

CO₂ Angiography Case Studies

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19th Annual Conference

2018
May 30 - June 01

THE PERIPHERAL EVENT OF THE YEAR

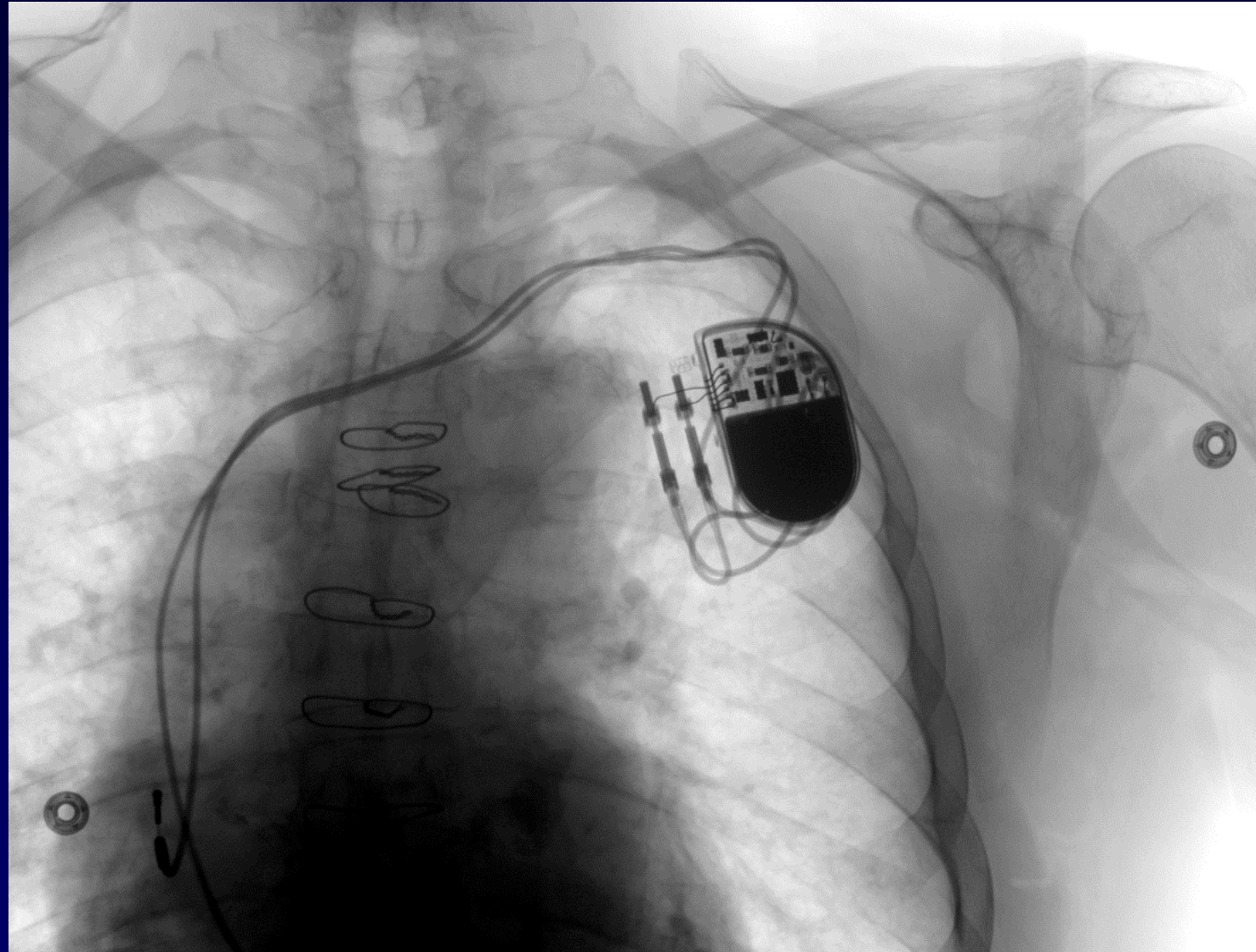


Case 1

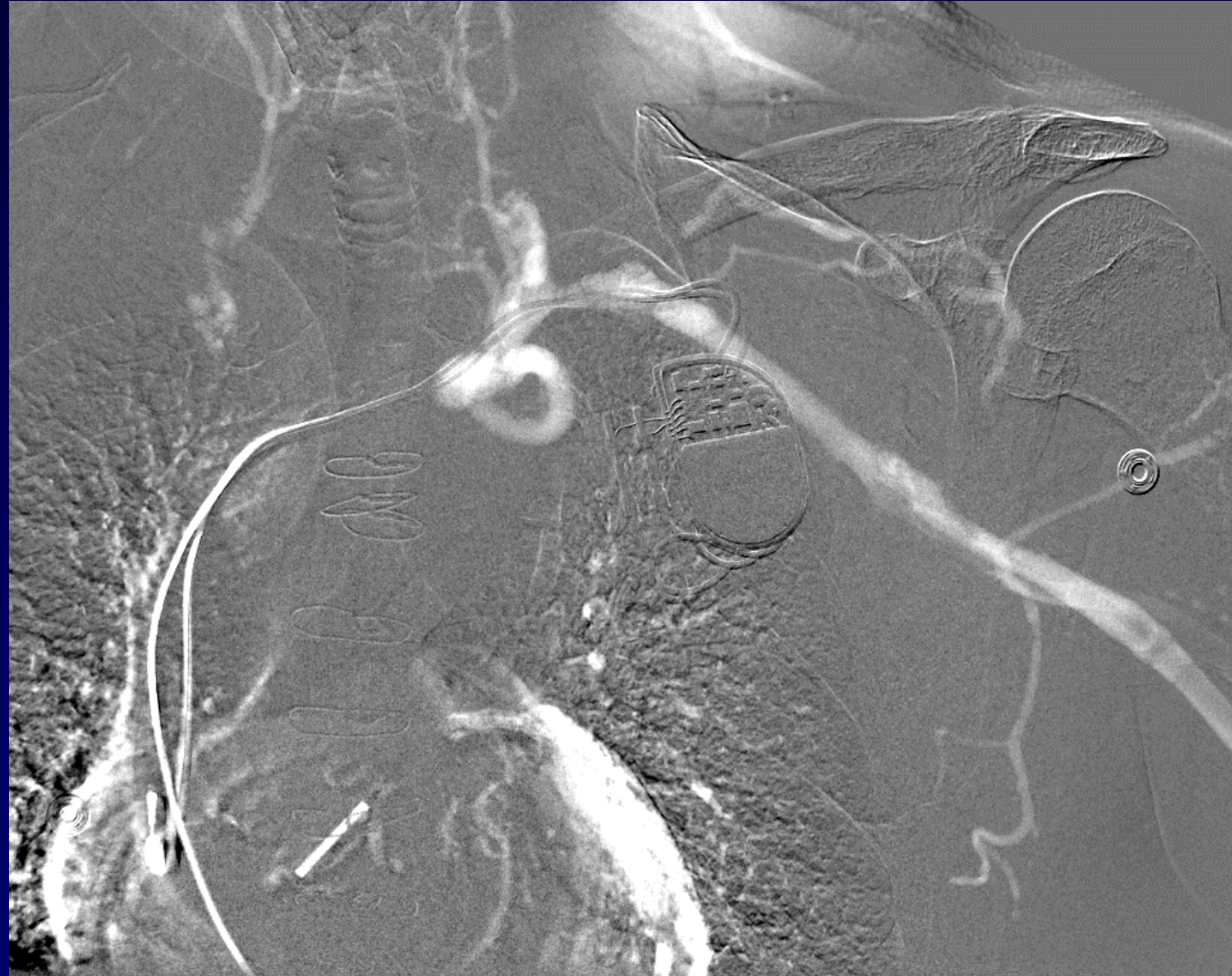
CO₂ central venography before
a pacemaker lead replacement



