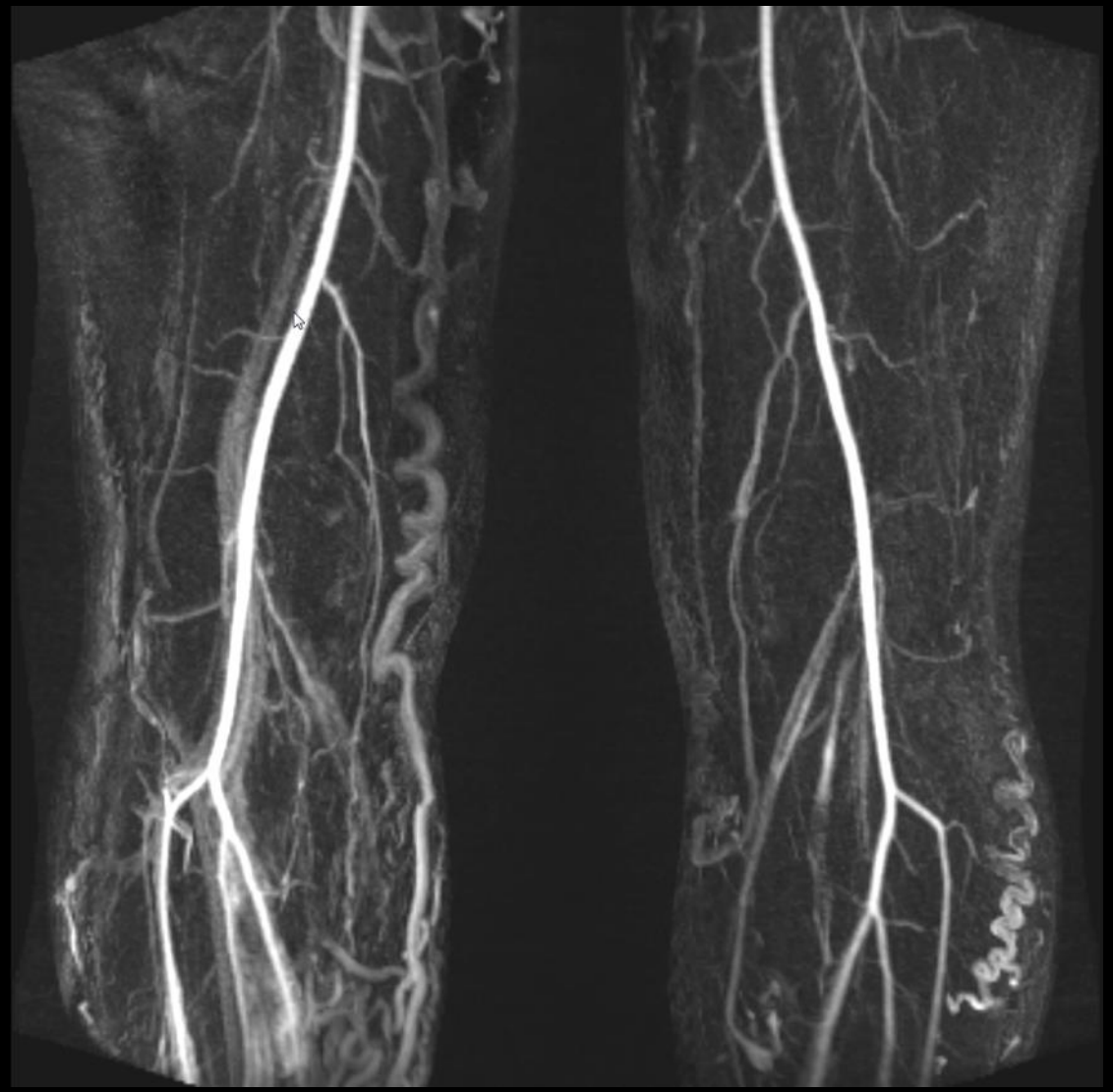
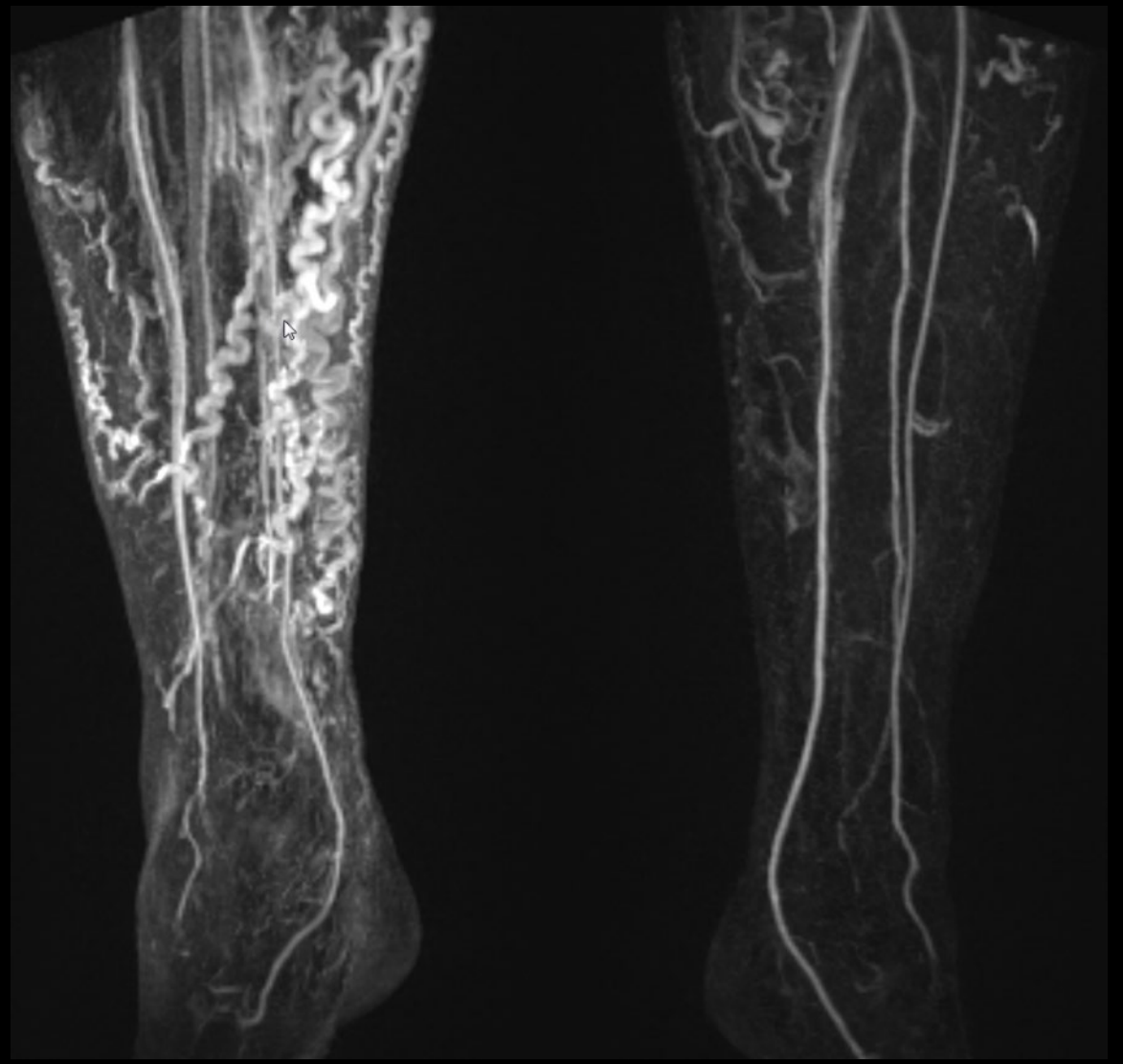
CAIR Case of the Month

