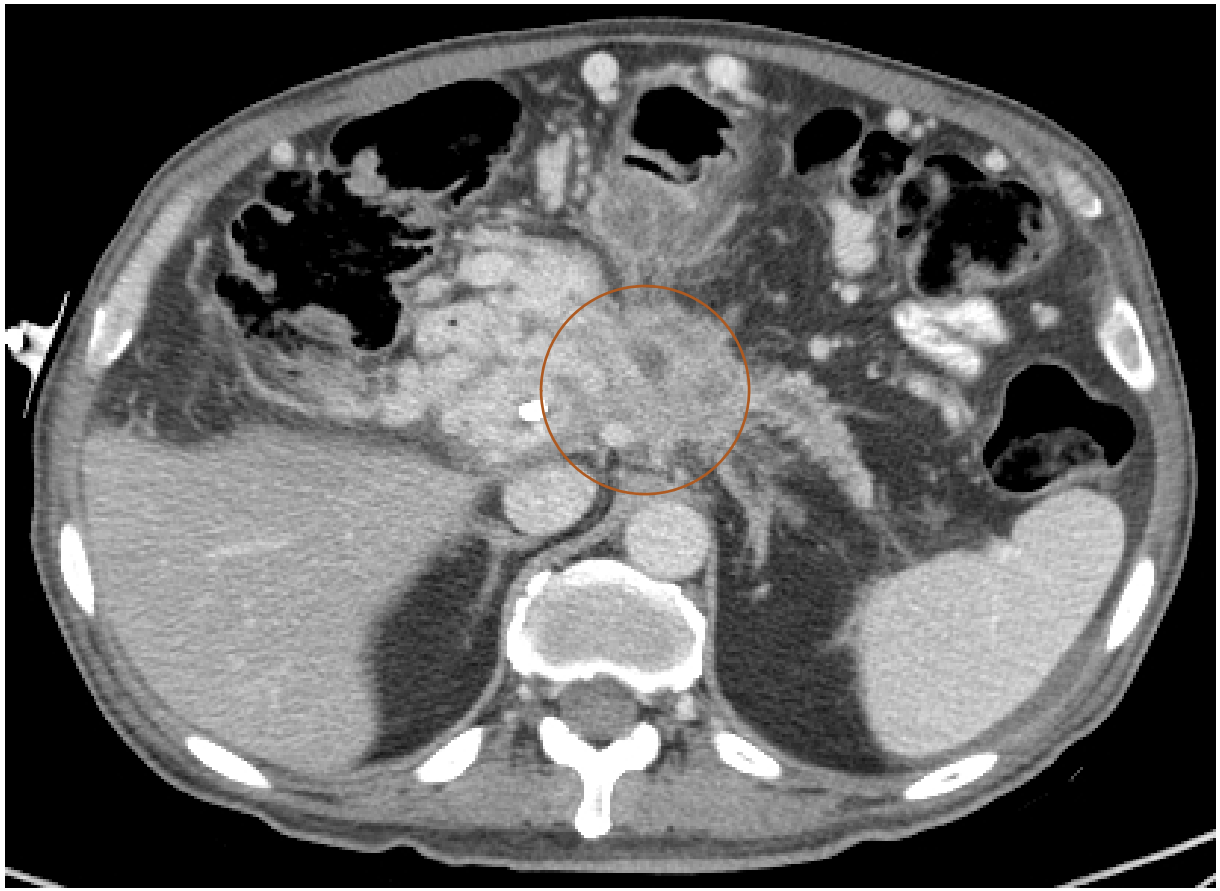
CIRA Case of the Week
April 2016

Case courtesy of Drs. Matthew Rochon, Deljit Dhanoa and Stuart Kribs

Western University

Case History

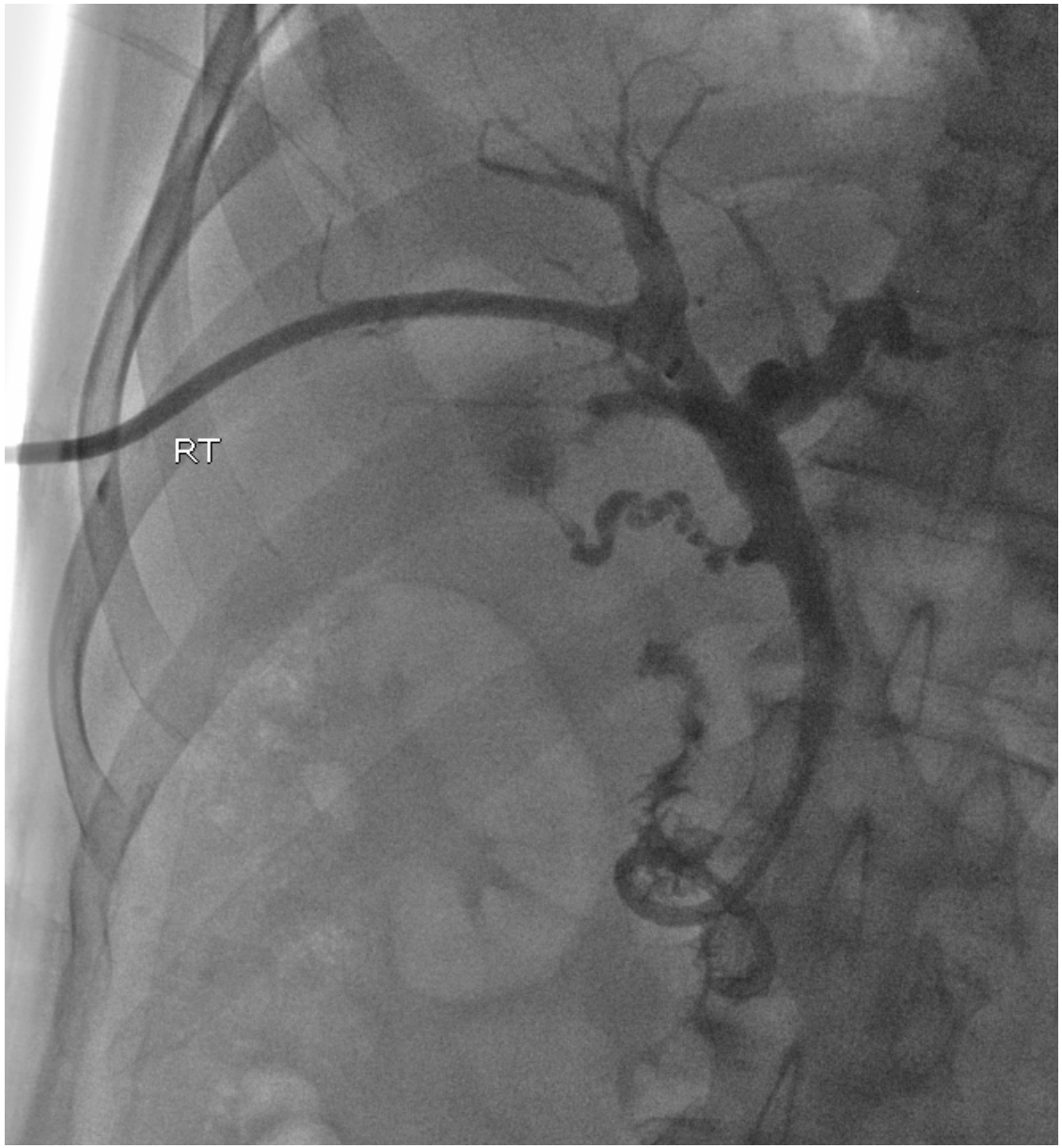
- 58M with locally advanced pancreatic adenocarcinoma and obstructive jaundice post 3 months chemotherapy.
  - Some treatment response, but remains unresectable.
- A 10 Fr internal-external biliary drain was placed to allow continued chemotherapy.
  - Biliary drain was upsized to 12 Fr for peri-tube leakage two weeks later.



Pancreatic head/body adenocarcinoma encases/invades the splenic artery, splenic vein, SMV (red circle). Numerous collaterals are also seen.

