



IVUS use in AV Access

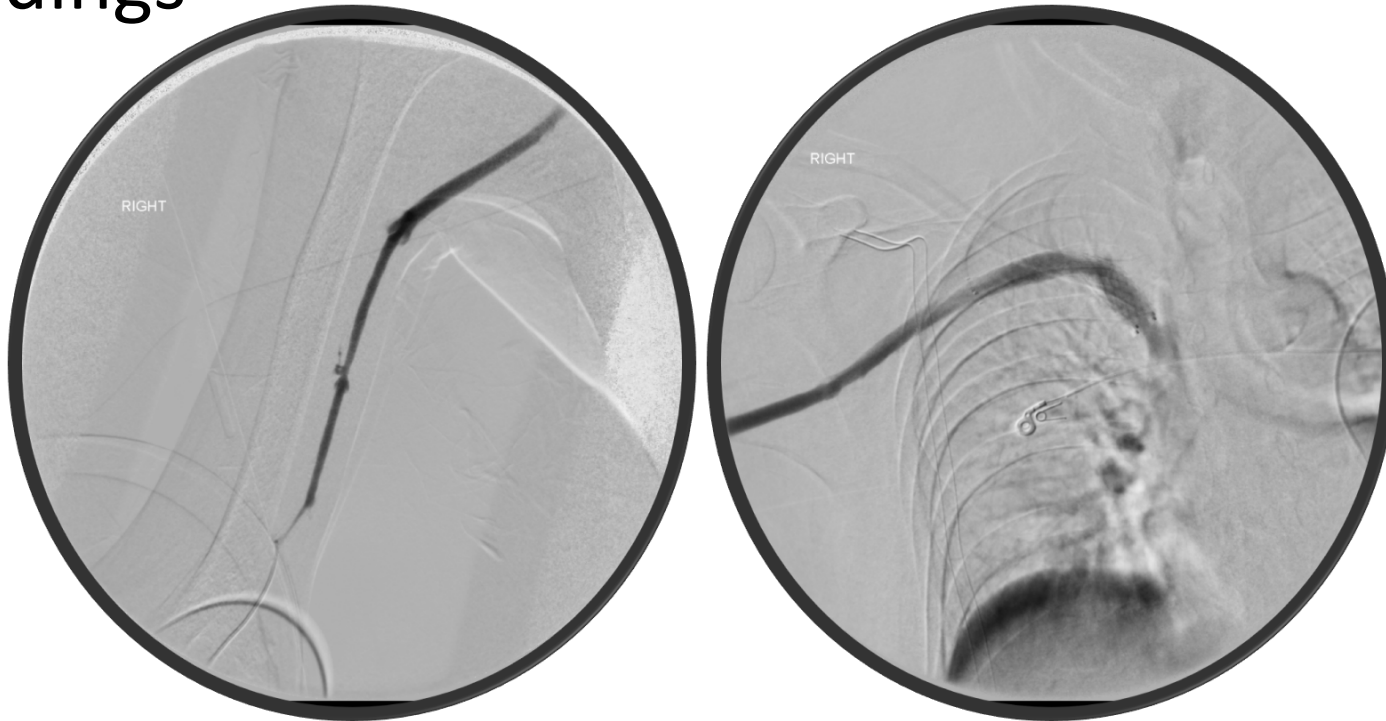
Cases Performed by
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The opinions and clinical experiences presented herein are for educational purposes only. The results from this case study may not be predictive for all patients. Individual results may vary depending on a variety of patient-specific attributes and related factors.

#1 Case Presentation

- 74 year-old ESRD male
- Referred for clotted access
- Patient is dialyzed via a right arm forearm loop graft
- Physical examination reveals absent bruit/thrill
- Shuntogram was performed