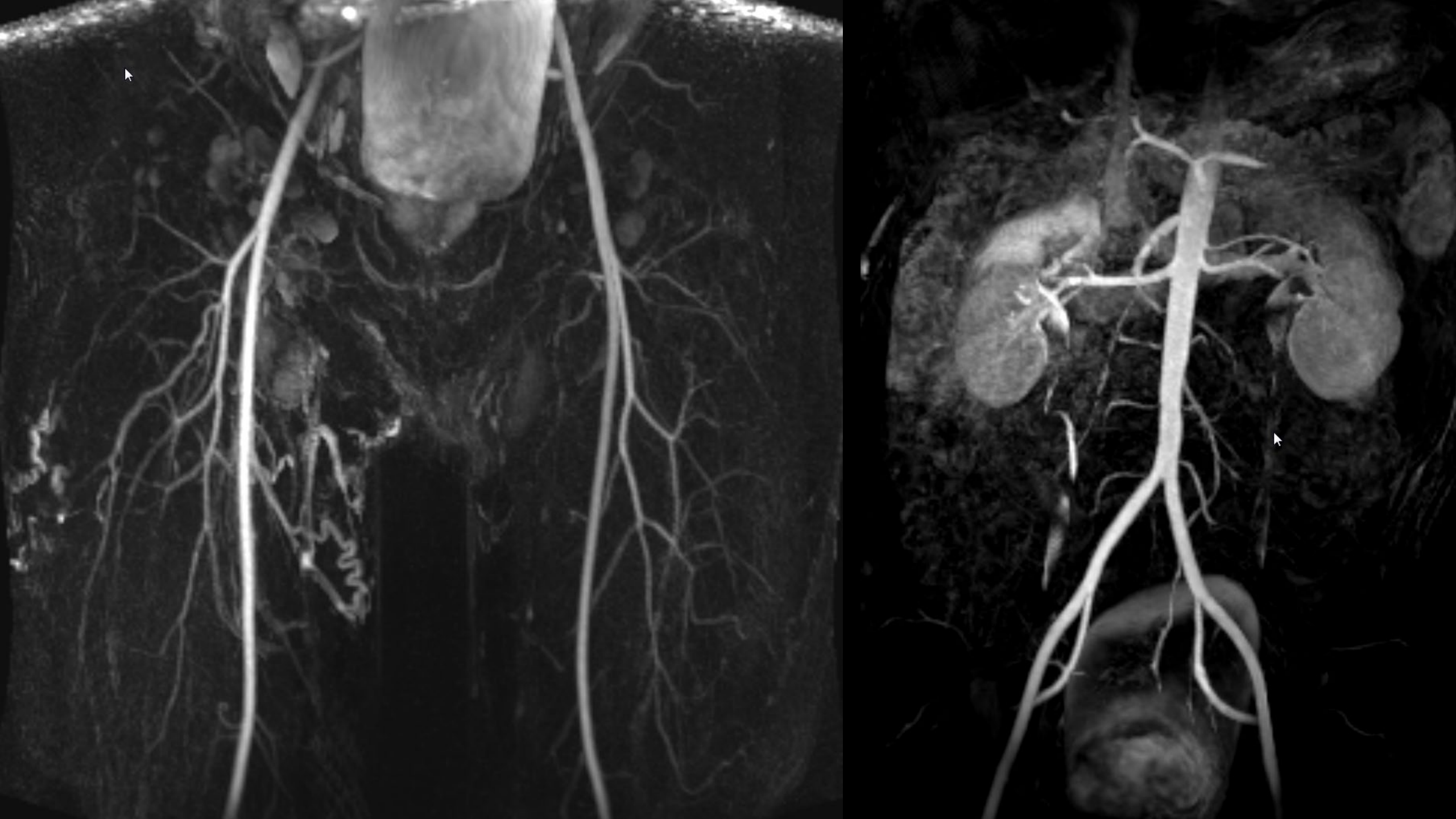
Case Courtesy of Dr. E. Tarulli
University of Toronto

CASE HISTORY

- 41 year old male with history of severe right leg venous insufficiency
- Severe venous eczema, swelling and edema
- Bilateral greater saphenous vein stripping in 2009
- Chronic anticoagulation for prior DVT (rivaroxaban)
- MR venogram ordered to assess iliac and distal right leg deep venous system







MRA/MRV February 2017

- Atretic IVC and right iliac with large lumbar collaterals
- Normal suprarenal IVC
- Extensive right leg varicose veins
- Varicosities extend into the right anterolateral abdominal wall
- Prominent retroperitoneal lymph nodes

