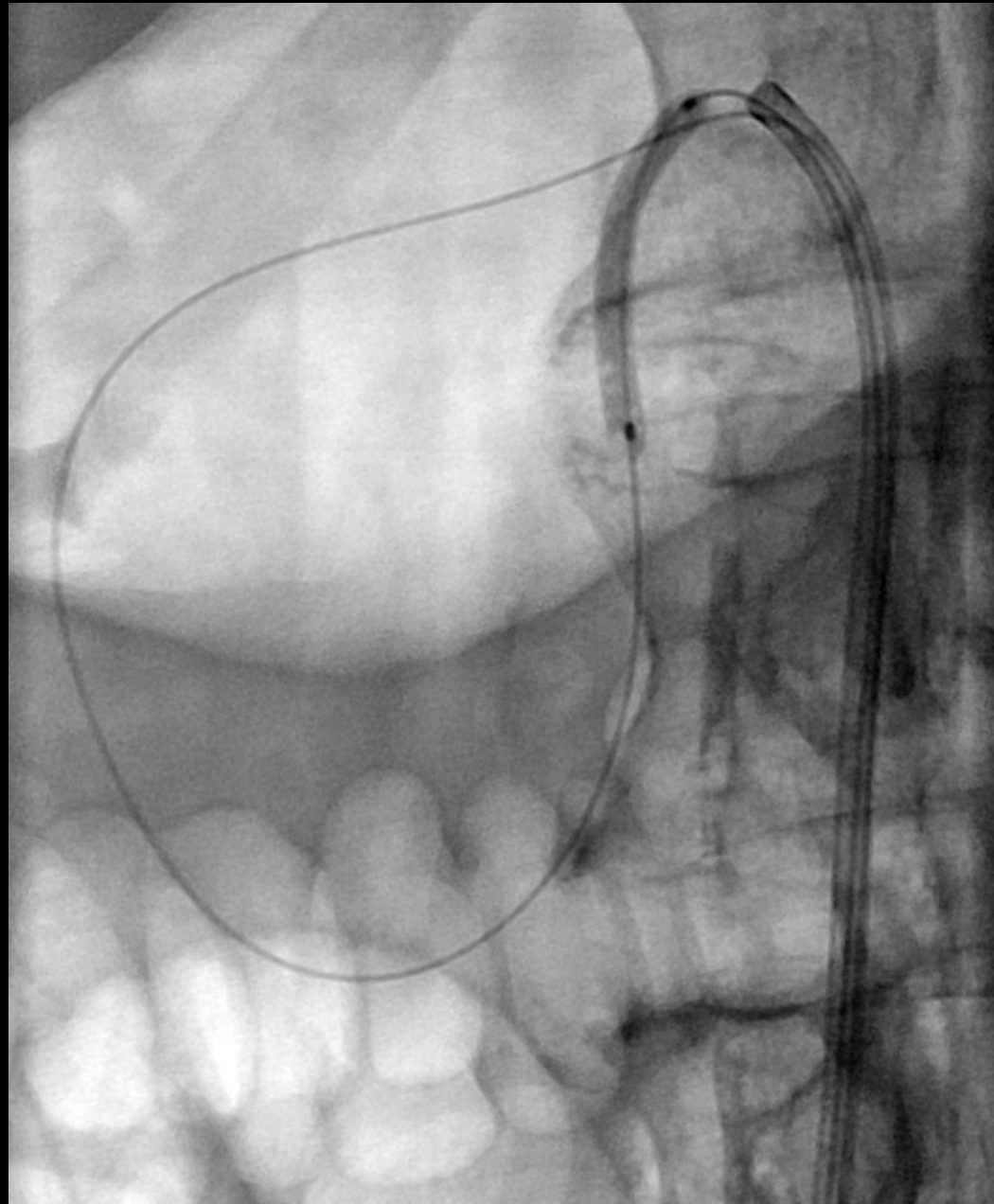
Imaging to confirm the re-entry far from the pancreaticoduodenal artery