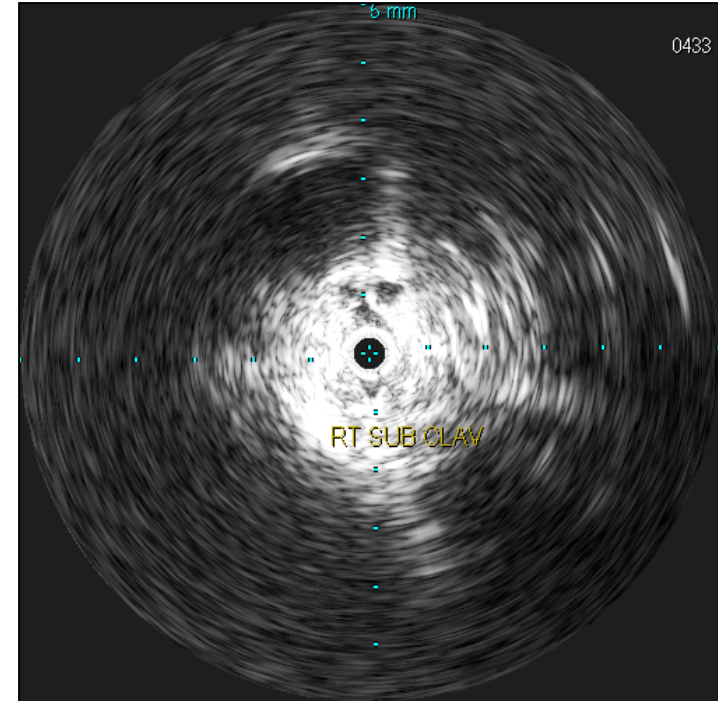
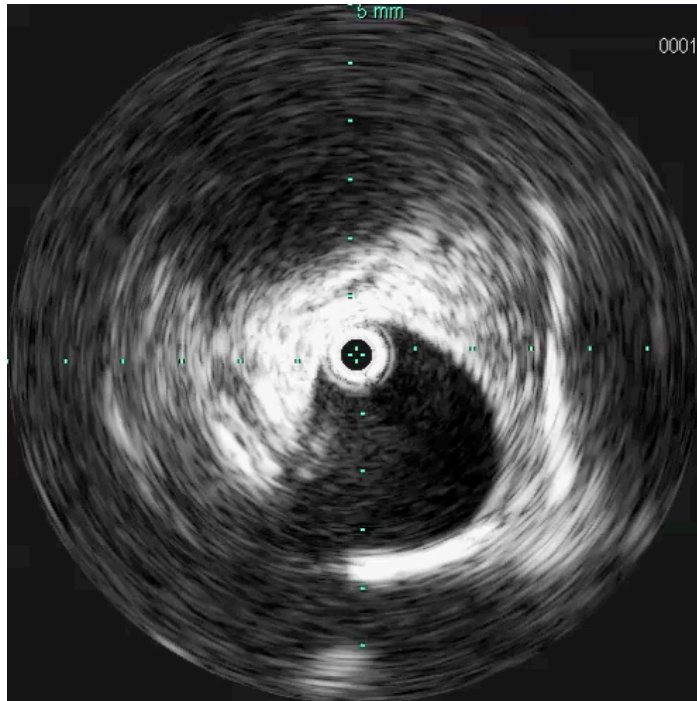
Findings



- The entirety of the graft was occluded by thrombus.
- Initial DSA of the outflow showed that the basilic vein was patent as well as the stented central veins of the chest, but with a 50-60% stenosis at the junction of the subclavian and brachiocephalic.