Tube Change 1

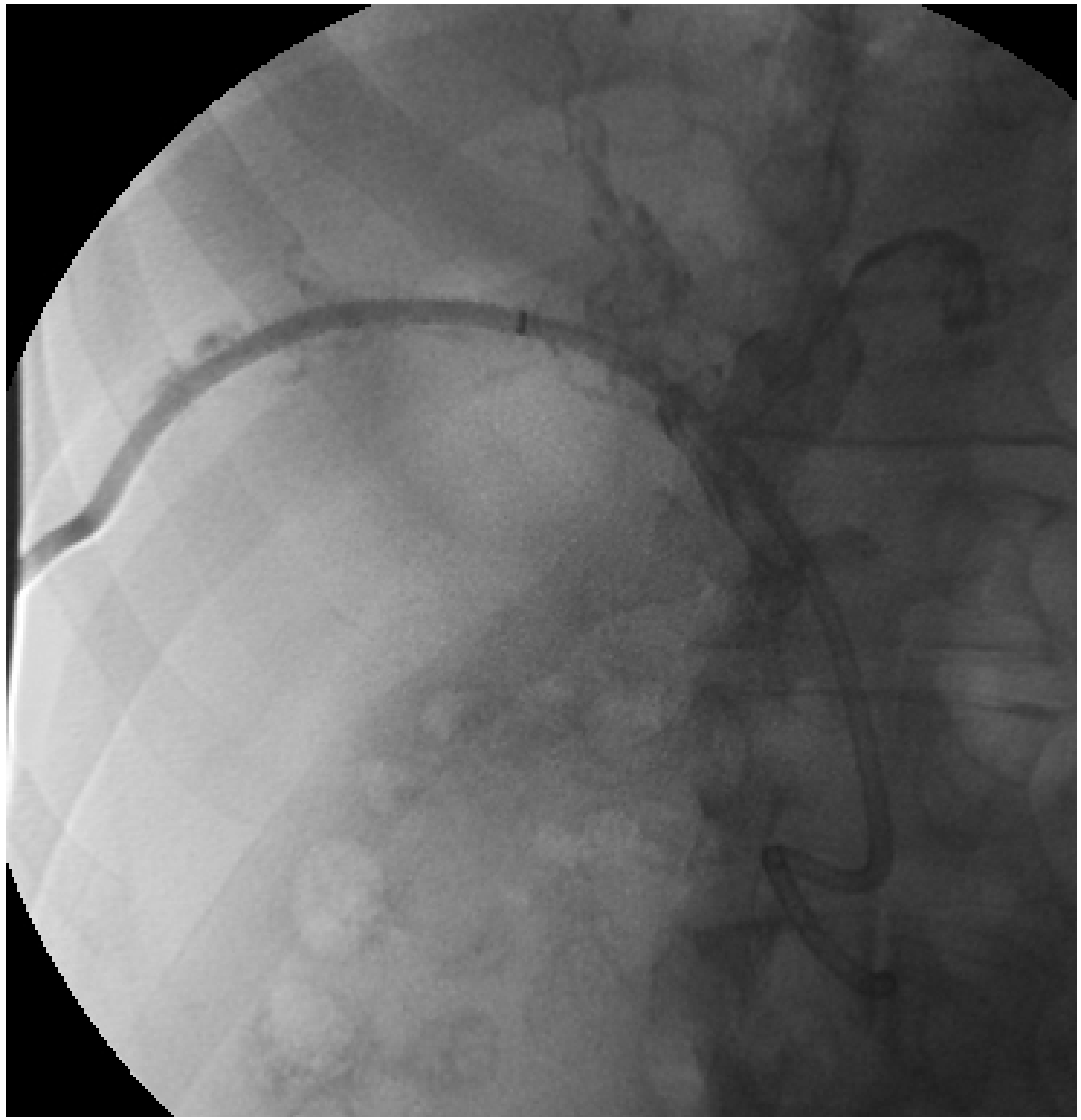
- Uneventful tube change at two months.



Tube Change 2

- At 3 months, dark blood was seen in drainage bag and oozing from catheter site.
- BP 110/70, HR 105
- Hgb 66 (96 earlier same day)
  - INR 1.4, Plt 128

- Filling defects are seen in dilated bile ducts.



