CIRA Case of the Week February 2017

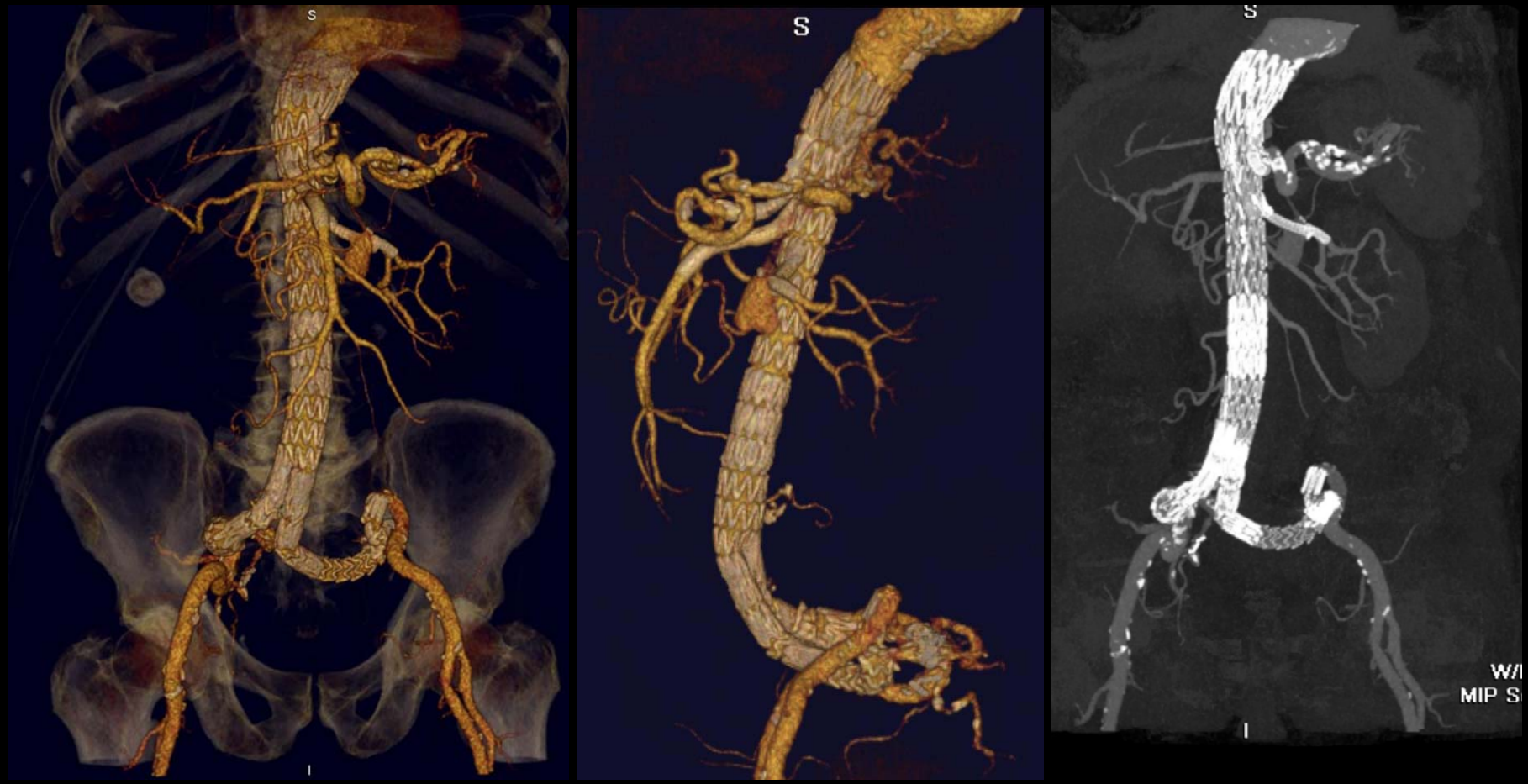
Case courtesy of Drs. Emidio Tarulli, Ondina Bernstein, Kenneth Sniderman, Kongteng Tan and Fahad Aljaser