CT
April 2017

CT April 2017

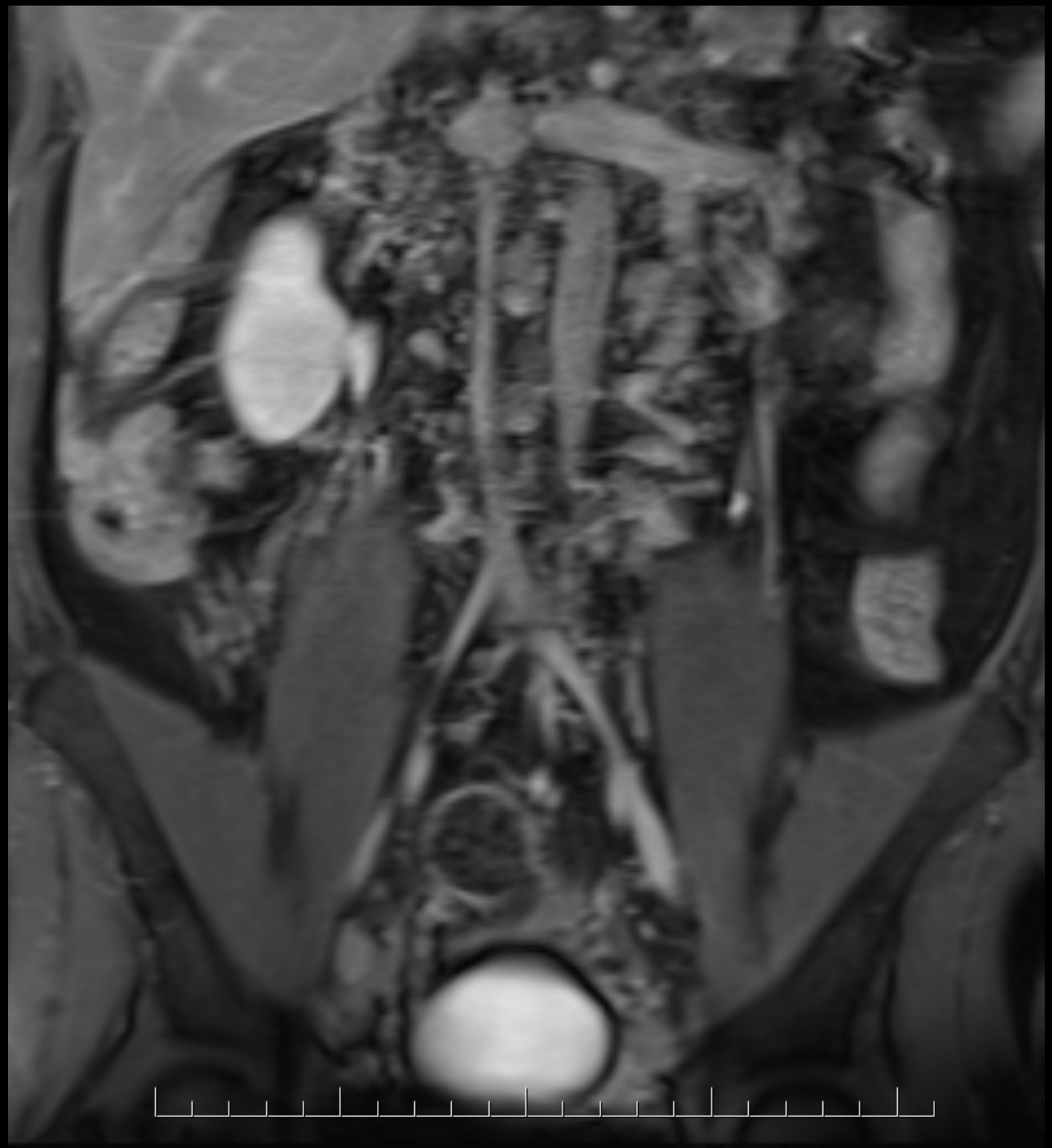
- Atretic IVC and right iliac vein
- Extensive collateralization
- Multiple prominent lymph nodes and retroperitoneal stranding

PLAN

- Multidisciplinary Rounds consensus:
  Attempt IVC angioplasty and stenting under GA

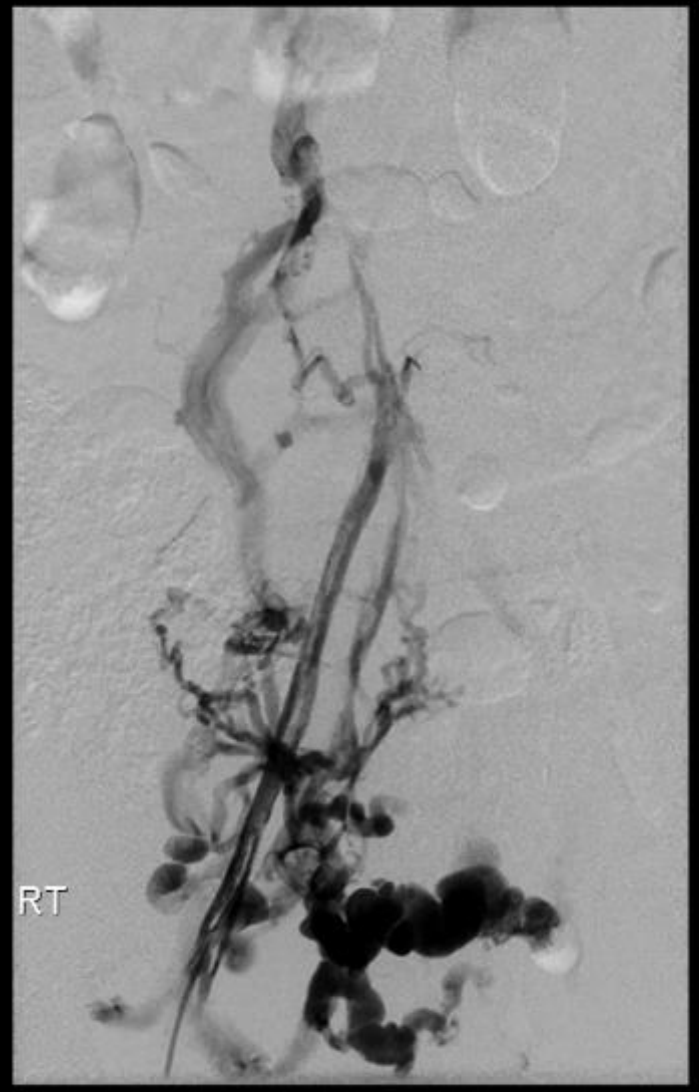
- Other options:
  Continued conservative management vs. surgery
  (deemed too high risk for bleeding from retroperitoneal collaterals)