Crossing the SMA occlusion from a retrograde approach



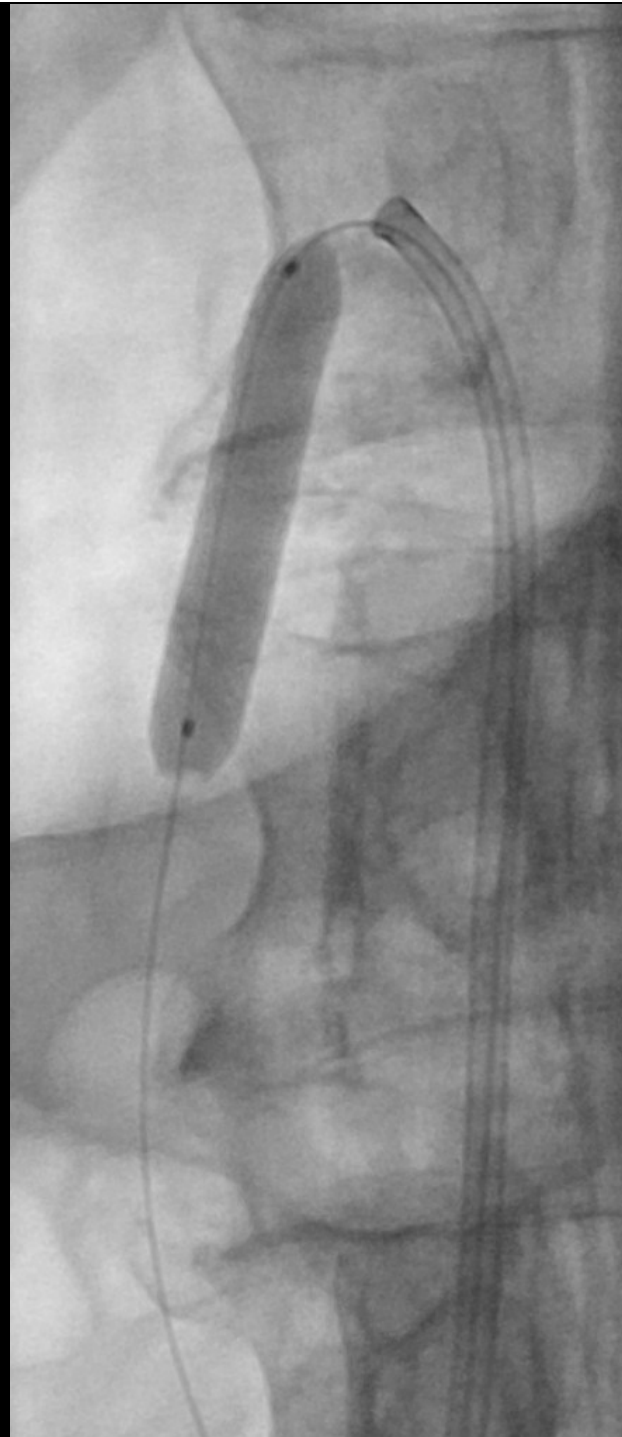
A 10 mm snare was used to capture the 0.014-in guidewire



First angioplasty with a 3 mm x 4 cm balloon



Second angioplasty with
a 7 mm x 4 cm balloon



Patient follow-up

- Patient was discharged 5 days after the procedure with:
 - Normalization of lab results
 - No further abdominal pain
 - Clinical follow-up at 1 month :
 - No recurrence of abdominal claudication

Management of chronic mesenteric ischemia

According to AHA guidelines (1) and a recent meta-analysis (2):

- First line for treatment is endovascular
- Options if endovascular approach fails:
 - Surgery
 - Combined approach
 - Retrograde recanalization

(1) ACC/AHA 2005 : Practice guidelines for the management of patient with PAD

(2) Pecoraro F. and al. Ann Vasc Surg. 2013 Jan;27(1):113-22

Retrograde recanalization of visceral arteries

- Retrograde recanalization of the SMA
 - Stephen JC (1)
 - Robken J (2)
- Retrograde recanalization of the celiac trunk
 - Joseph G (3)

(1) Stephen JC and al. *Catheter Cardiovascular Intervention* 2010 Aug: 1(76) (2) ; 222-228

(2) Robken J. and al. *Journal of endovascular Therapy* 2007 14: 745-747

(3) Joseph G. and al. *Cardiovascular and Interventional Radiology* 2013 Feb 36 259-263

Take home message

Retrograde recanalization of thrombosed SMA

- Is feasible
- Good alternative when antegrade access fails
- Should be considered whenever collaterals are present
- Be careful not to dilate the pancreatico-duodenal artery