UHN Toronto

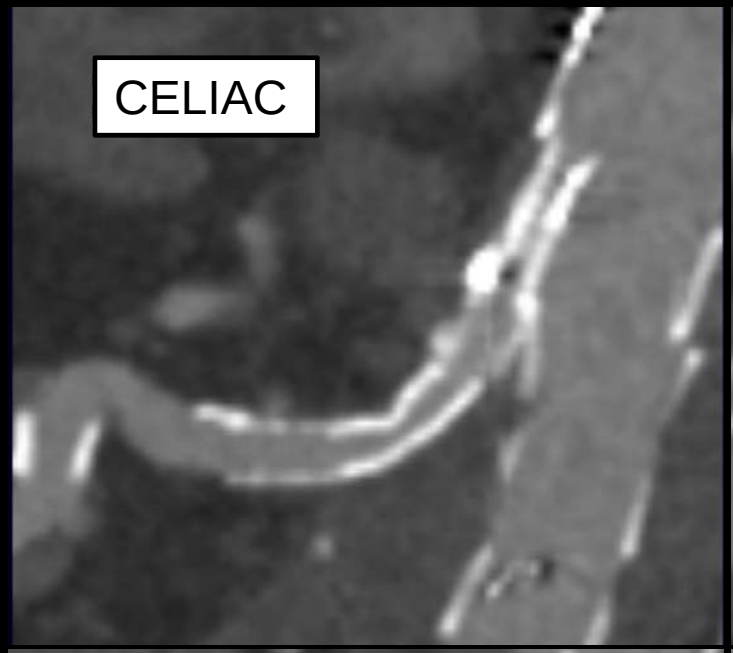
Case History

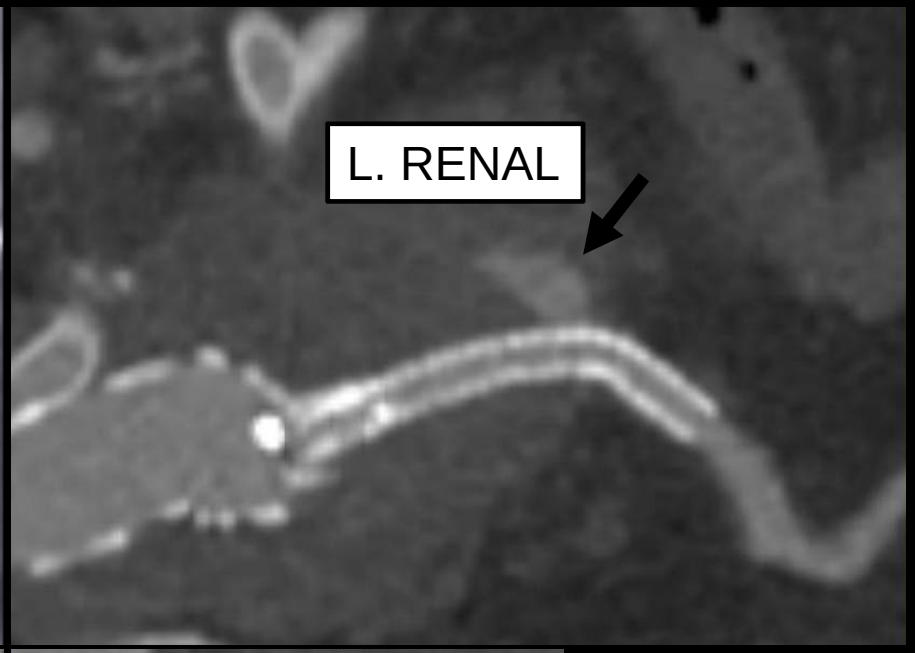
- 84 year old male with left abdominal pain and anuria 10 days following fenestrated EVAR
- Remote right nephrectomy for urothelial malignancy
- Labwork:
  - Creatinine 750 umol/L (114 umol/L at discharge 3 days earlier)
- CT/CTA abdomen/pelvis was repeated
- Post-EVAR CTA was performed 6 days prior

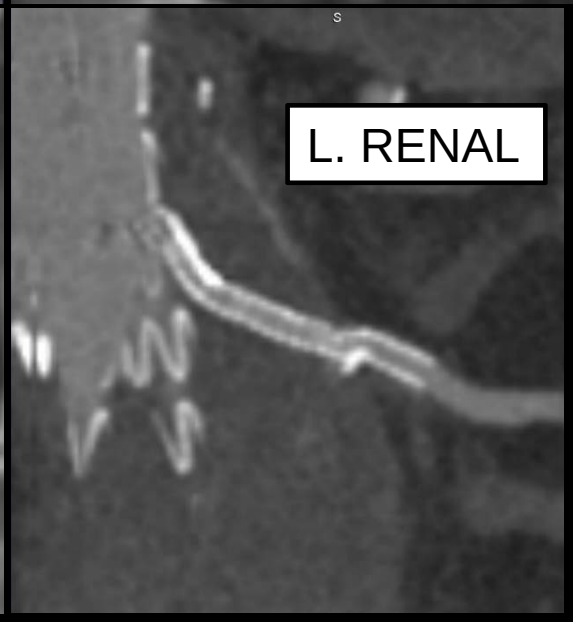
Post-EVAR CTA (6 days prior to presentation)



Findings: Post-EVAR CTA (6 days prior to presentation)