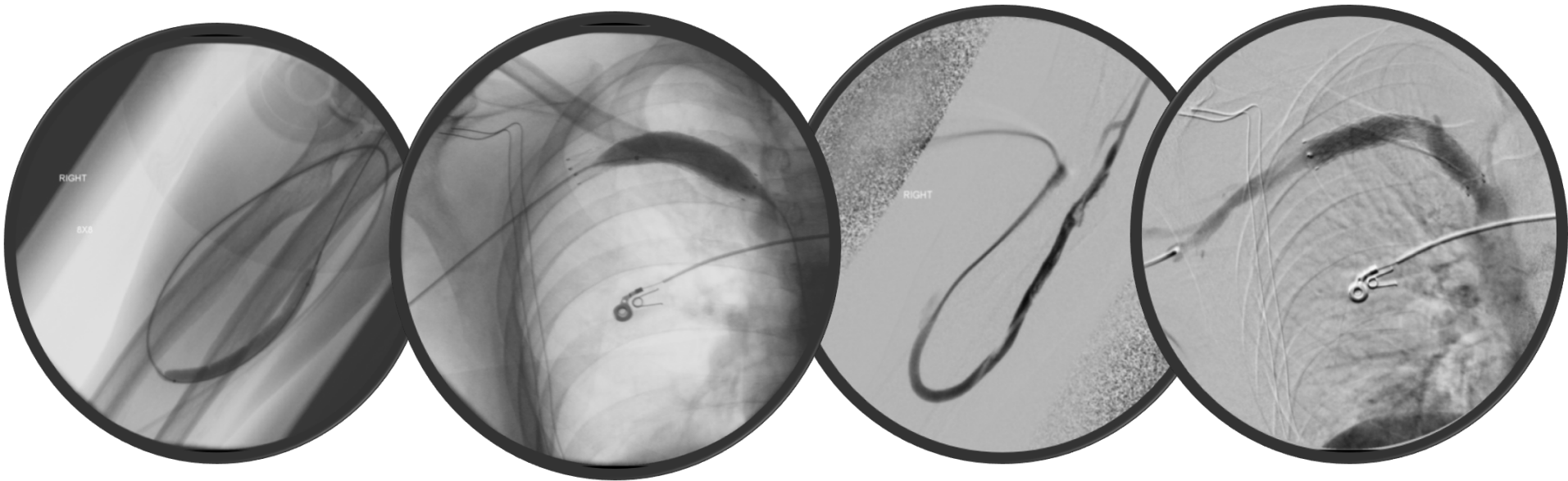
IVUS Findings

Pre



- Severe stenosis of the stented subclavian vein was underestimated on venogram
- No collaterals shown on