Initial venography - R CIV access, 10 Fr sheath

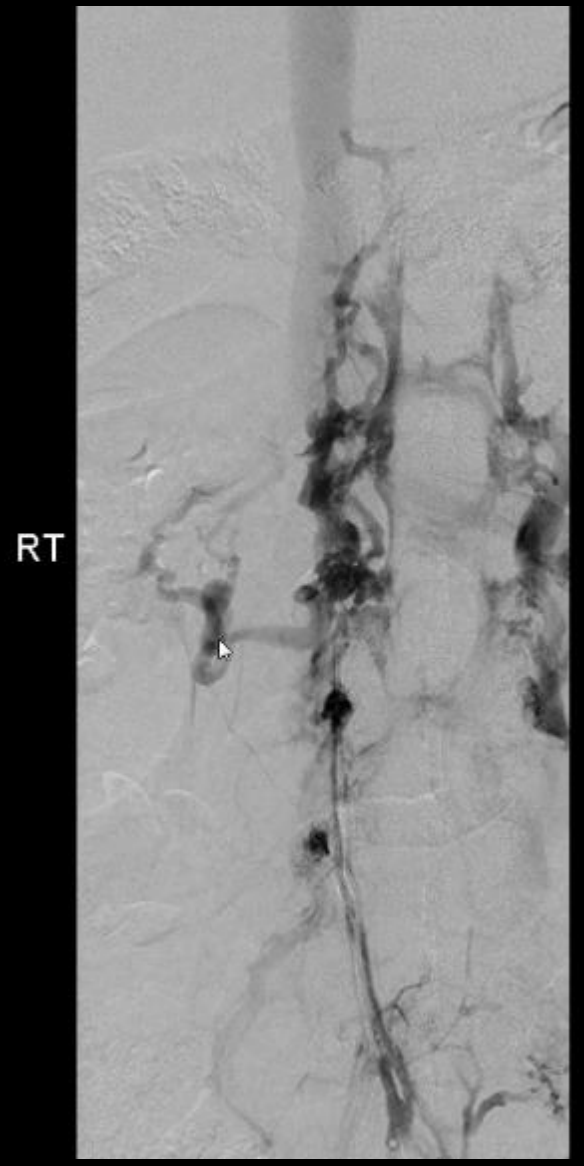



RT

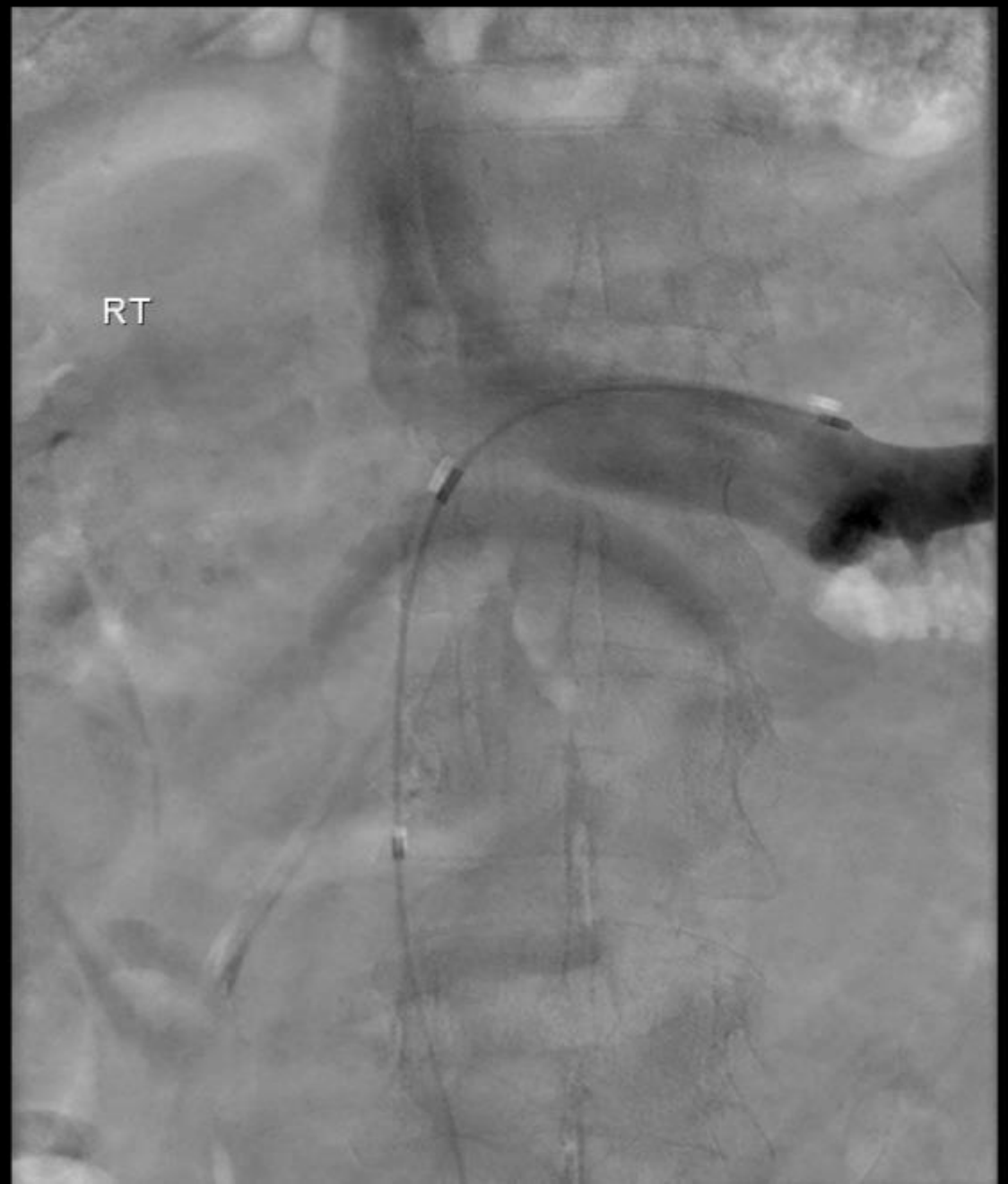
Identify and cannulate atretic IVC



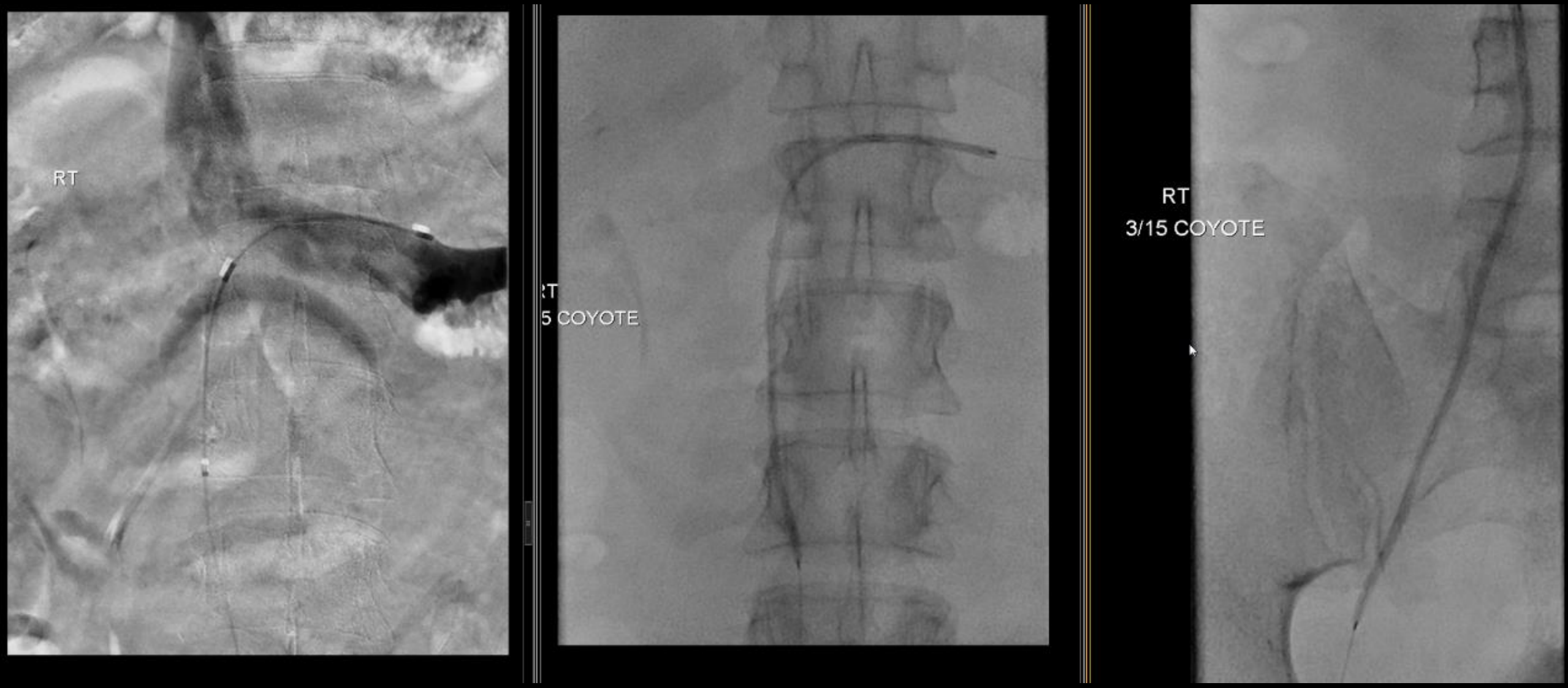
4 Fr glide catheter, multiple wires



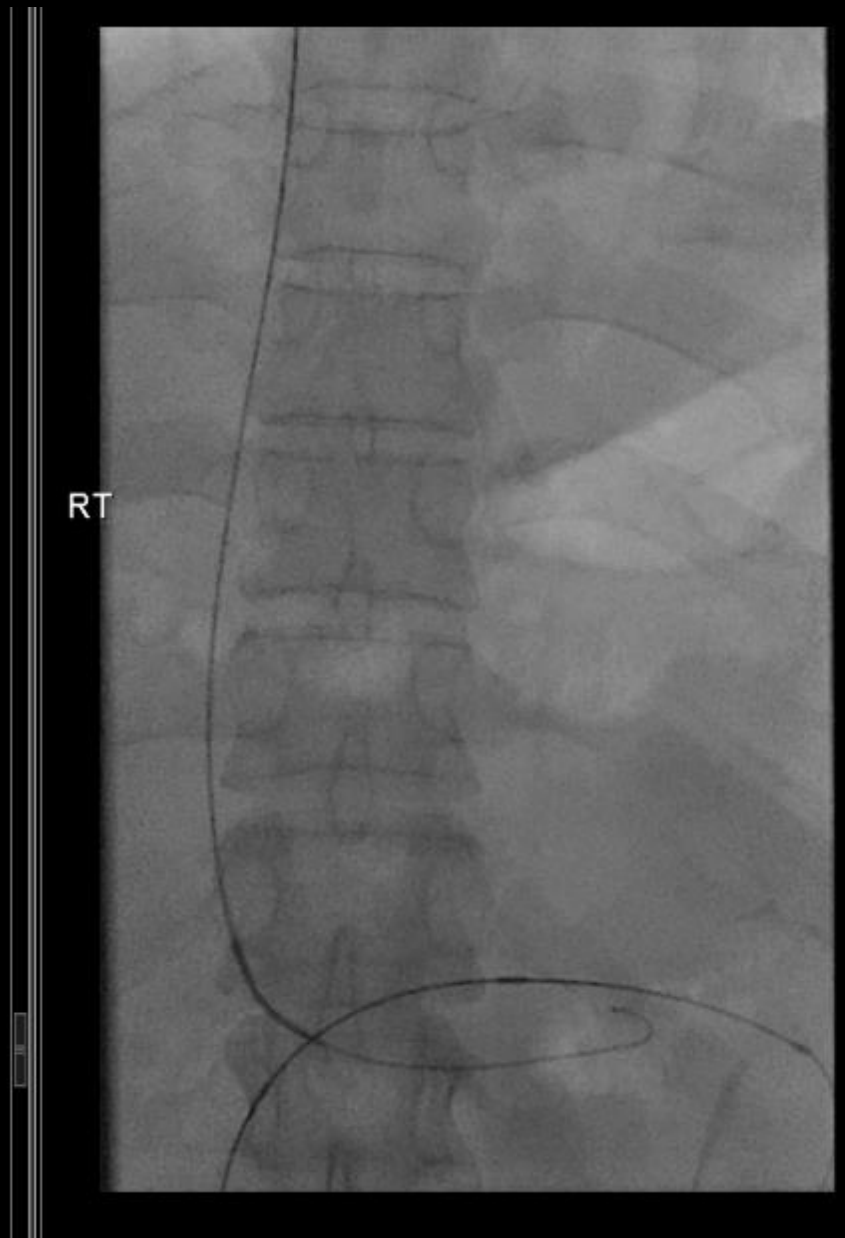
Crossing catheter and 0.014” wire - access into left renal vein



Dilation of cannalized tract: 3 mm



Access R IJV, snare wire in left renal vein from above



Slow dilation (2 mins: 4, 6, 8, 10 mm)

Slow dilation (2 mins: 4, 6, 8, 10 mm)

Slow dilation (2 mins: 4, 6, 8, 10 mm)