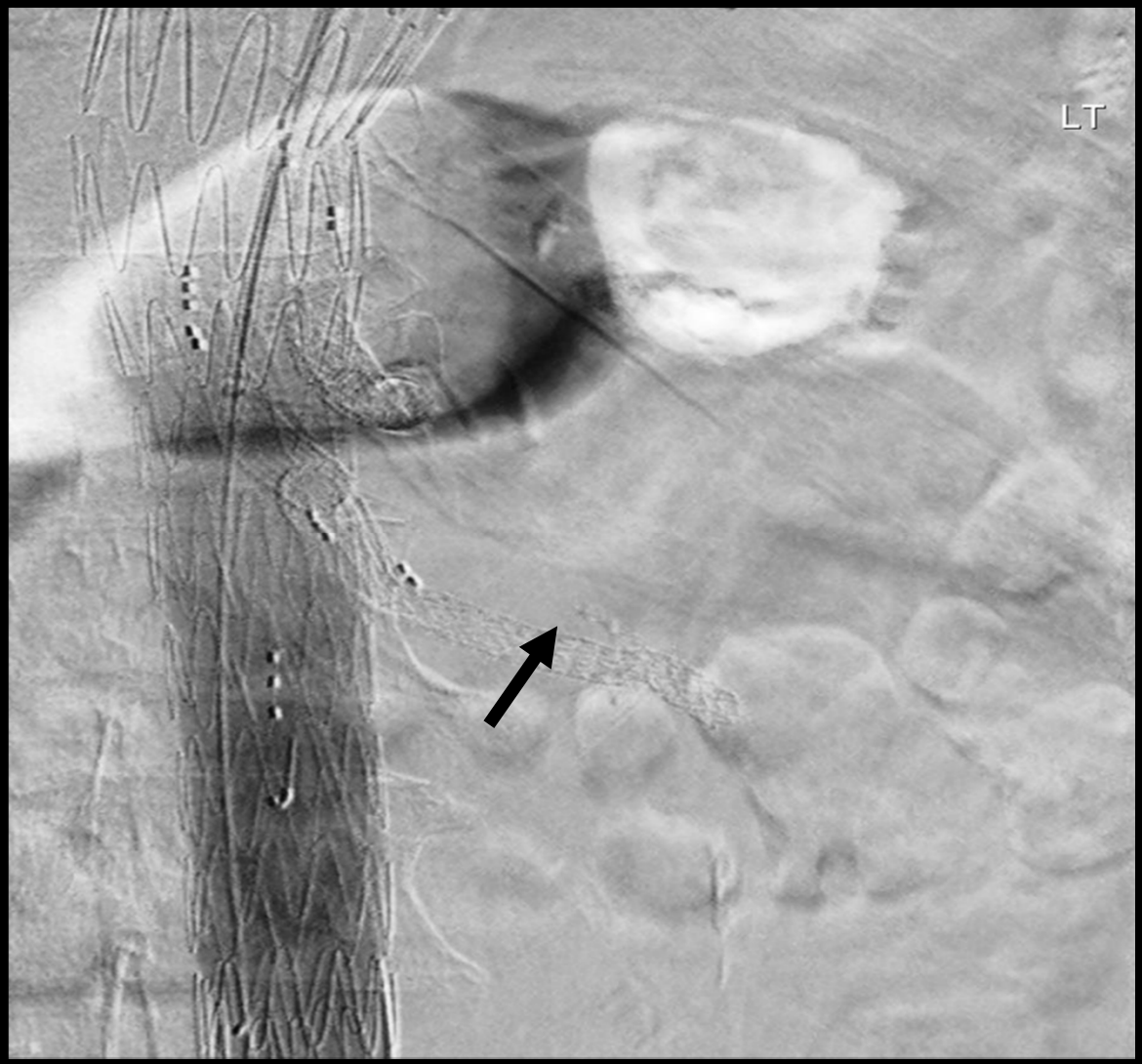


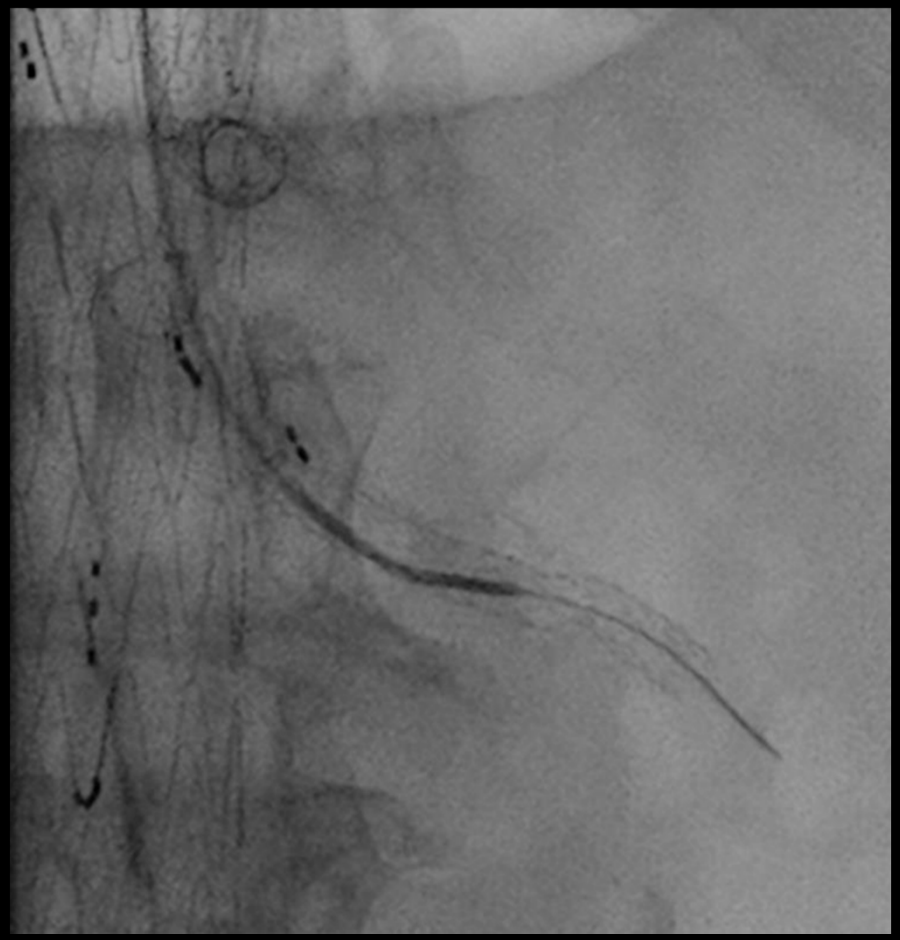
- EVAR fenestrations patent
- Endoleak in the left lateral portion of the abdominal aortic sac (→), possible type IB leak from the distal portion of the left renal artery

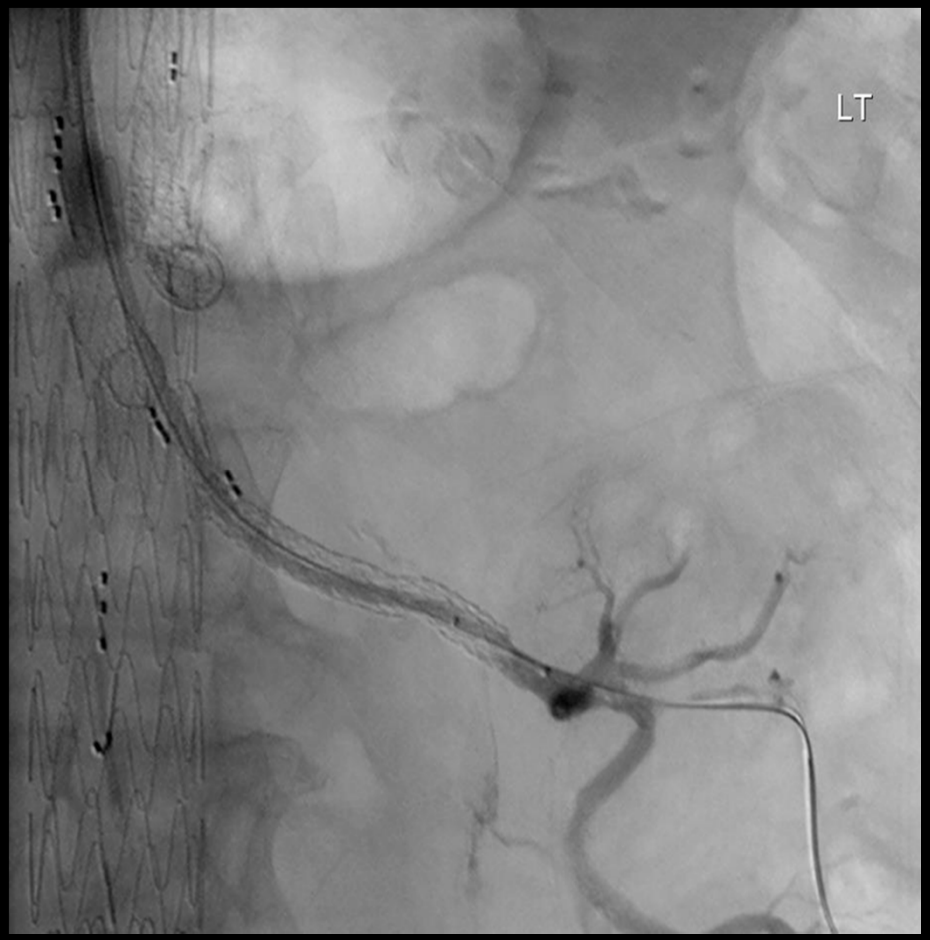
Case History

- Left renal artery stent thrombosis suspected clinically
- Given single kidney and acute AKI patient went straight to catheter-directed angiography