venogram but IVUS showed 100% occlusion
- Complete revascularization post-IVUS

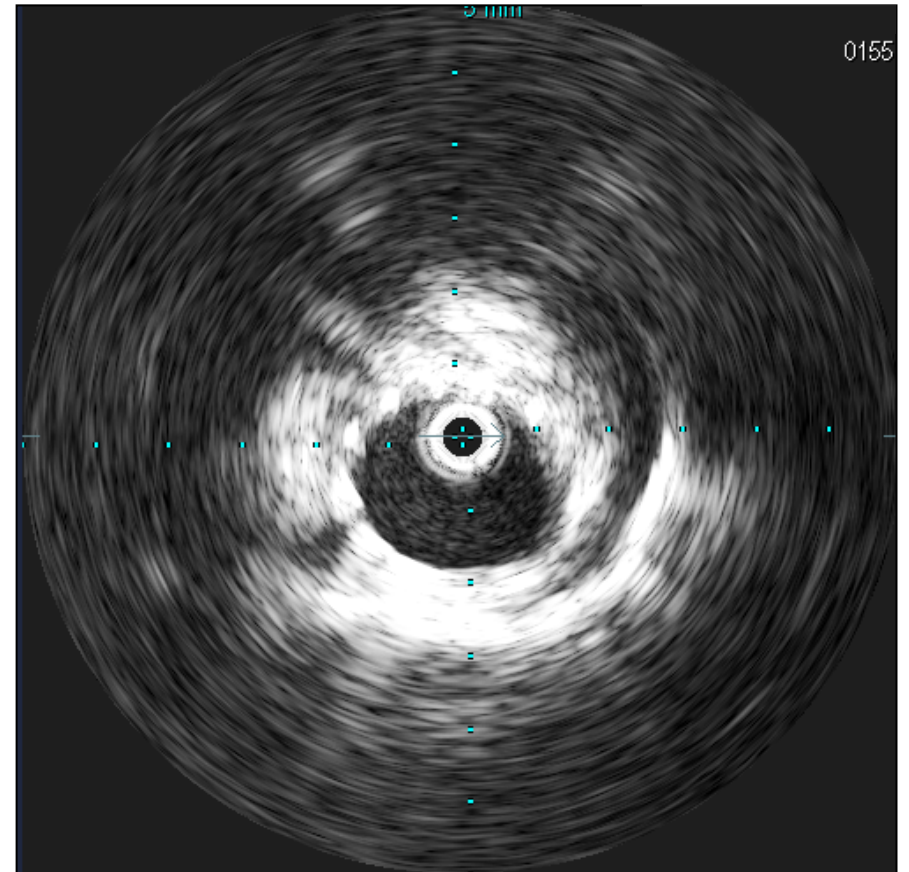
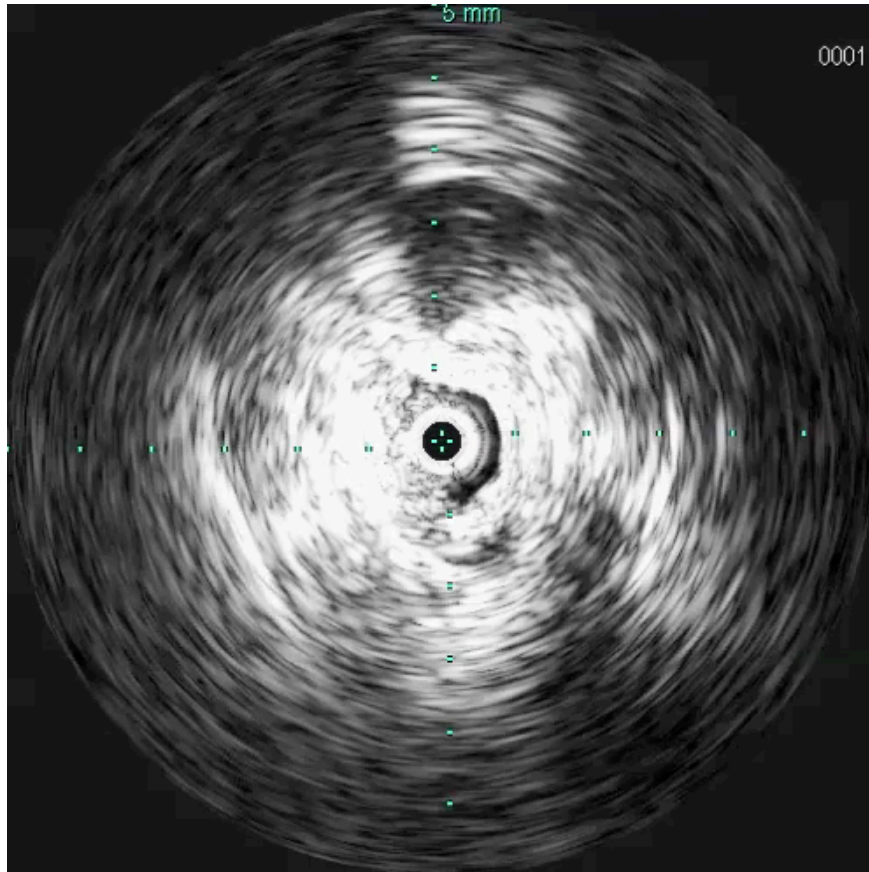
Intervention