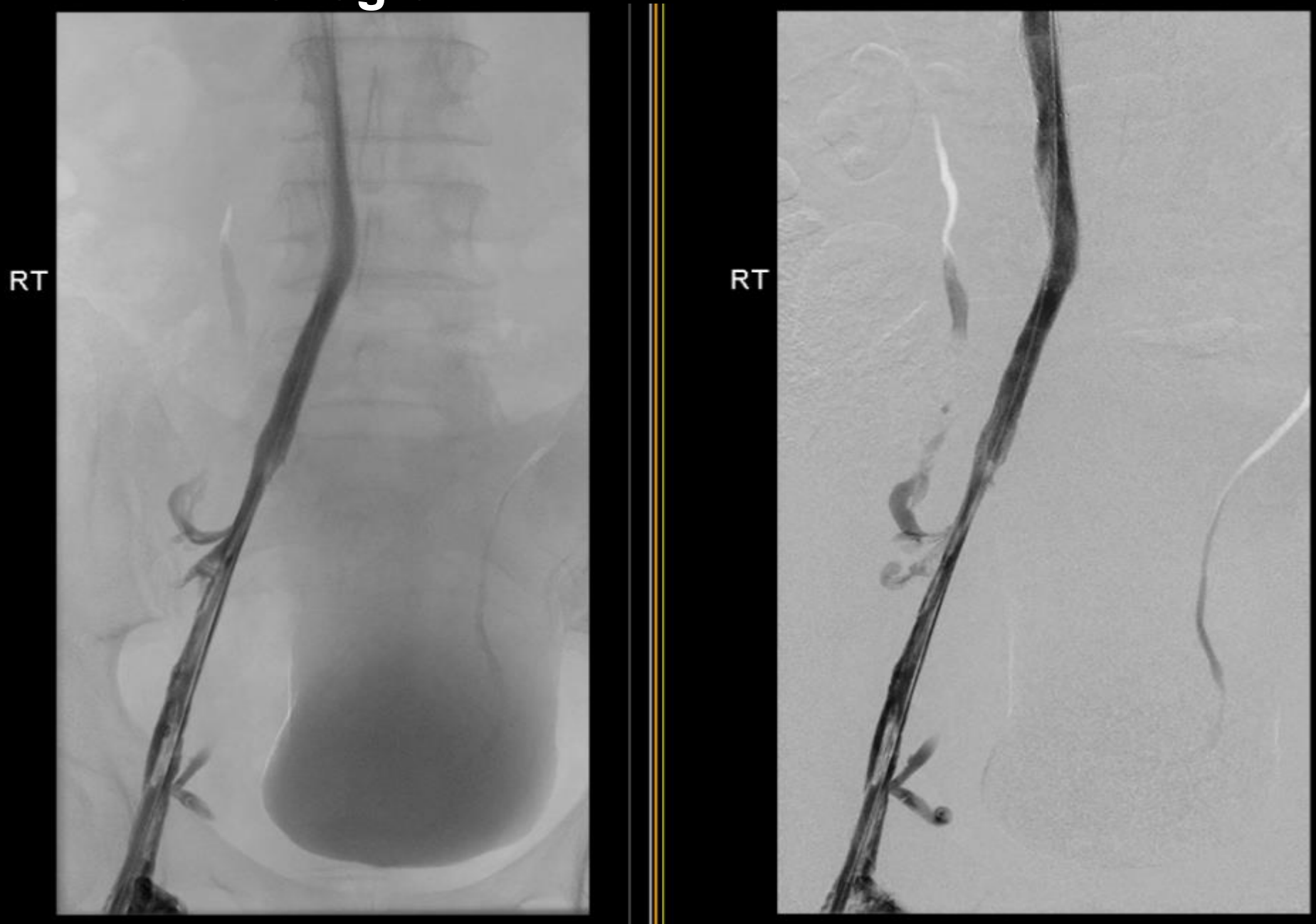
Post-dilation venogram pre-stent deployment

Stent deployment
(Cook Zilver Vena: 14 mm x 14 cm and 14 mm x 10 cm)