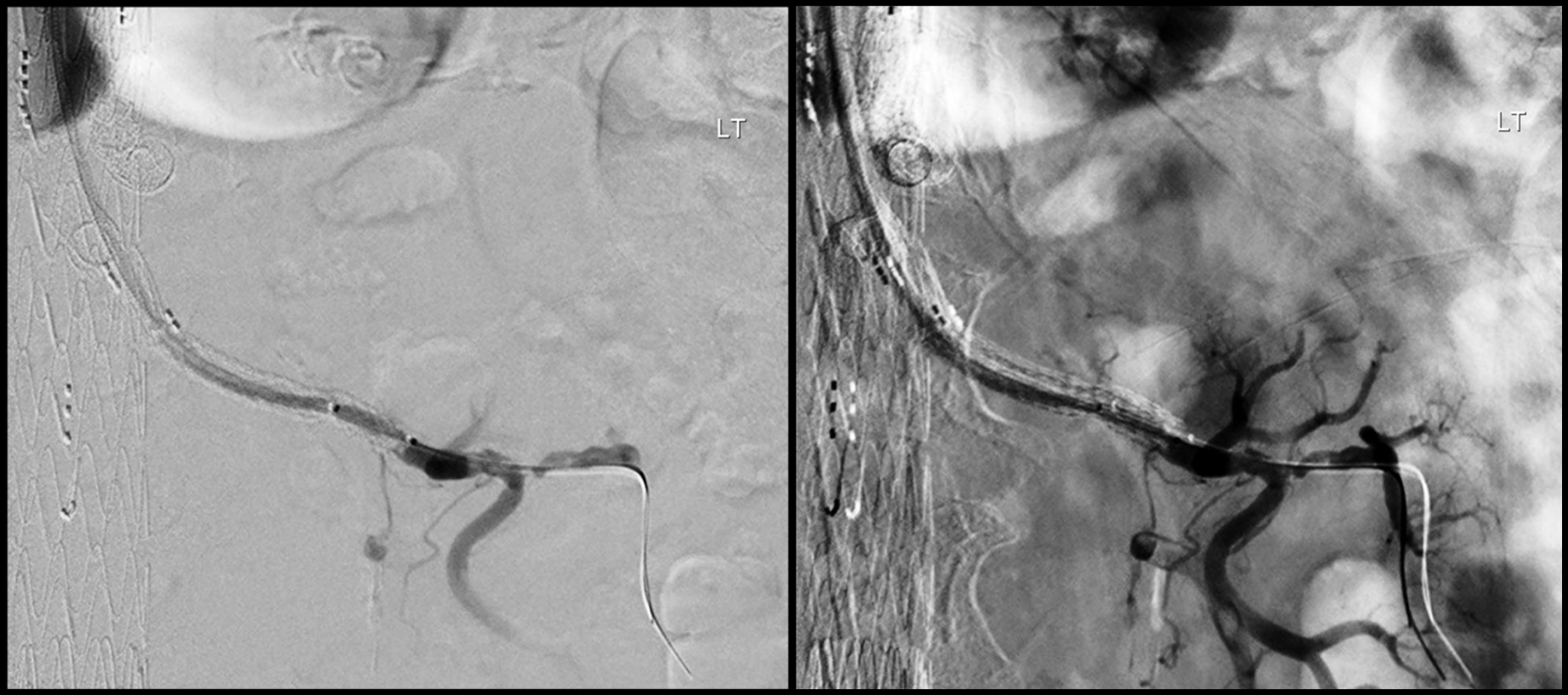
Initial DSA of the abdominal aorta demonstrates no opacification of the left renal stent and distal arteries due to in-stent thrombosis (→)



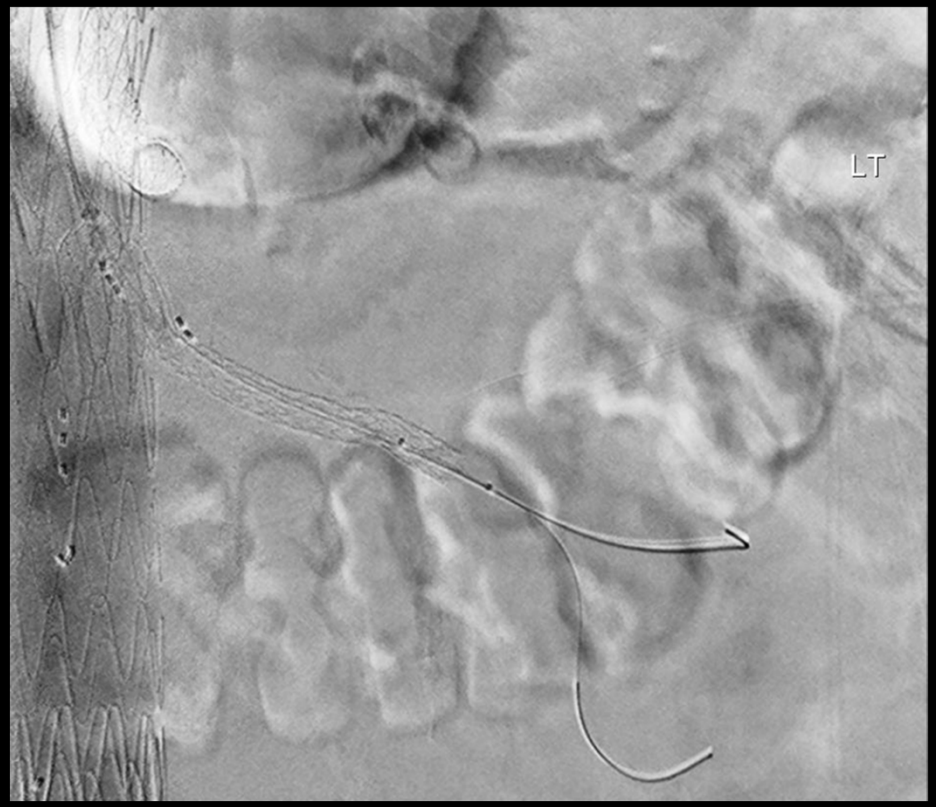


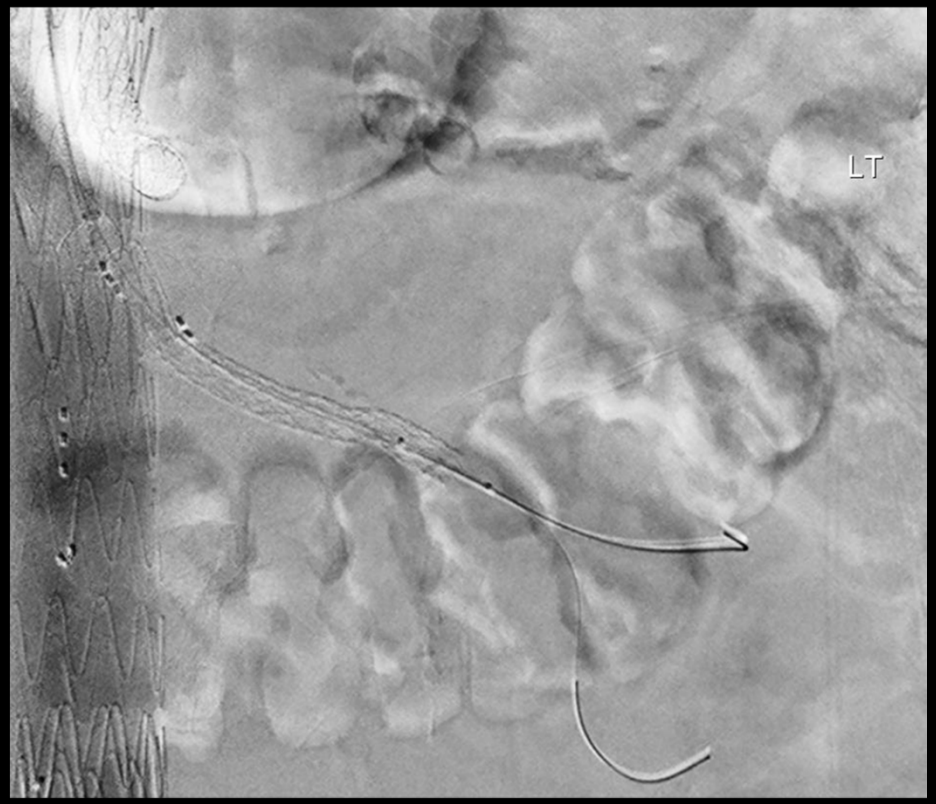


C2 catheter used to select the stented left renal artery and thrombosis crossed with straight glidewire