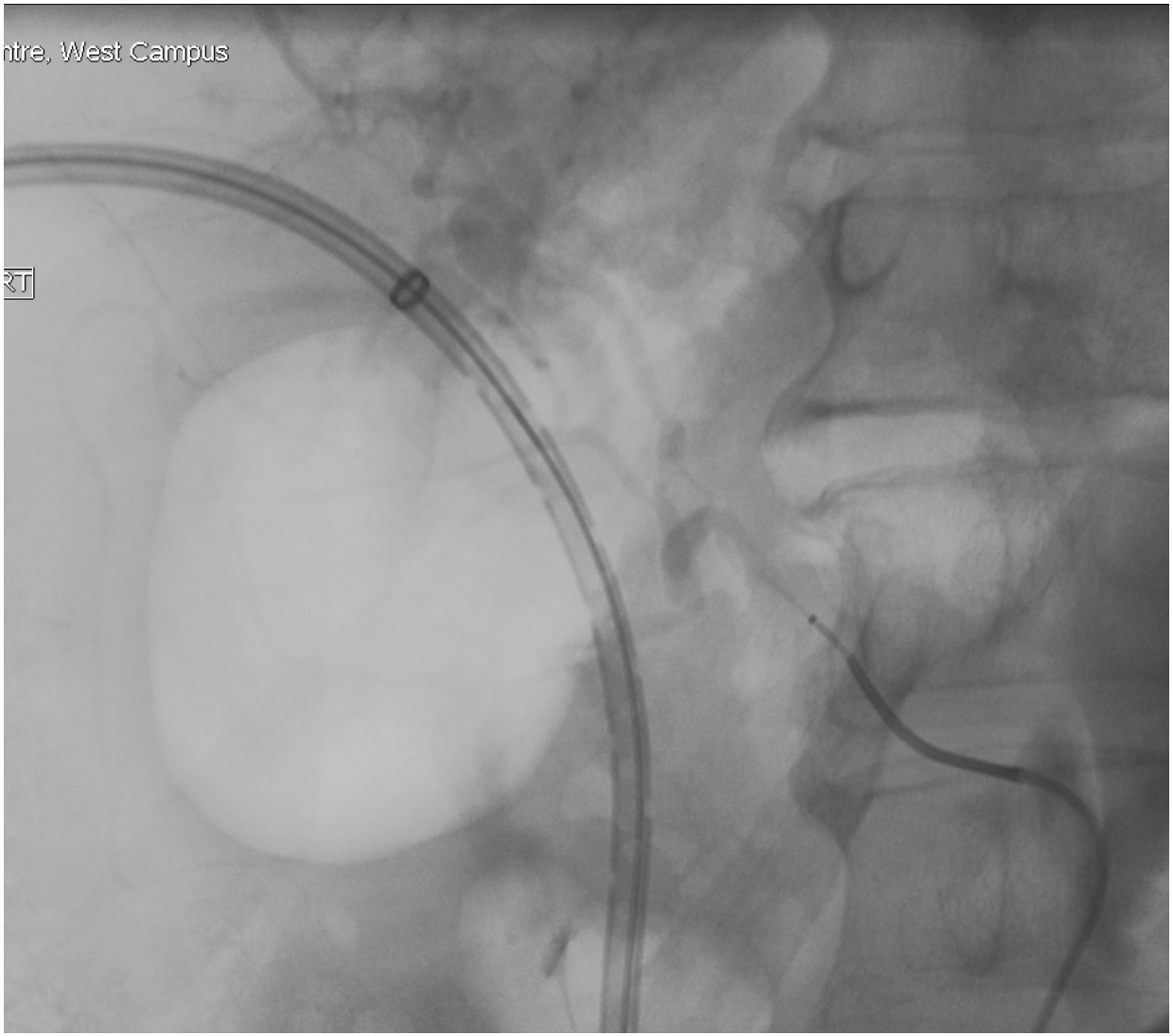
Tube Change 2

- Biliary drain was promptly upsized to 14 Fr.
  - Try to tamponade any tract bleeding.
- ICU was consulted to assess the patient.
  - Becoming more hypotensive and tachycardic.
- ICU, General Surgery and IR consensus:
  - Proceed to hepatic and mesenteric angiography.

Angiography

- Ultrasound-guided right common femoral artery access.
- Celiac and hepatic angiograms.
  - Coaxial microcatheter technique.

Angiography



No obvious abnormality was noted on common hepatic and right hepatic (above) injections.

Repeat Angiography

- Biliary drainage catheter was removed over a wire.
- Repeat injection performed.

Findings

- Pseudoaneurysm from proximal right hepatic artery.
  - Adjacent to the tumour and pathway of biliary drainage catheter.
- Only visible when catheter removed over a wire.