- The entirety of the graft and venous anastomosis were then angioplastied with an 8 X 8 balloon
- Subclavian vein and brachiocephalic were treated with angioplasty using a 14 X 4 balloon

IVUS Findings

Post



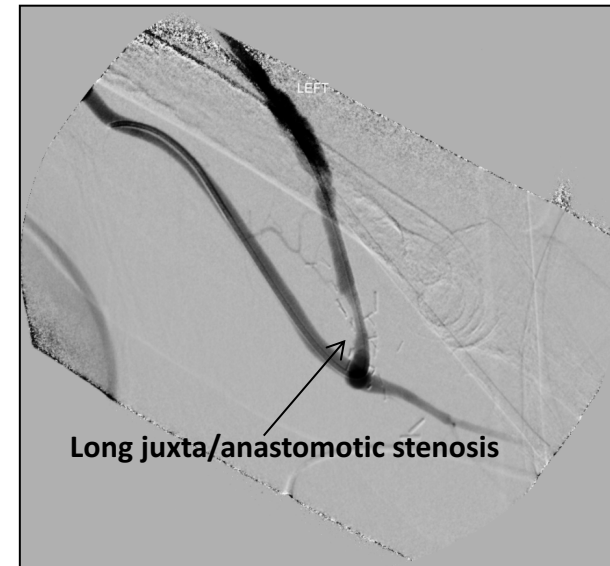
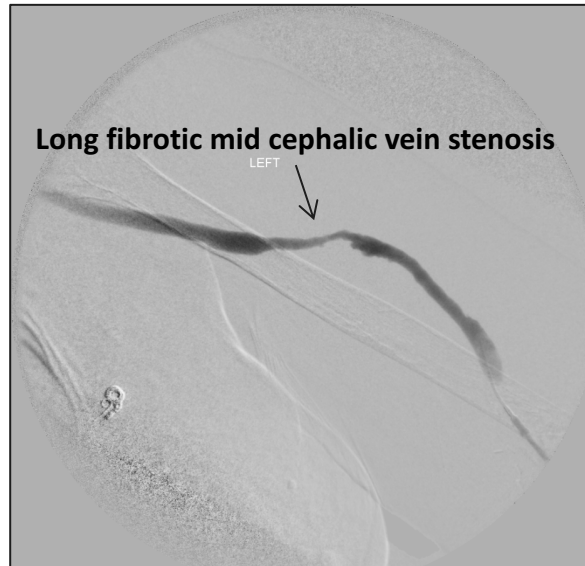
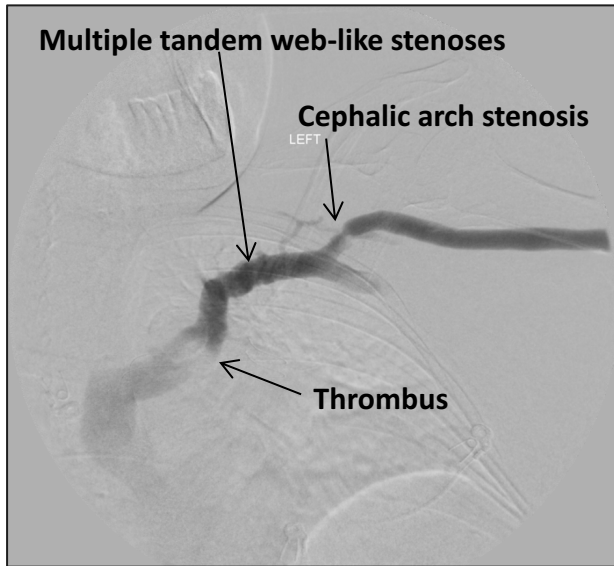
Conclusion

- IVUS was critical in differentiating a moderate appearing stenosis from a complete occlusion associated to thrombus and dense fibrotic nature of the lesion.

#2 Case Presentation

- 66 year-old ESRD female
- Referred for difficult cannulation and prolonged bleeding
- Patient is dialyzed via a left arm brachial artery to cephalic vein fistula
- Physical examination reveals absent bruit/thrill
- Fistulagram was performed

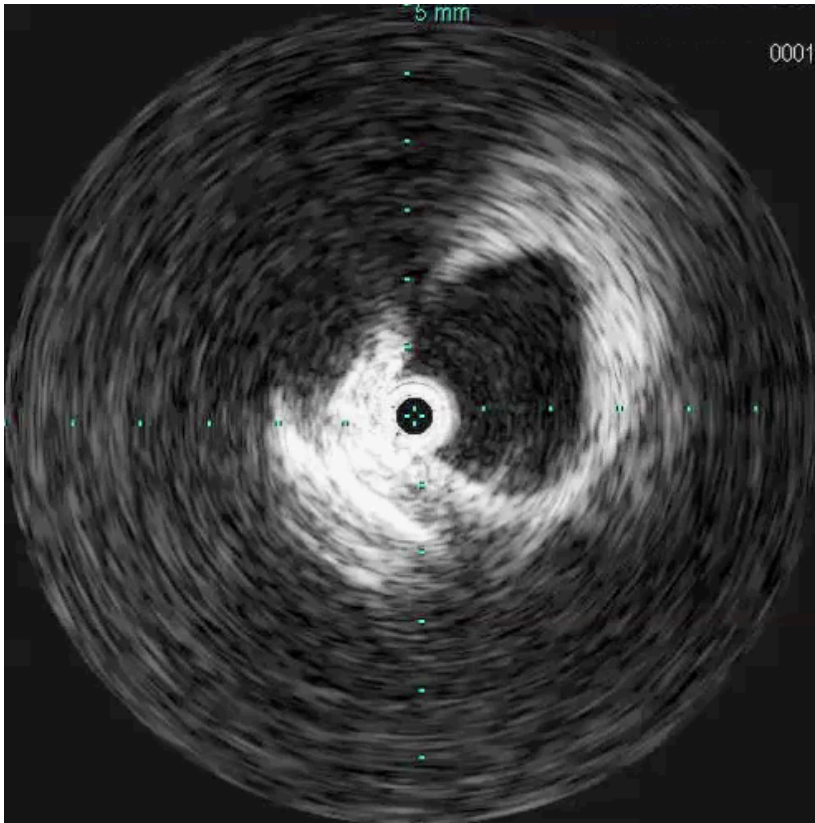
Findings



- Demonstrates multiple hemodynamically significant stenosis within the brachiocephalic AV fistula, including one cephalad to the anastomosis, the cephalic arch, subclavian, and brachiocephalic veins.