Pacemaker from left subclavian vein



CO₂ venogram before pacemaker lead replacement



CO₂ Venogram



CO₂ venogram with elevation of right shoulder showing patent right subclavian vein



Summary

- CO₂ venography is safe and effective in evaluating central vein patency before pacemaker lead replacement.
- Because of the buoyancy and low viscosity, CO₂ flowed well through collateral veins filling the contralateral vein when the shoulder was elevated, eliminating a second venous puncture.

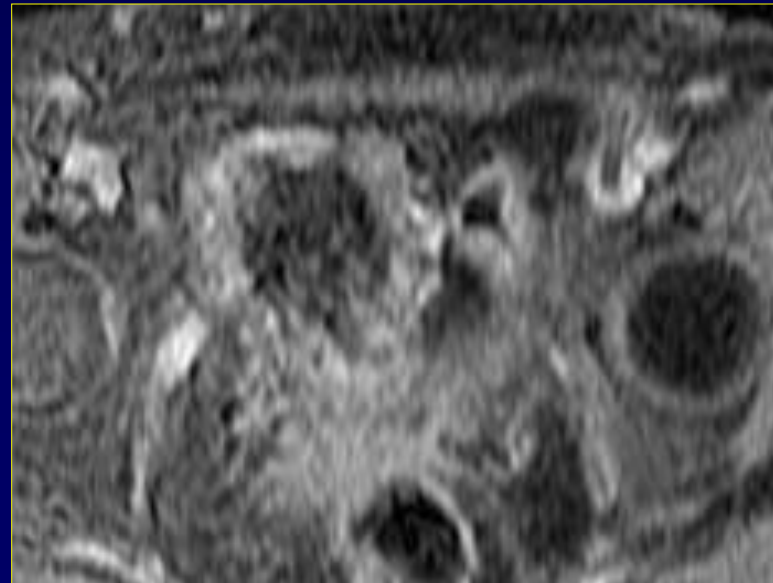
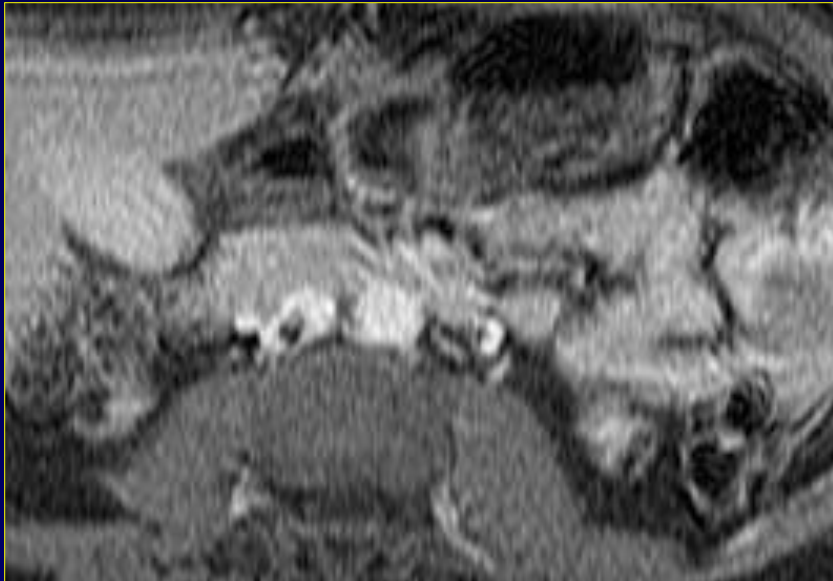
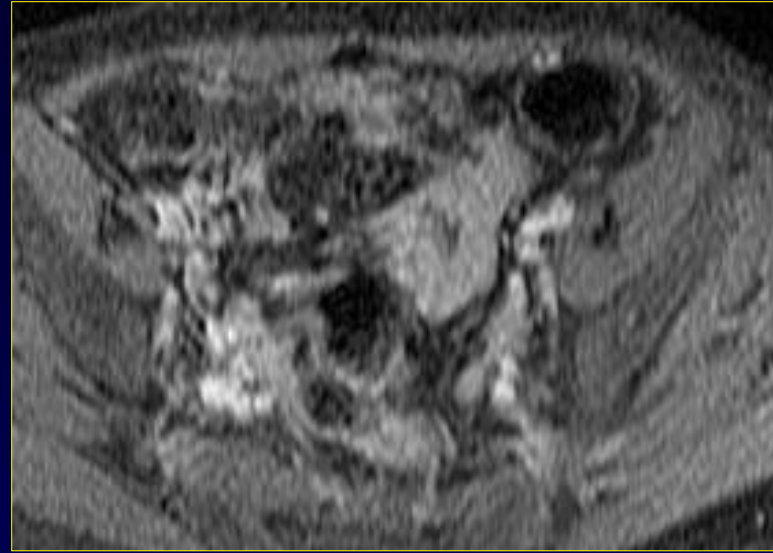