Post stent venogram

Dilation of right external iliac vein: 8 mm x 10 cm

Final venogram



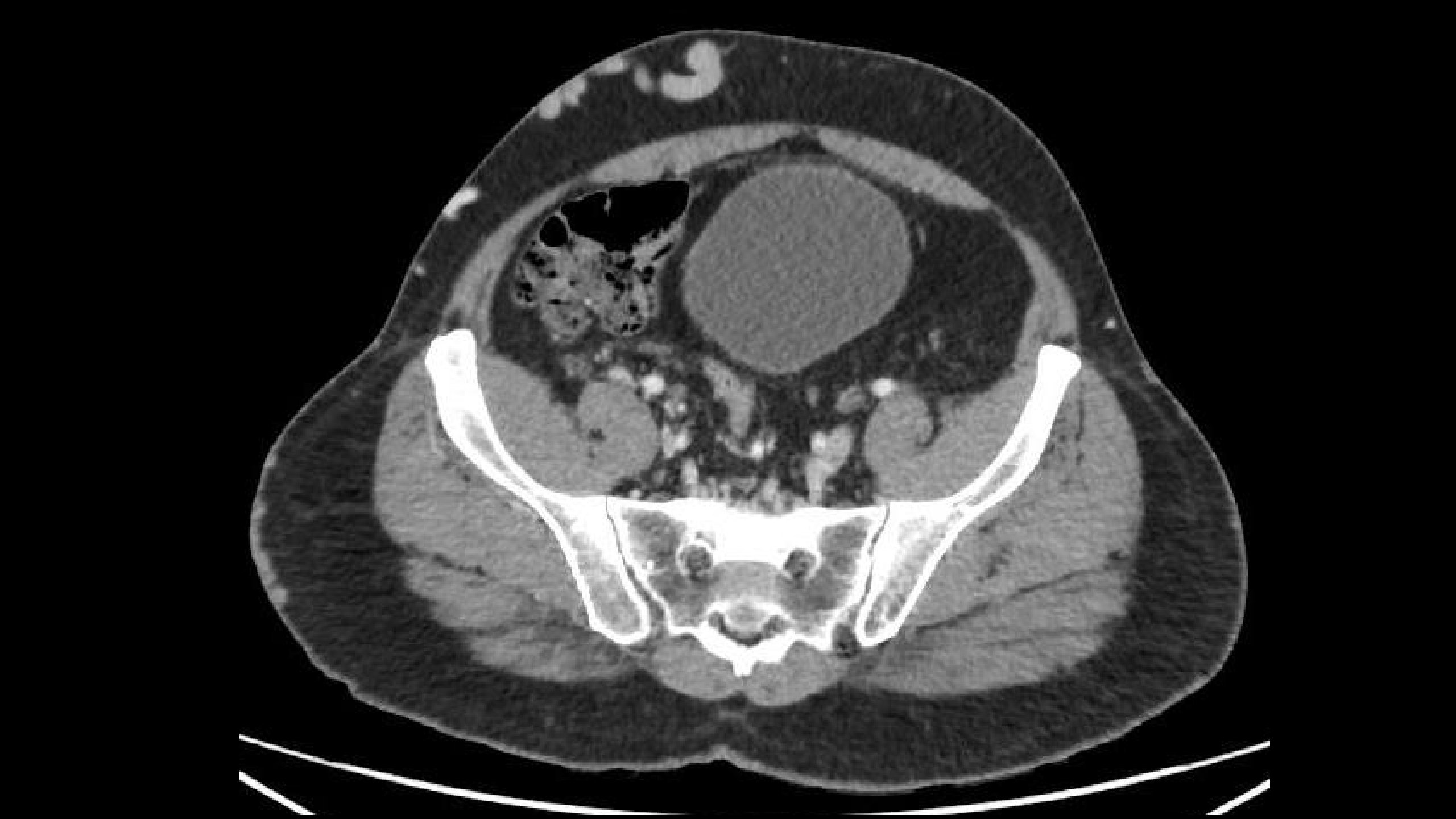
CASE SUMMARY

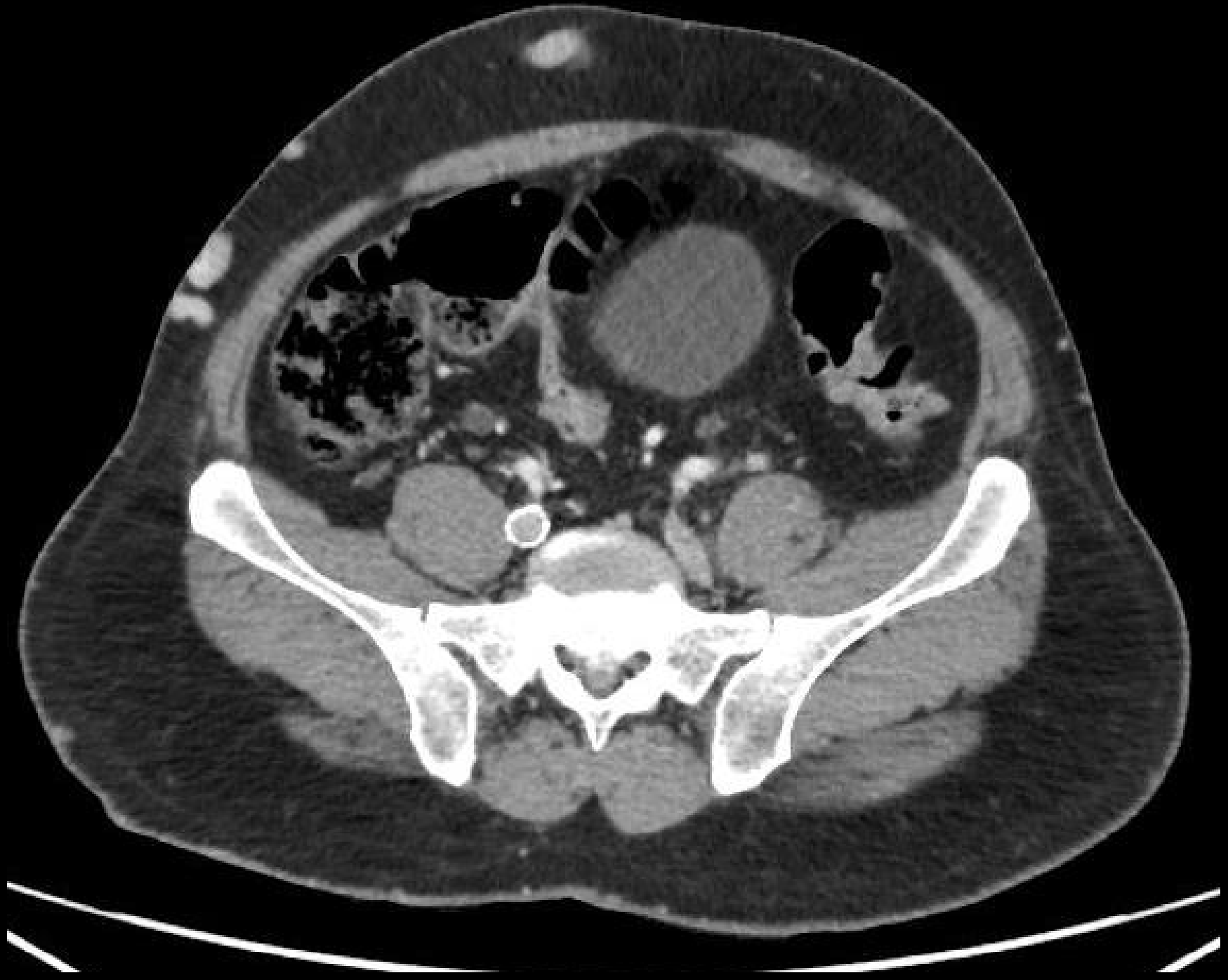
- Successful dilation and stenting with no complications
- Discharged the next day and restarted on Rivaroxaban 20 mg daily