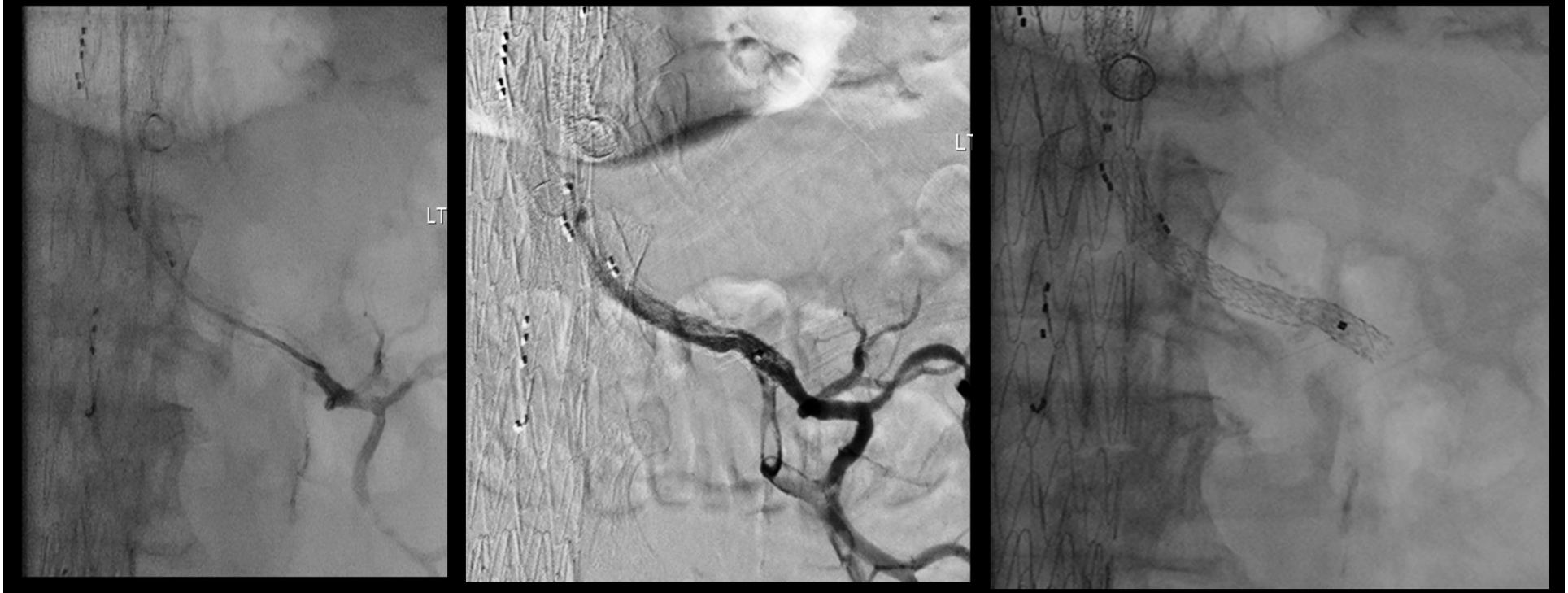


Sheath was advanced into the stented renal artery and an Angio-Jet catheter was inserted. Thrombolysis was performed using power pulse, t-PA and thrombectomy. Initial post-thrombolysis flow was satisfactory.