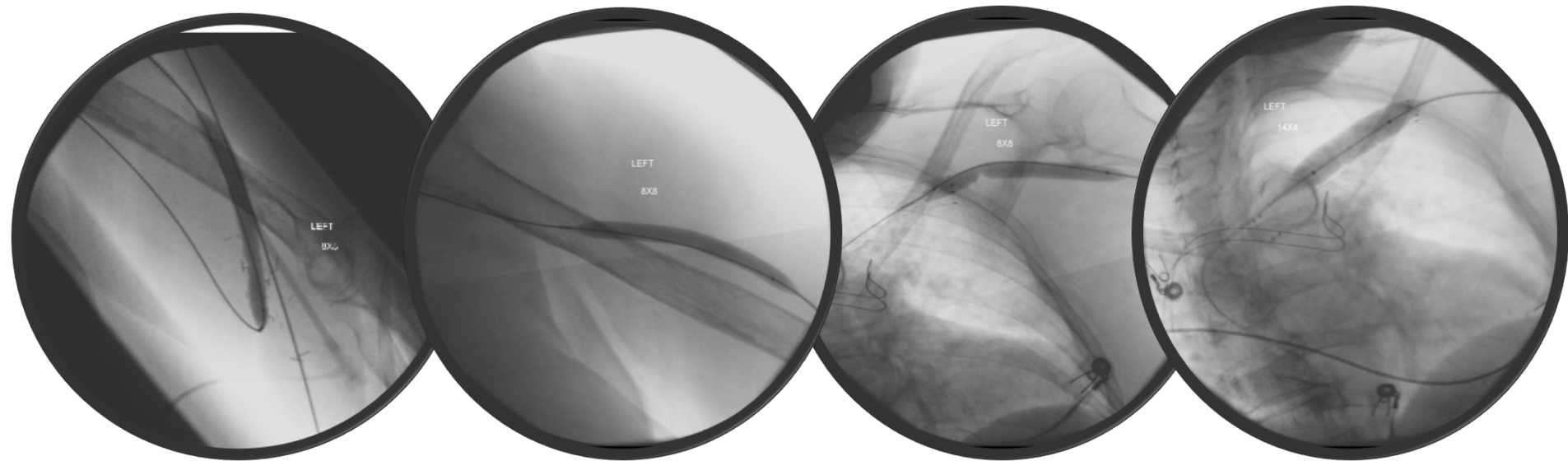
IVUS Findings

Pre



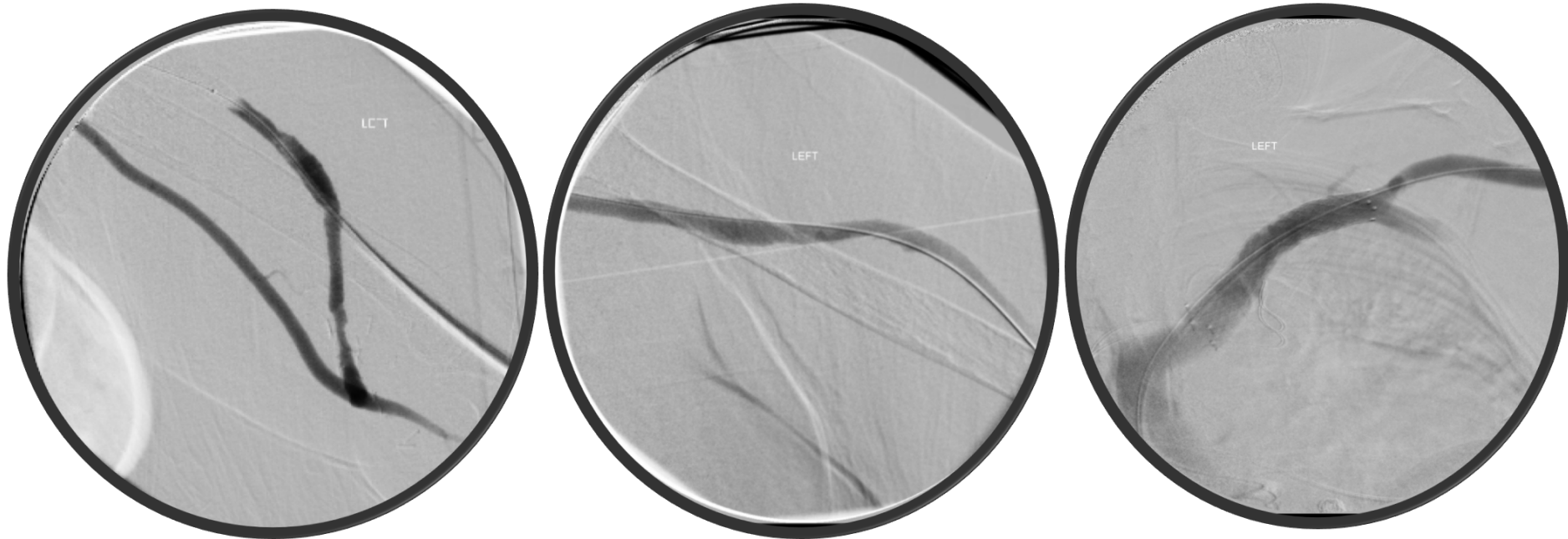
- Multiple cephalic vein outflow problems, including high grade stenosis of the juxta-anastomotic with prominent mural thrombus, severe mid and cephalic arch stenosis and multiple tandem web-like stenosis of the left