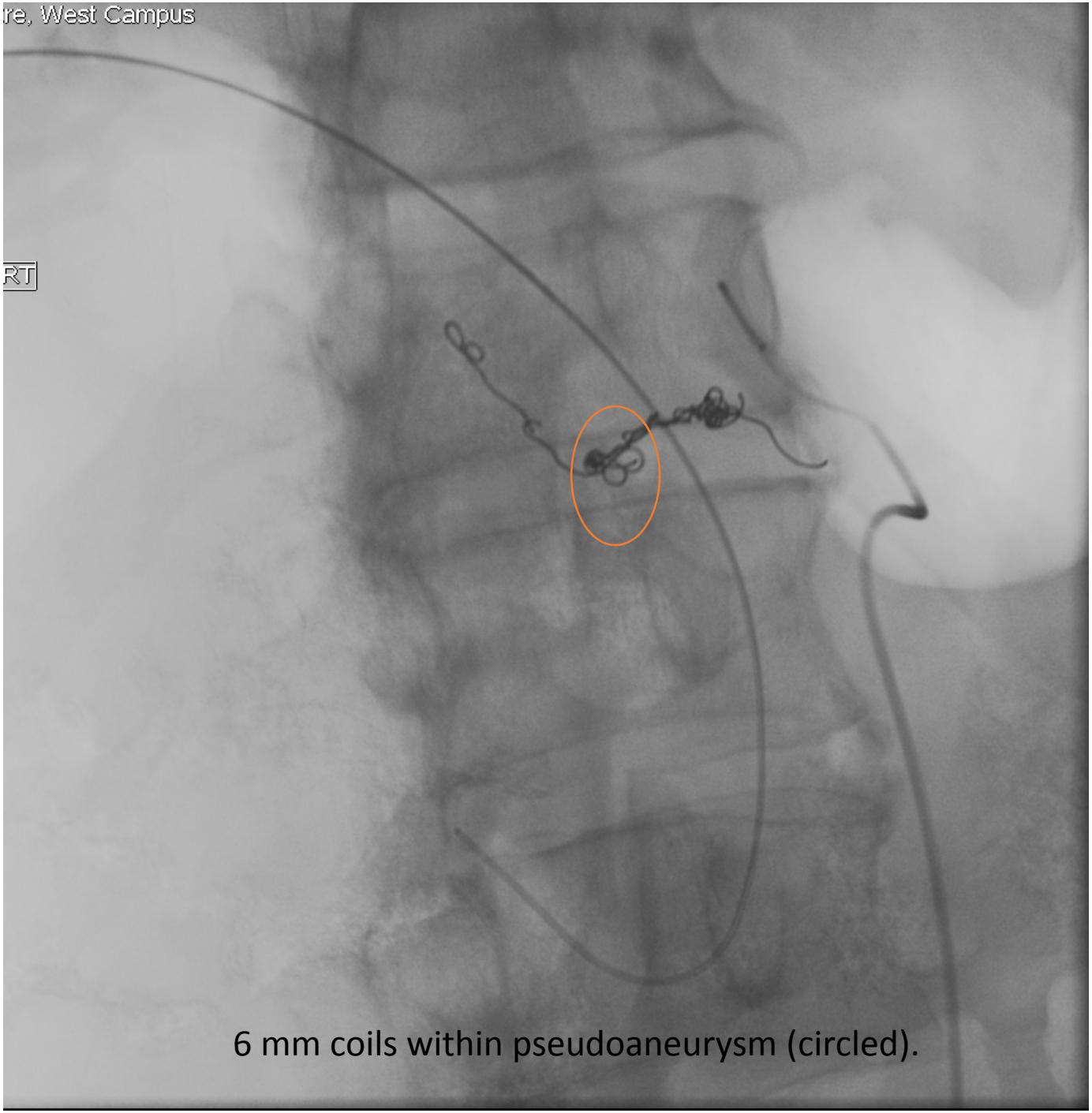
Clinical Status

- Suddenly the patient became more hypotensive, agitated and uncooperative.
- Intubation was carried out on the angiographic table by ICU.
- The procedure continued.