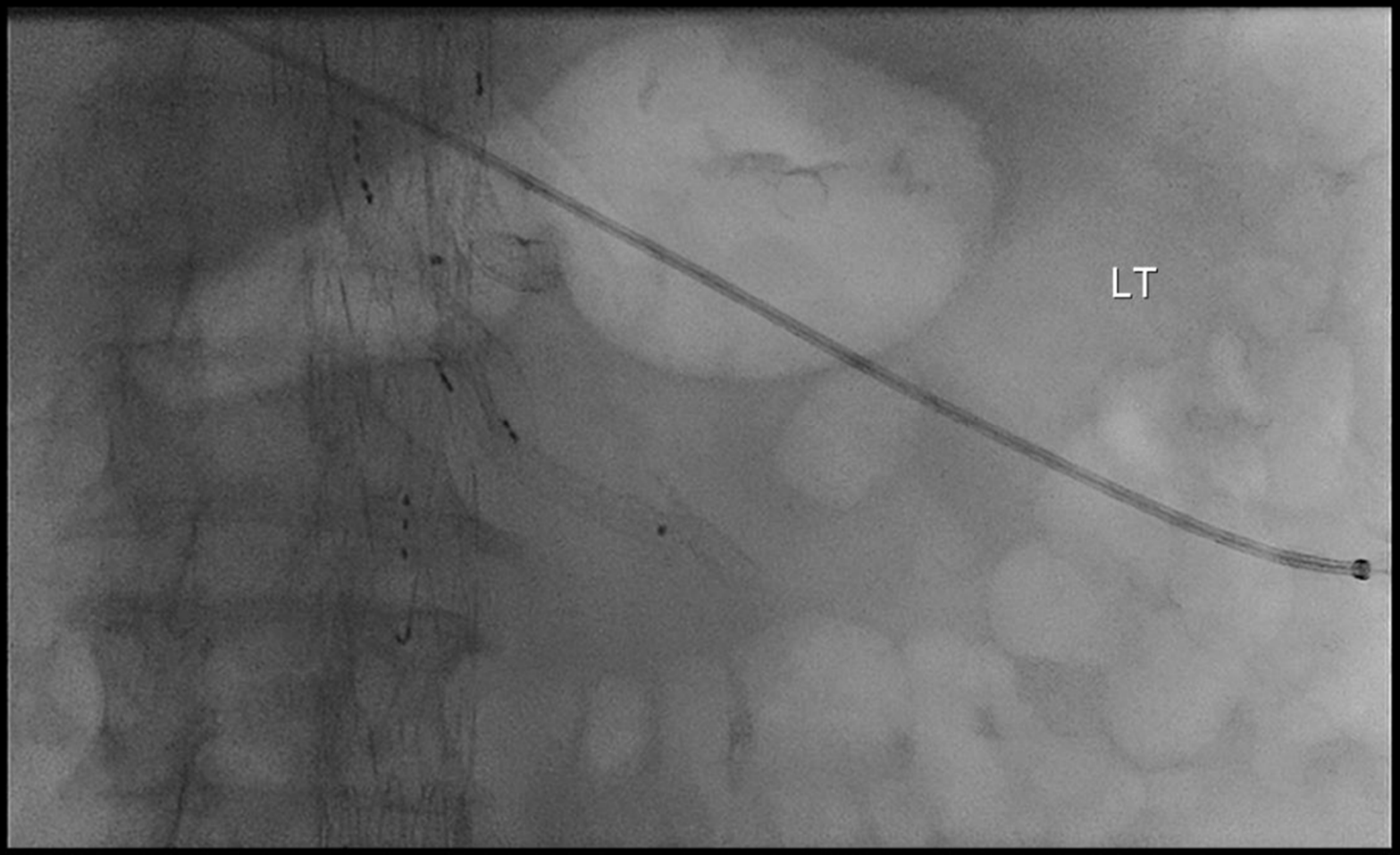




Post-thrombolysis flow was initially satisfactory but subsequently went on to re-thrombose



Cragg-McNamara infusion catheter was inserted and t-PA infusion was started at a rate of 1.8 mg/h through the catheter with 800 units/h of Heparin through the sheath



Angiography at 9 hours post t-PA infusion

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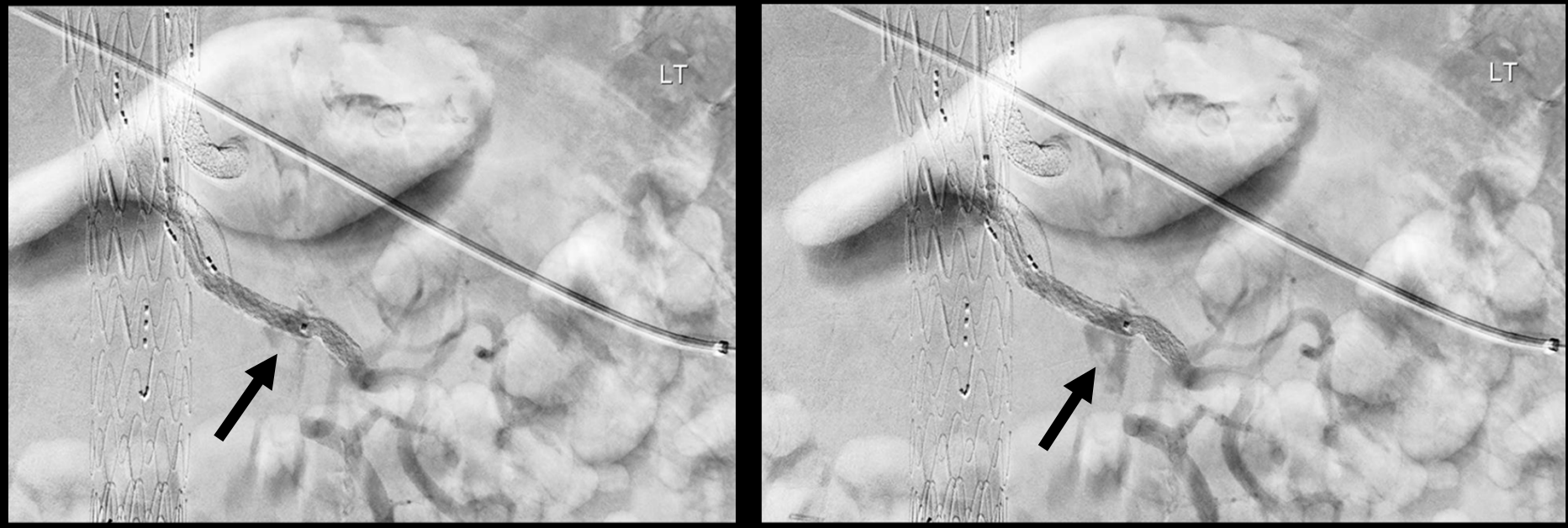


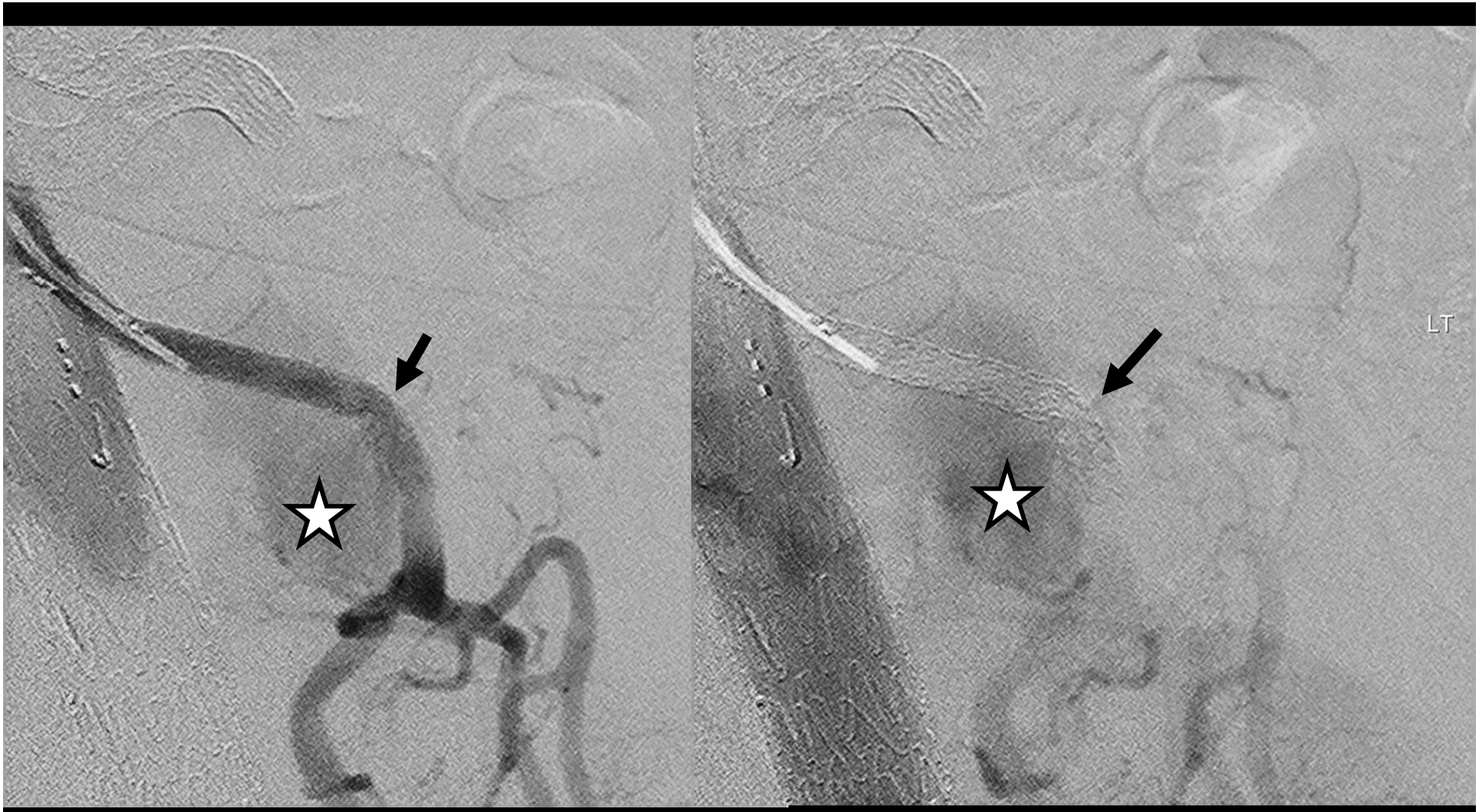
Repeat angiogram of the left renal artery stent demonstrates patency with good flow and persistent endoleak (→)