Case 2

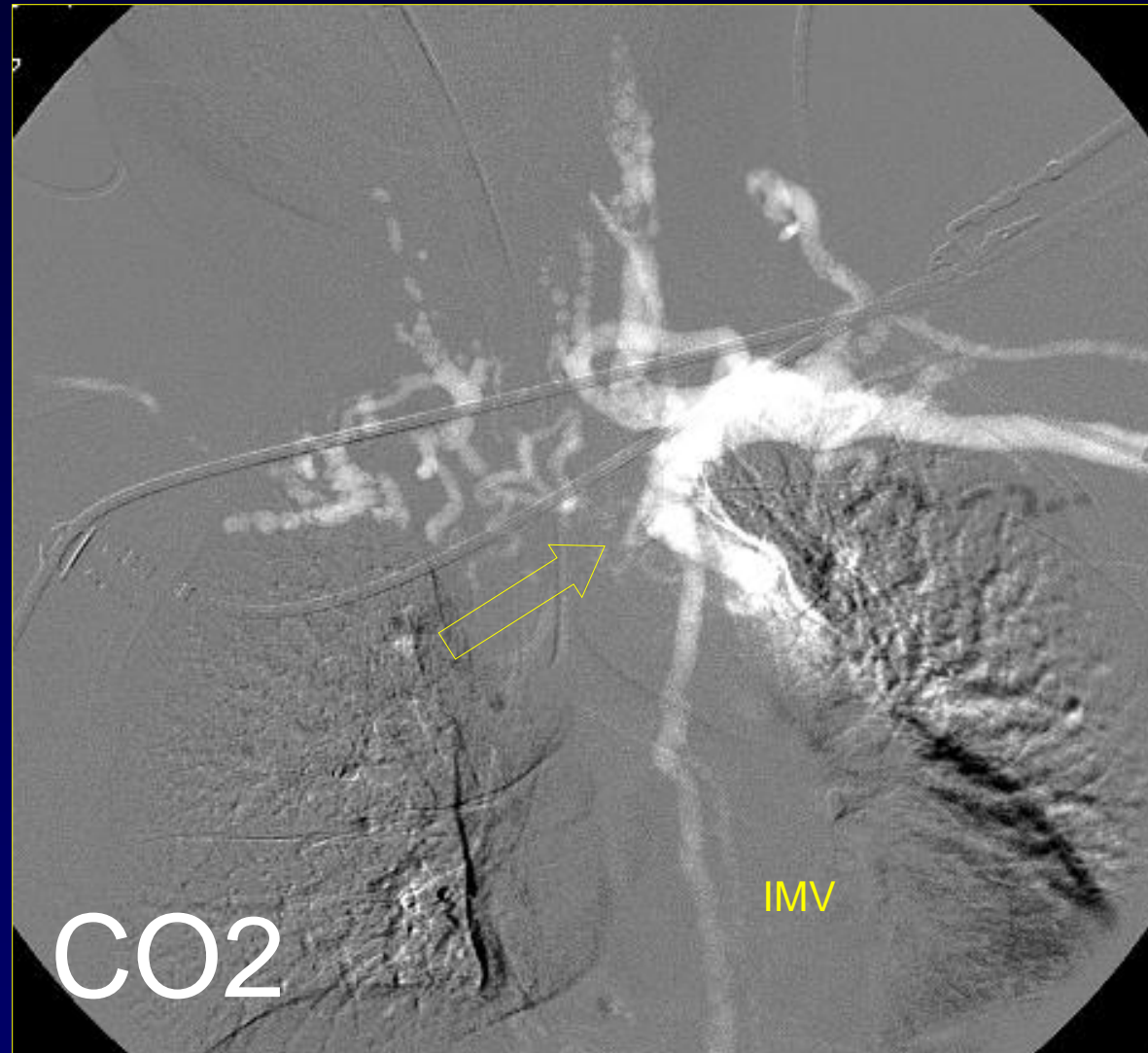
Difficult venous access in a
patient requiring central
catheter insertion