Coiling

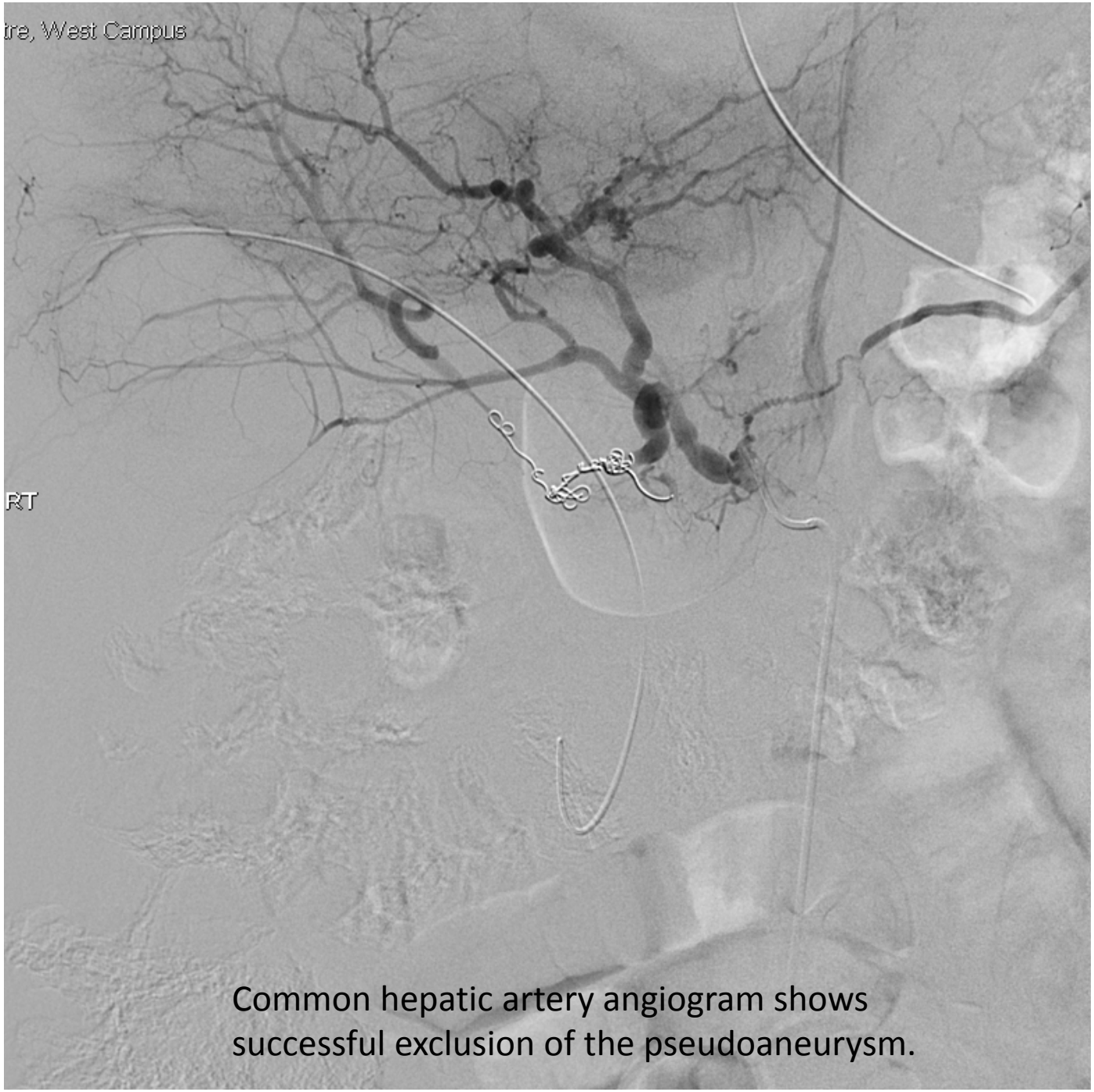
- Multiple 6 mm coils were deployed through a microcatheter.
- A “front door – back door” approach was used.
- Coils were also placed into the pseudoaneurysm.

Coils



6 mm coils within pseudoaneurysm (circled).

Coils



Common hepatic artery angiogram shows successful exclusion of the pseudoaneurysm.

Coils

Collaterals from the left hepatic artery are seen to reconstitute the distal right hepatic artery.

Post-embolization

- Successful complete occlusion of mid right hepatic artery and pseudoaneurysm.
- Collaterals from left hepatic artery are seen to reconstitute the distal right hepatic artery.
- A vascular closure device was utilized.

Take Home Points

- Hepatic artery pseudoaneurysm (HAP) was only seen following percutaneous biliary drain removal over a guidewire.
- Prior study shows this is the case in 5/13 (42%) of patients with symptomatic hemobilia.[1]
- “Tube tamponade” may cause initial false-negative angiogram.[1]

References

1. Hemobilia after Percutaneous Transhepatic Biliary Drainage: Treatment with Transcatheter Embolotherapy. Savader, Scott J. et al. J Vasc Interv Radiol 1992; 3:345–352.
2. Hepatic Arterial Injuries in 3110 Patients Following Percutaneous Transhepatic Biliary Drainage. Sang, Hyun C. et al. Radiology 2011; 261:3, 969-975.
3. Treatment of hemobilia with selective hepatic artery embolization. Hidalgo F. et al. J Vasc Interv Radiol 1995; 6:793–798.