Case History

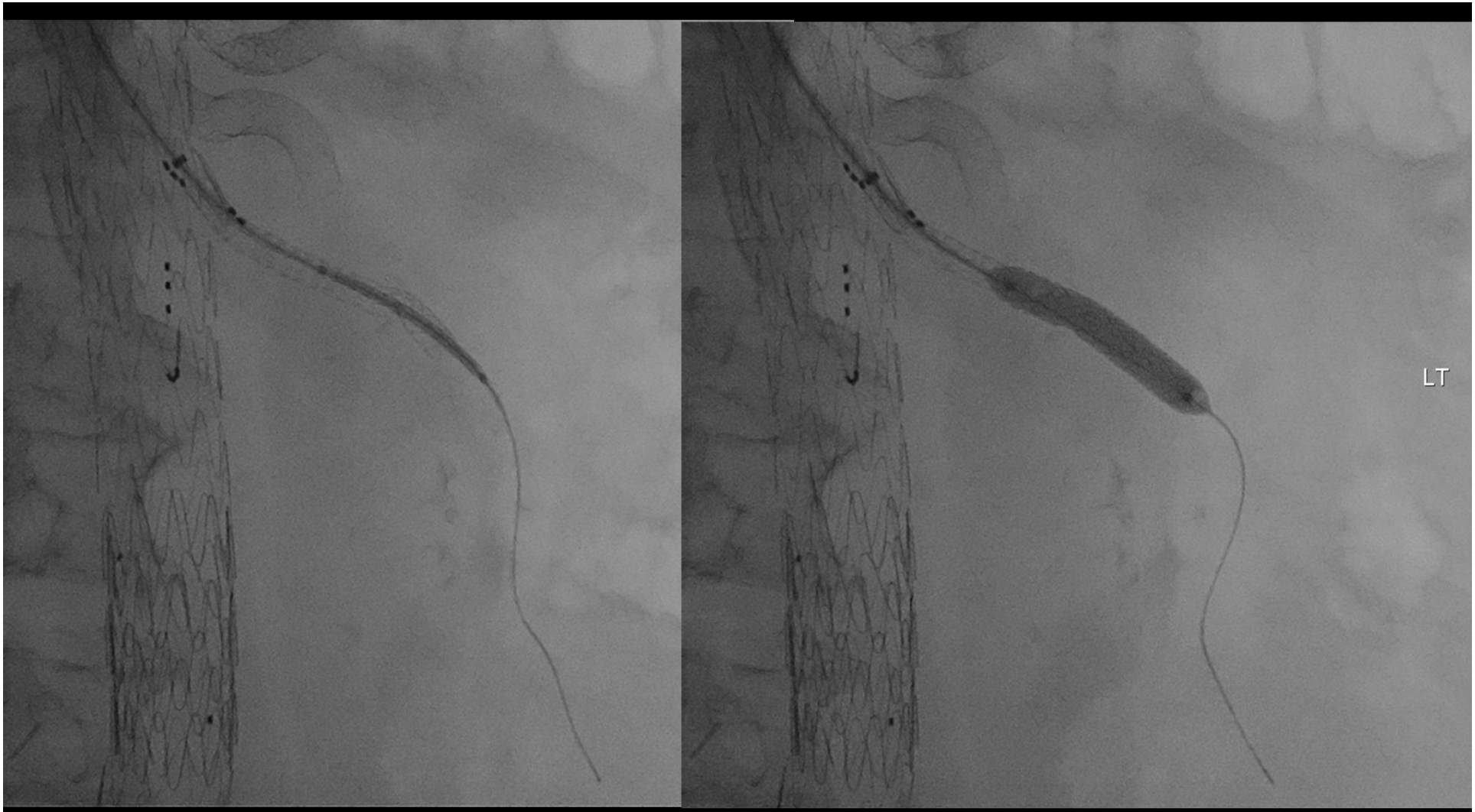
- Patient began producing urine within 24 hours and creatinine decreased to 406 umol/L (from 750 umol/L on admission)
- Tunneled dialysis line was inserted pre-emptively but not used
- Anti-coagulation post-thrombolysis included heparin infusion, aspirin and Plavix