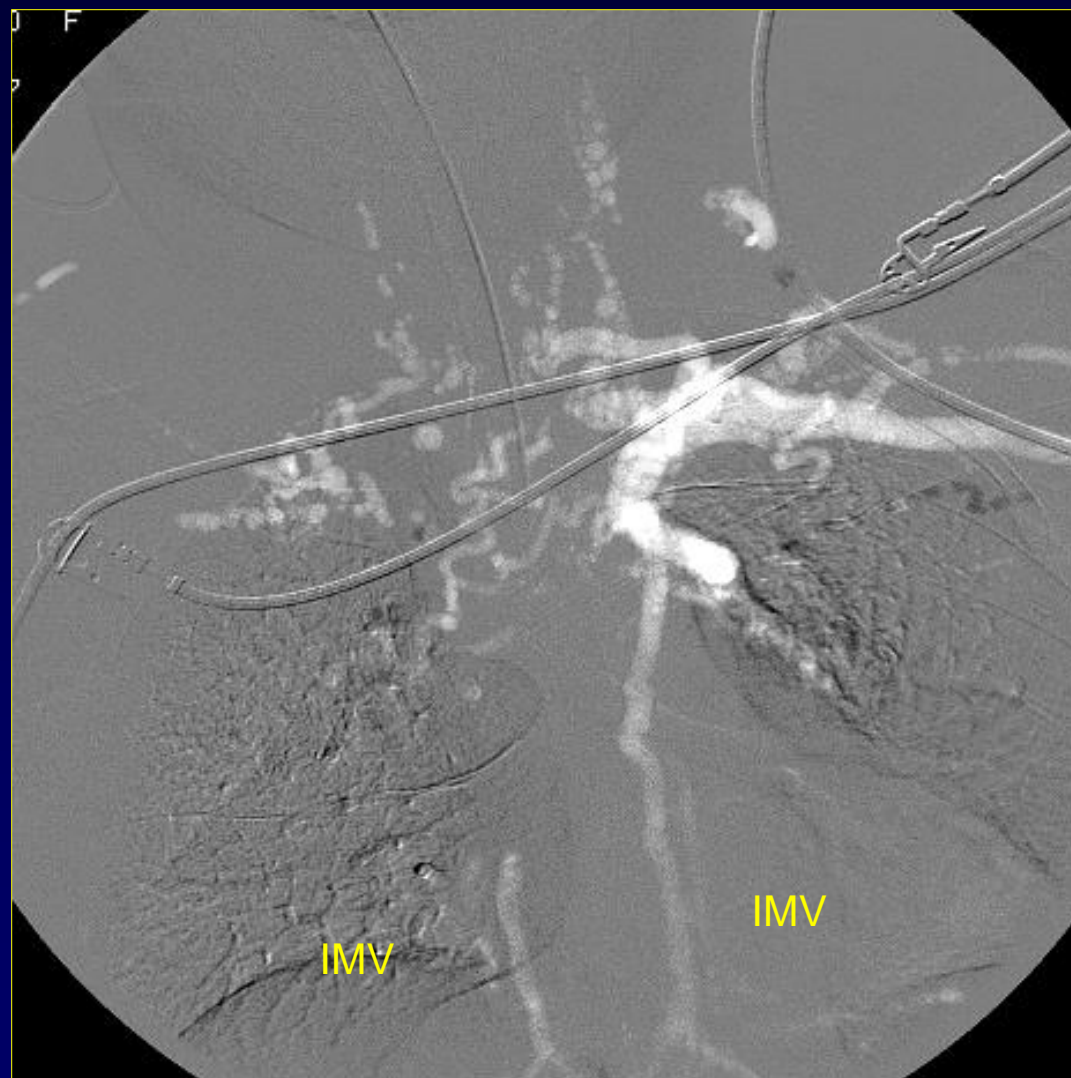
MRV



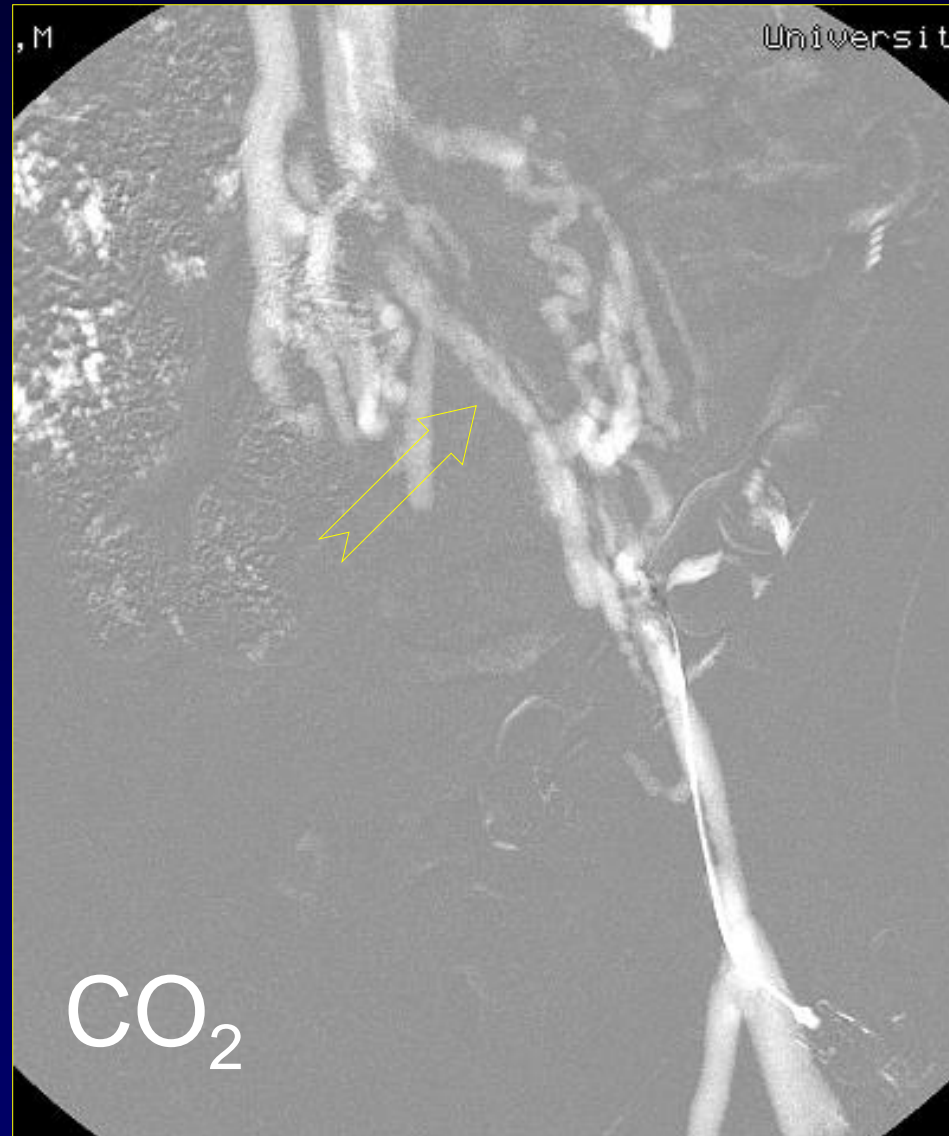
Left subclavian venogram



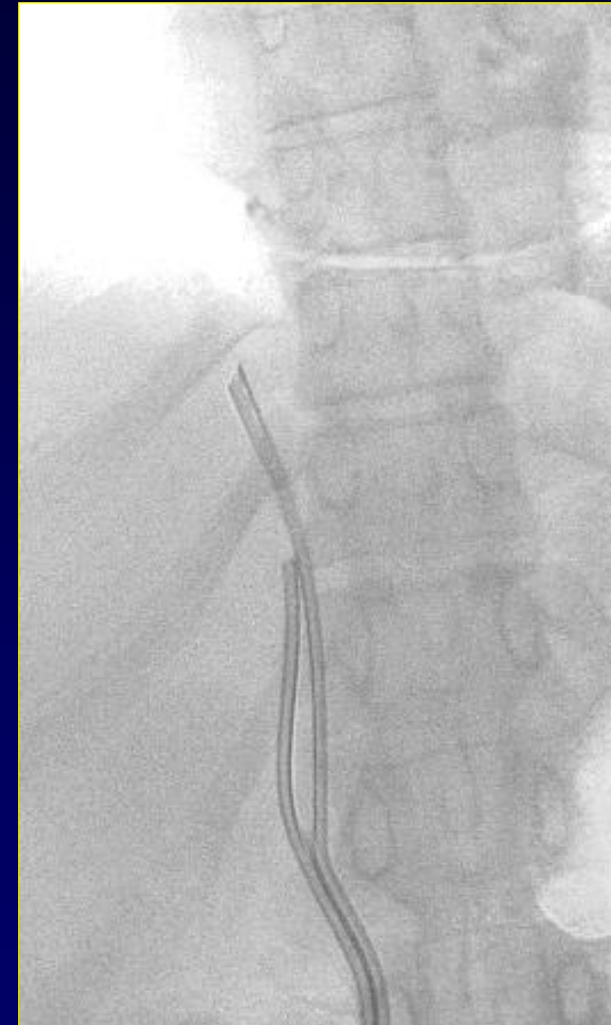
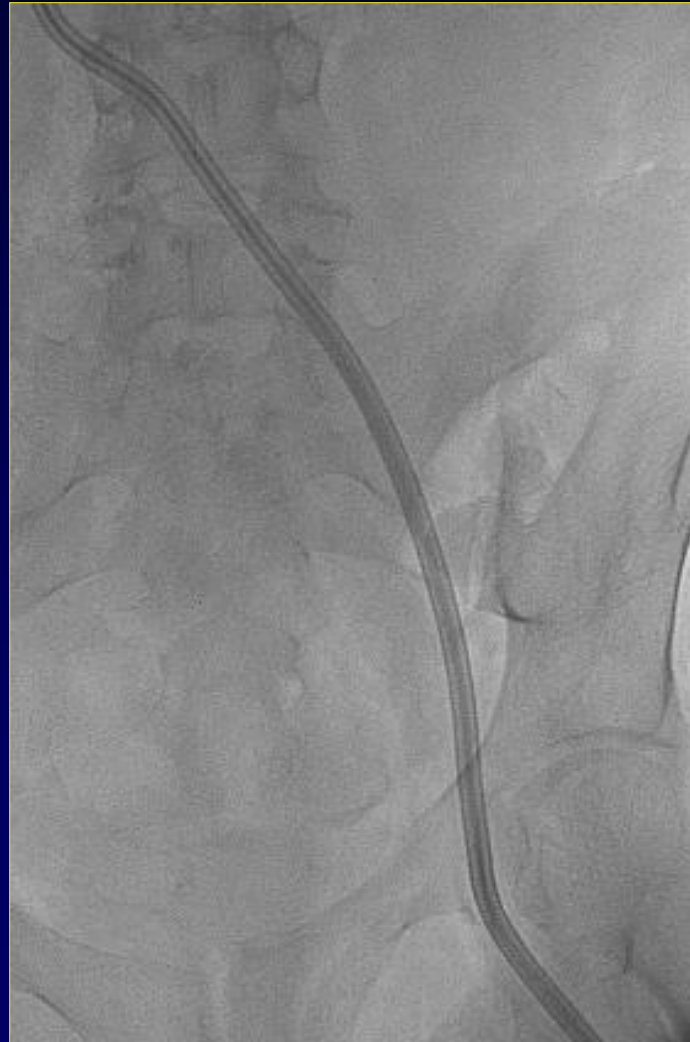
Oblique view



Left Femoral Venogram



Permacath from L femoral vein



Summary

- CO₂ is a safe, useful alternative contrast agent for venous injection studies in patients with diabetes, contrast allergies and renal insufficiency.
- CO₂ is used to visualize the target vein for venipuncture, to provide the central venous roadmap prior to central venous catheter placement, and to evaluate malfunctioning central venous catheters.
- MRV may be an unnecessary procedure for central vein patency prior to central venous catheter placement in patients with difficult venous access as CO₂ can provide most of the necessary vascular information.