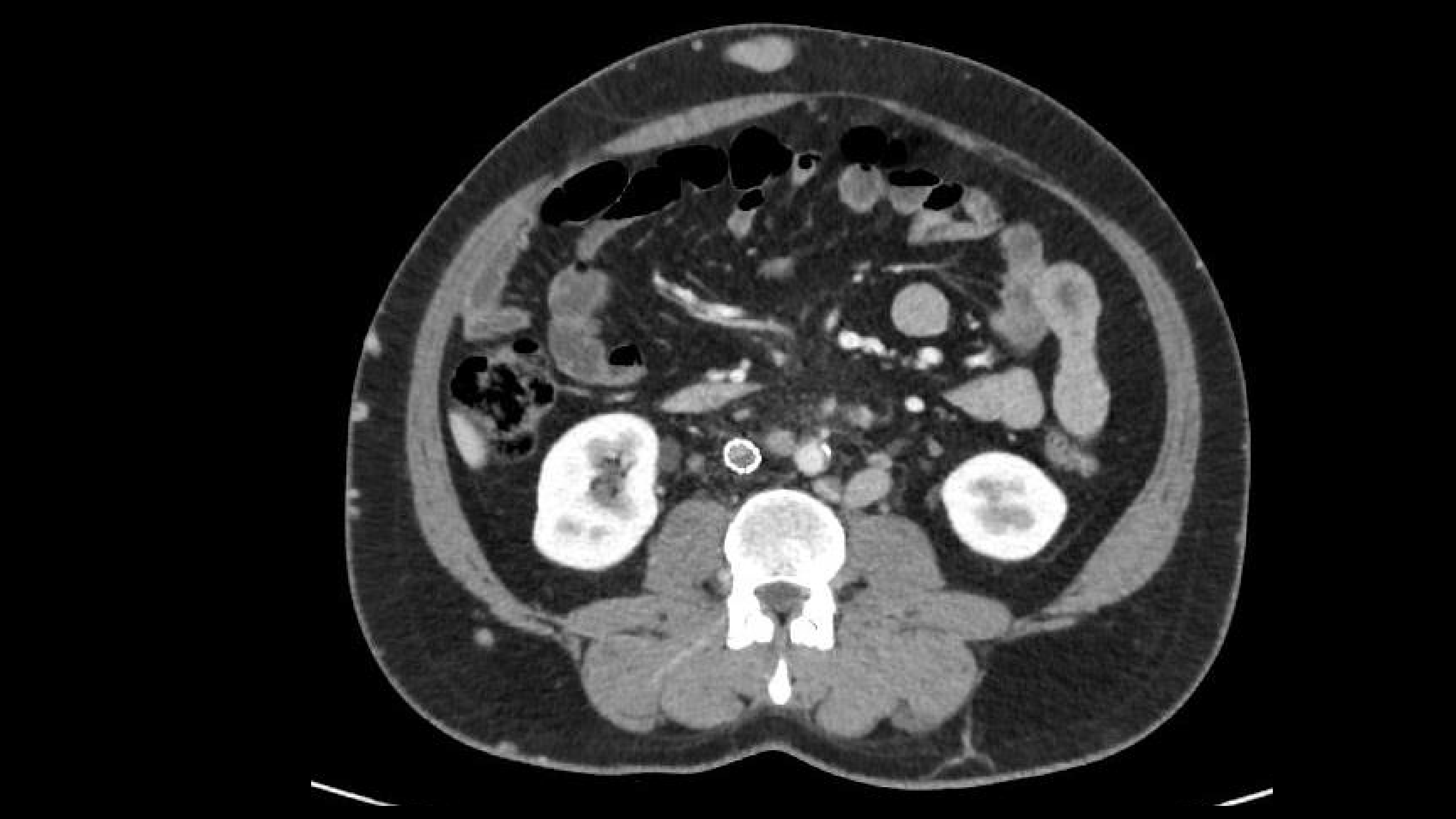
- 1 month follow-up: some symptom improvement

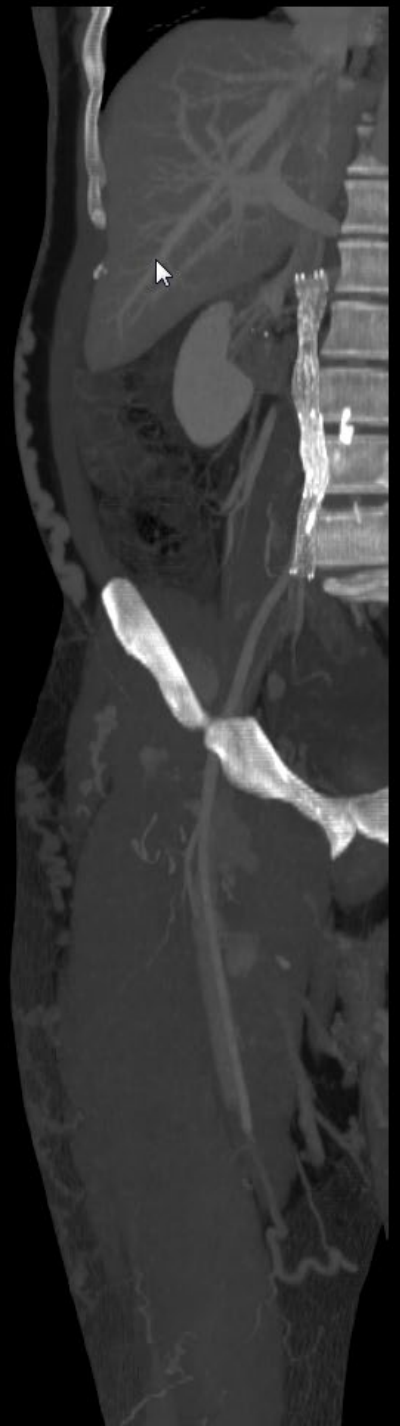
7 months later…

- Presented to ER April 2018
- Increasing right leg pain, 3 weeks, worse when standing
- Ultrasound showed right external iliac vein thrombus
- CT performed









April 2018

- Suprahepatic IVC patent
- Moderate thrombus inside IVC stent ending in common iliac vein
- Patent common femoral and deep femoral vein
- Managed medically with compression stockings
- Discussed at multidisciplinary rounds “given chronicity of the thrombus, it was unlikely he would benefit from thrombolysis”
- Discharged home on anticoagulation, CCAC referral for q2days coban compression wrapping of his legs and a follow-up
- Plan for potential extension of stent to right external iliac vein

Questions/Discussion

- Very rare condition, consider when a young patient has recurrent DVT
- Case reports have demonstrated recanalization of atretic or congenitally absent infrarenal IVC (back end of guidewire, re-entry devices, etc.)
- Surgery remains an option but typically high risk

References:

Fogg et al. **Congenital absence of inferior vena cava: an overlooked cause of deep vein thrombosis.** Br J Hosp Med (Lond). 2016 Jun;77(6):369. doi: 10.12968/hmed.2016.77.6.369.

Miller et al. **Sharp recanalization using a subintimal reentry device, angioplasty, and stent placement for severely symptomatic iliofemoral deep venous thrombosis secondary to congenital aplasia of the inferior vena cava.** J Vasc Interv Radiol. 2010 Nov;21(11):1765-9. doi: 10.1016/j.jvir.2010.07.006. Epub 2010 Sep 29.

Scali et al. **Endovascular management of congenital atresia of the infrarenal IVC.** Vasc Endovascular Surg. 2010 Apr;44(3):234-6. doi: 10.1177/1538574410361790.