Case History

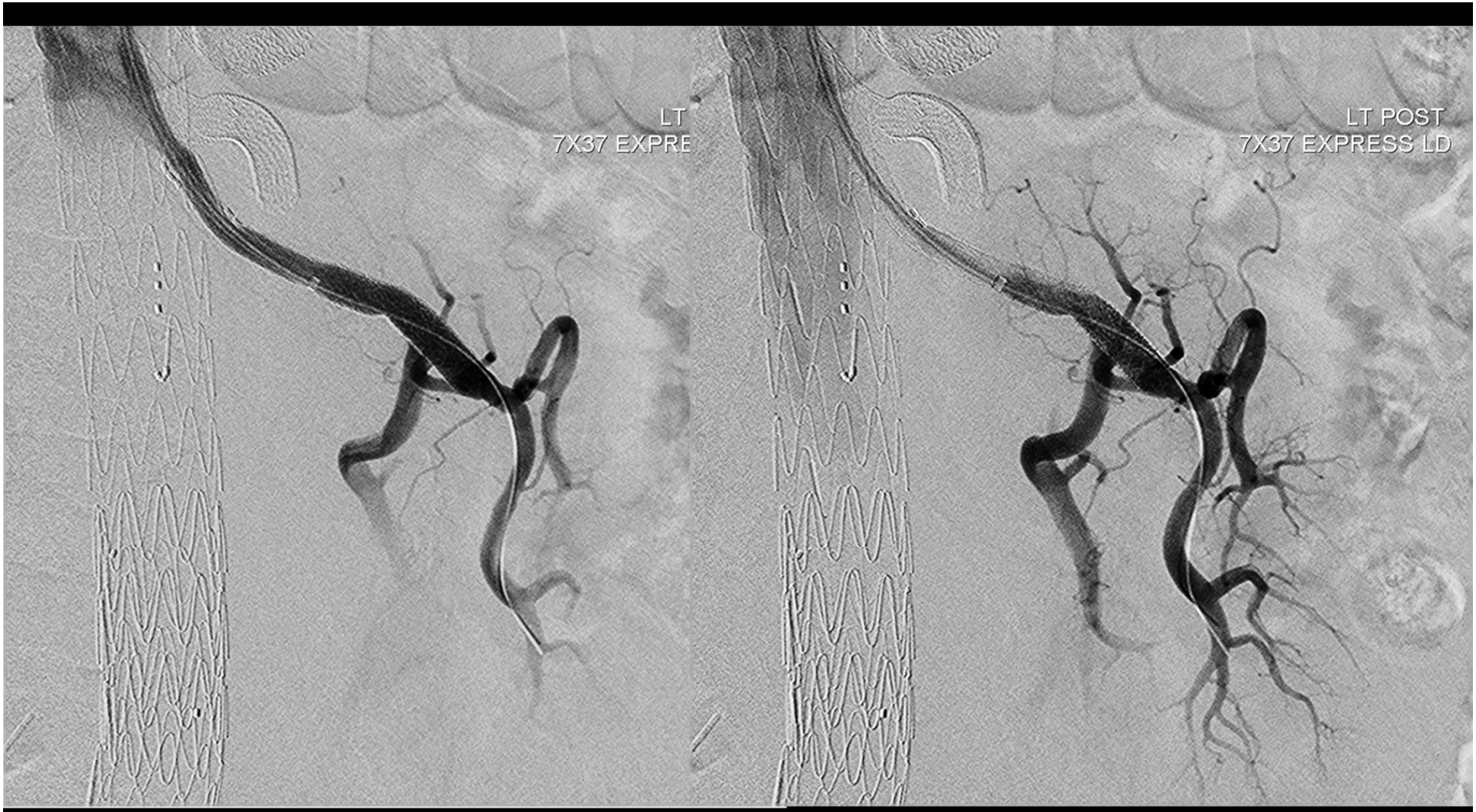
- 4 days post-thrombolysis, patient developed nausea, vomiting and melena
- Hemoglobin dropped to 66 g/L (105 on admission)
- Transfused 6 units of packed RBCs
- Gastroscopy showed large gastric and duodenal ulcers which were treated
- Positive Helicobacter pylori serology treated with triple therapy
- Decision made to retreat the left renal artery stent, poor seal suspected distally due to a kink causing the endoleak



Repeat selected DSA of the left renal artery stent demonstrates patency with an area of kinking → and persistent endoleak *

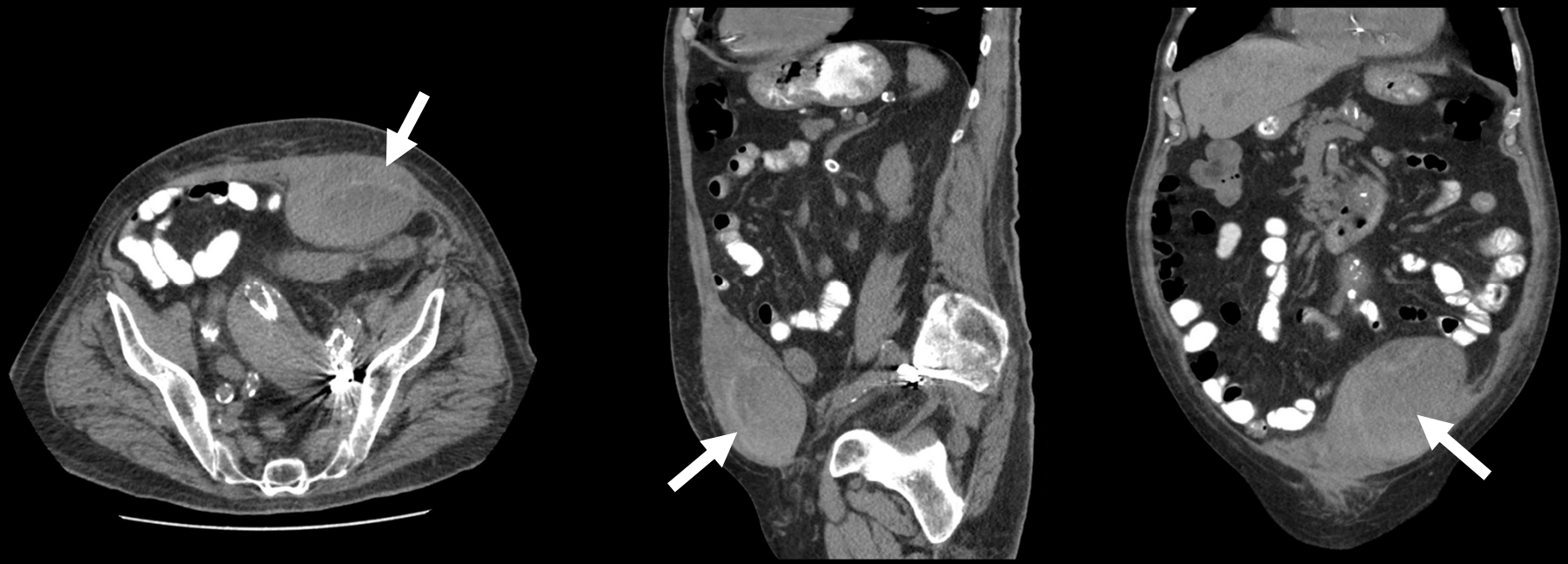


Despite normal pressures across the area of kinking repeat stenting was performed to treat the endoleak



Final DSA images post-deployment of an Express LD balloon-expandable stent demonstrate no residual kink or endoleak

The next day…



Patient developed a spontaneous abdominal rectus hematoma

Case History

- All anticoagulants other than Plavix stopped
- Discharged from hospital for outpatient follow-up
- Most recent bloodwork: creatinine 399 umol/L and hemoglobin 113 g/L (patient still not on dialysis)
- Non-contrast CT showed slightly smaller AAA and no kinking of the stent fenestrations

Conclusion

- Case demonstrates an uncommon and interesting combination of techniques to salvage a single kidney
- Reminder of the consequences of aggressive anti-coagulation and thrombolysis (GI bleed, spontaneous hematoma)

References

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