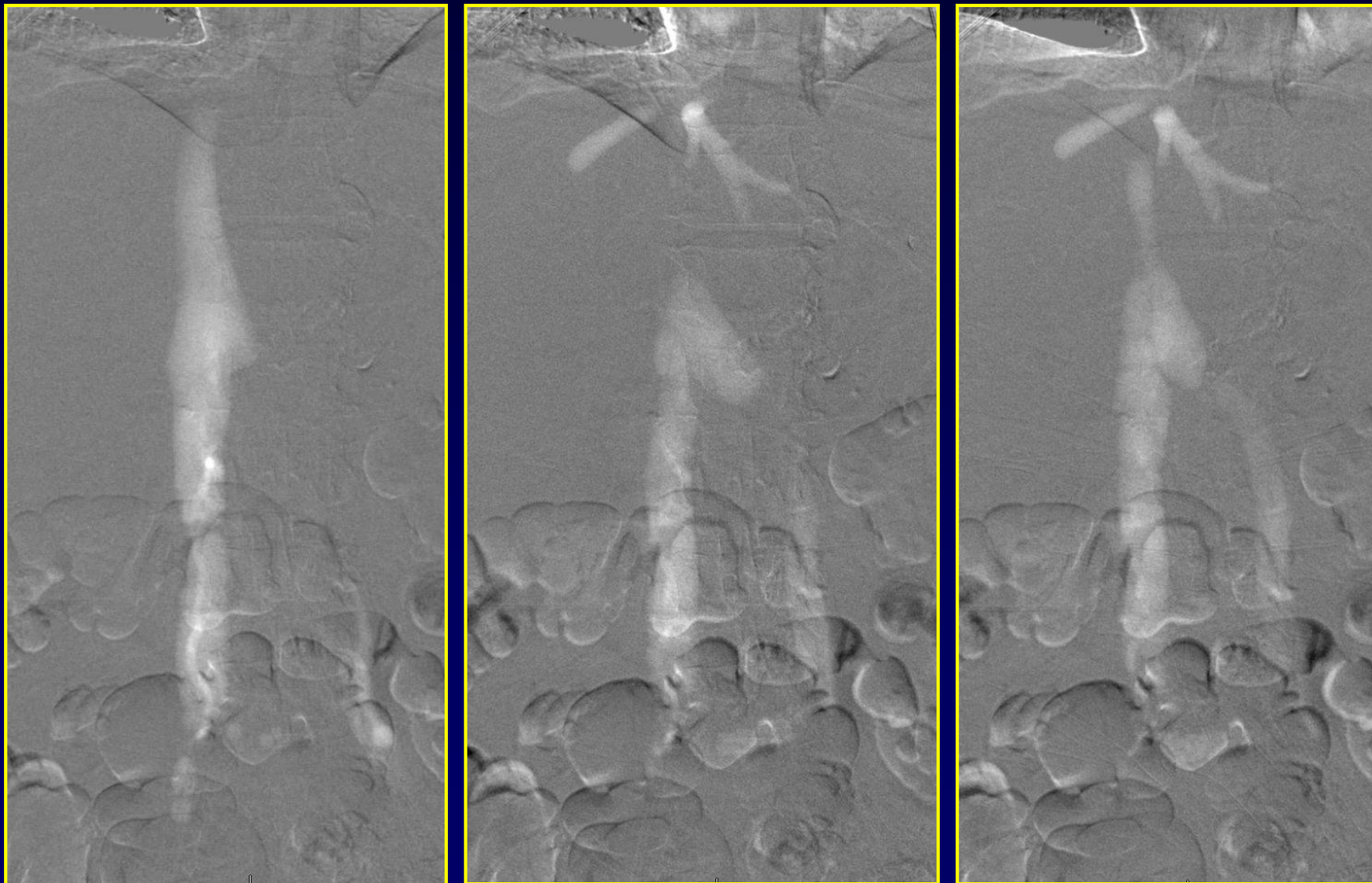


Case 3

CO₂-guided vena cava filter
placement



CO₂ Inferior Vena Cavogram



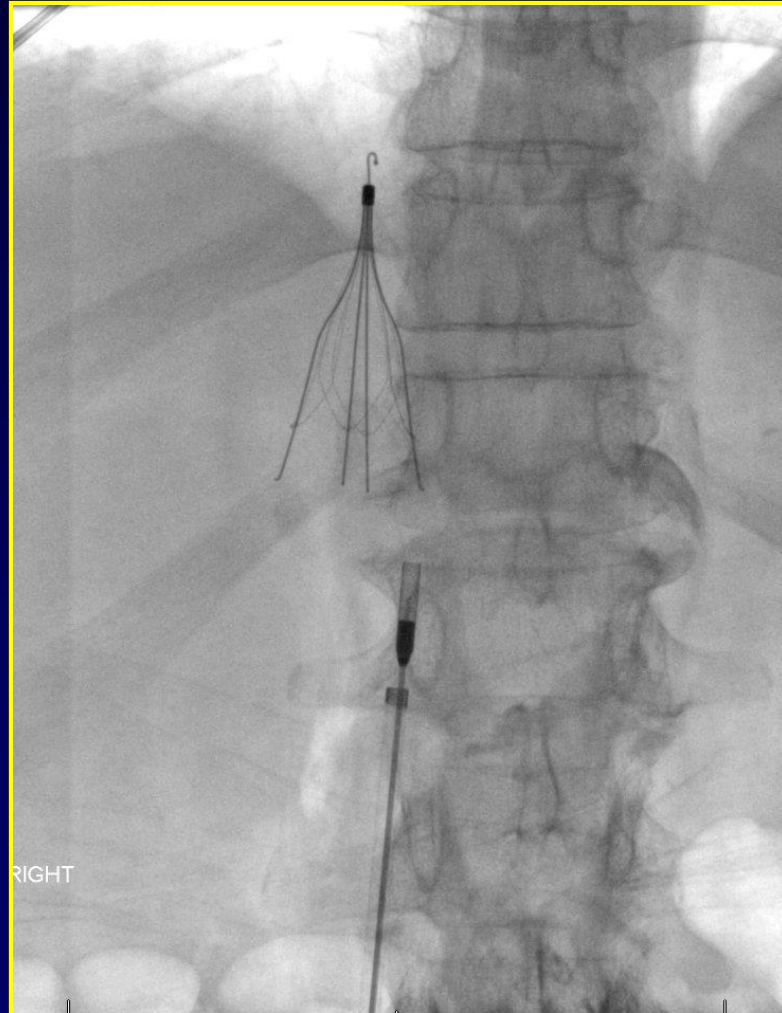
Stacked Image



Lt IVC



Suprarenal Placement of Gunther Tulip Filter



Summary

Diagnosis of duplication of the
inferior vena cava with CO₂
vena cavography

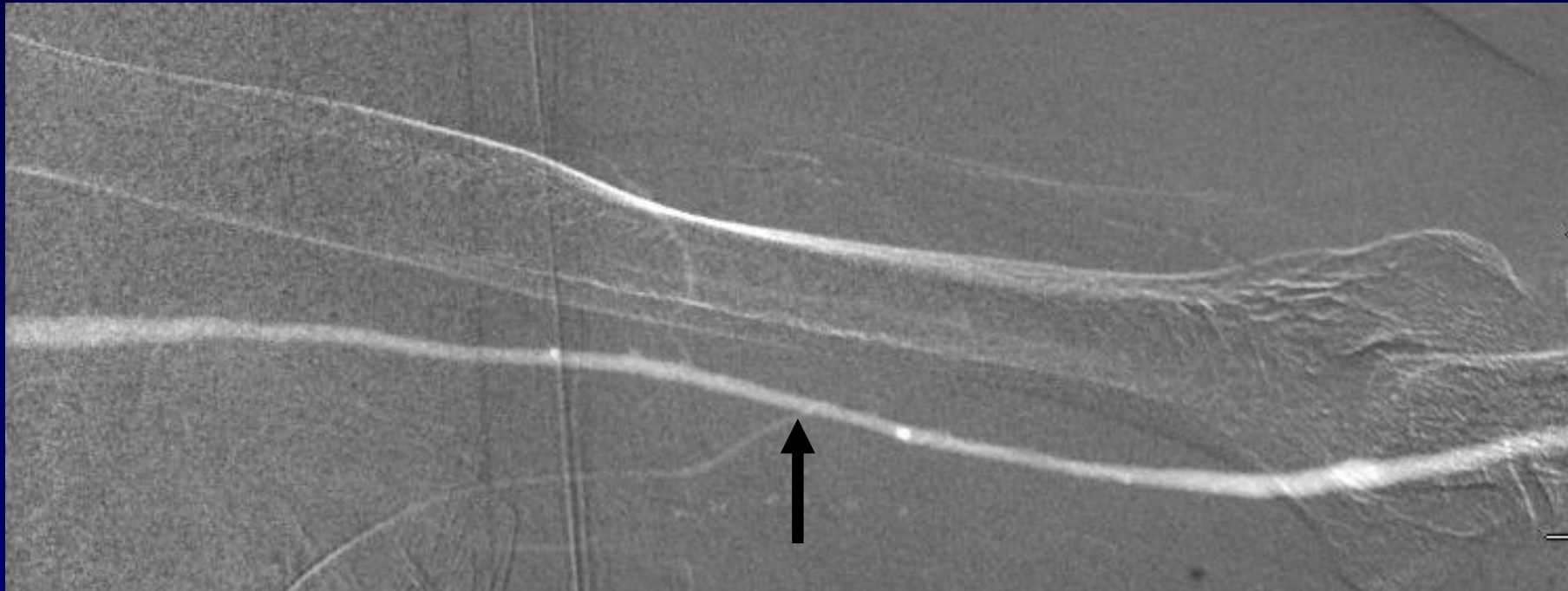


Case 4

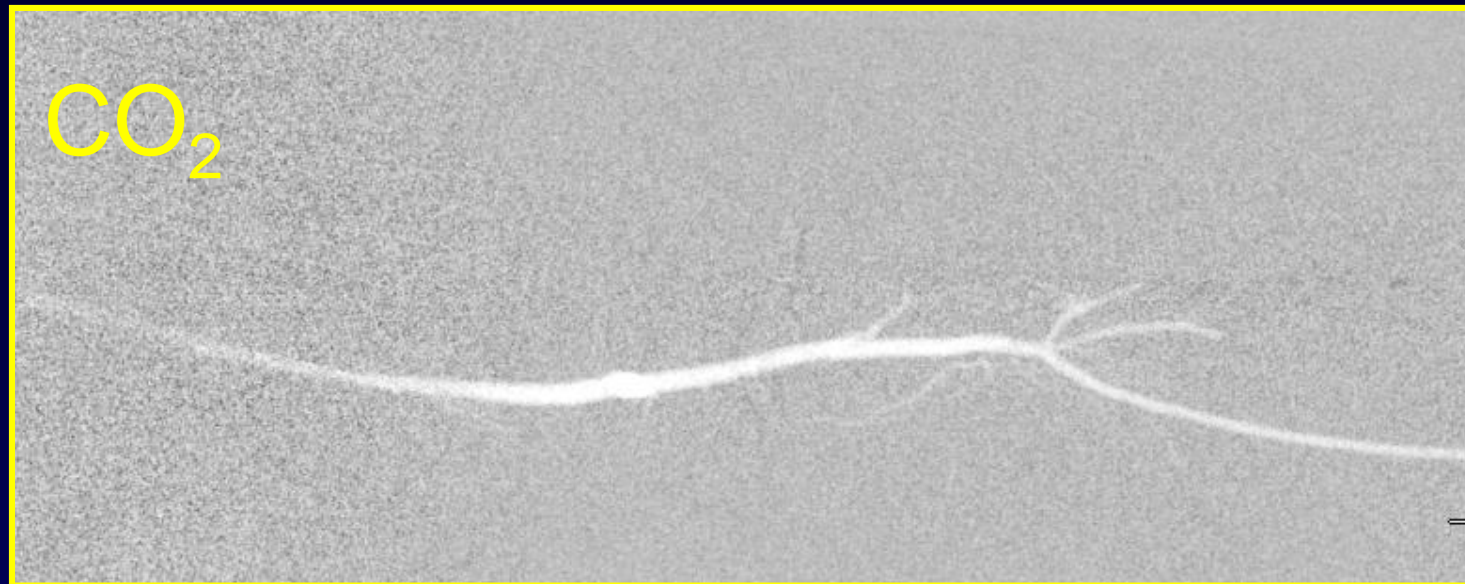
CO₂ left brachial DSA in a patient with ESRD on dialysis



CO₂ Brachial DSA



L brachial Arteriogram



Summary

- Transient loss of consciousness due to reflux of CO₂ from the brachial artery into intracranial arterial circulation.
- Avoid CO₂ arterial injection above the diaphragm.



Case 5

- 33Fw/ h/o cervical cancer
- 01/01- TAH-BSO, XRT and Chemotherapy
c/b retroperitoneal fibrosis and ureteral stricture
- Bilateral nephroureteral stenting for 4 years
- 03/05- Massive hematuria during NUS change



3/12/05



R iliac DSA



Summary

Demonstration of iliac
arterial-ureteral fistula with
CO₂ and treated with
Viabahn

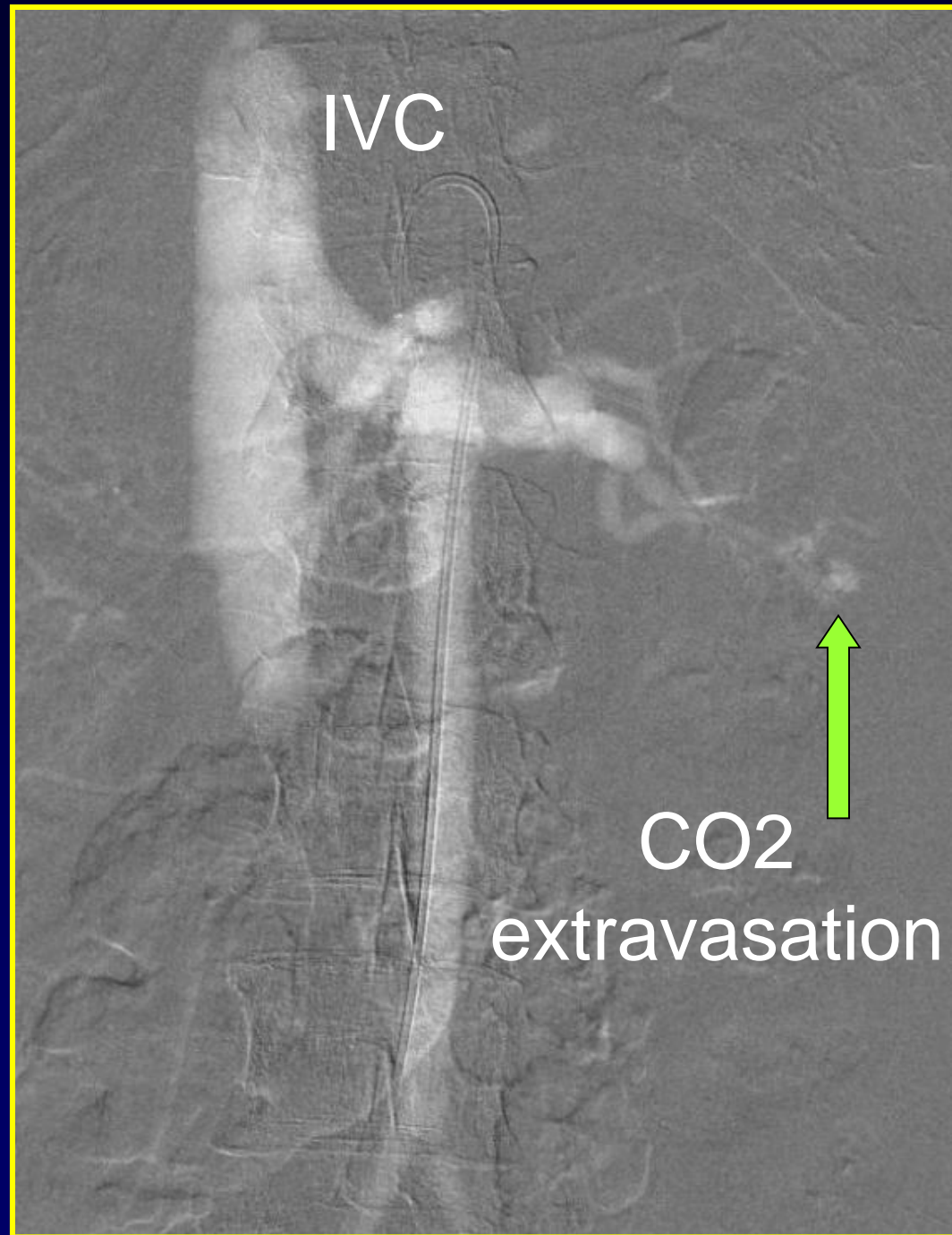


Case 6

CO₂-guided renal artery embolization for control of postbiopsy bleeding in a patient with renal Failure

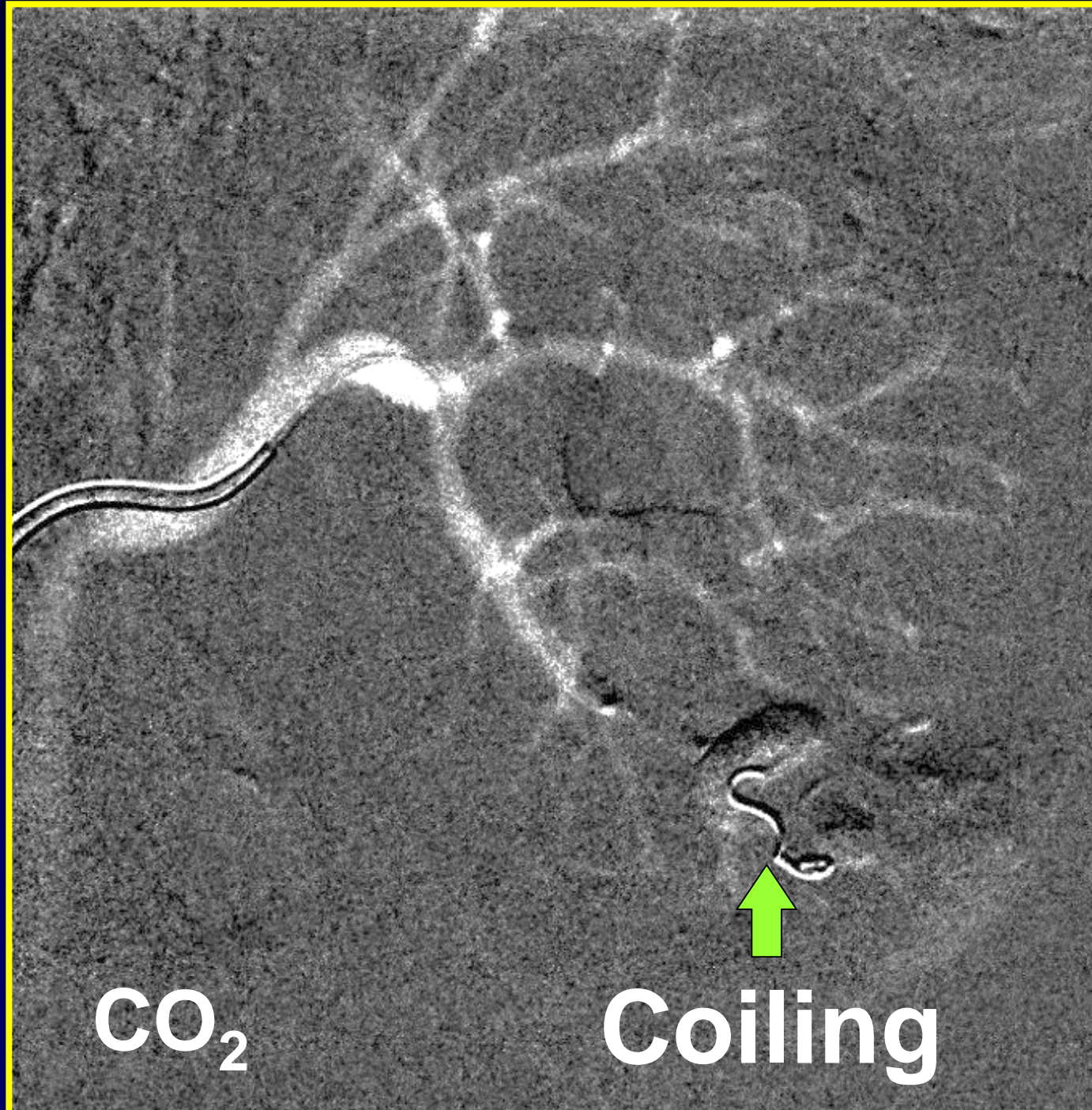


CO2 Aortogram



CO₂
Renal
DSA





CO₂

Coiling



Thank you



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