subclavian and brachiocephalic veins requiring thrombolysis, angioplasties and stenting of the central veins.

Intervention



- Angioplasties of the cephalic vein were performed with an 8 X 8 balloon and the central stenosis with an 14 X 8 non-covered stent and a 14 X 4 balloon.

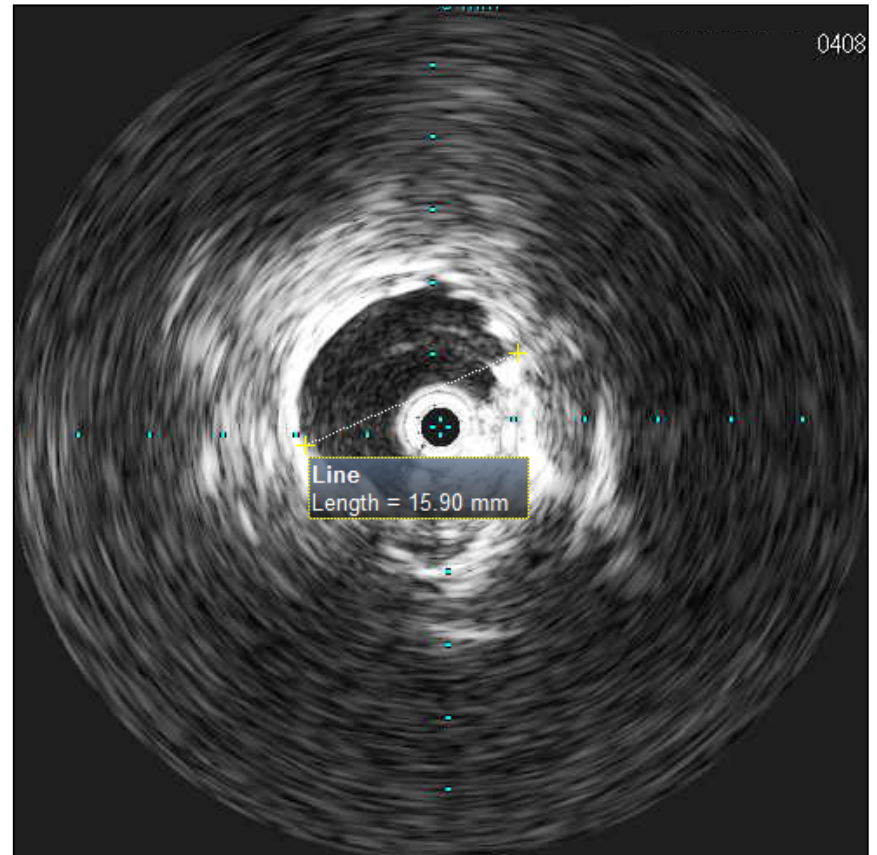
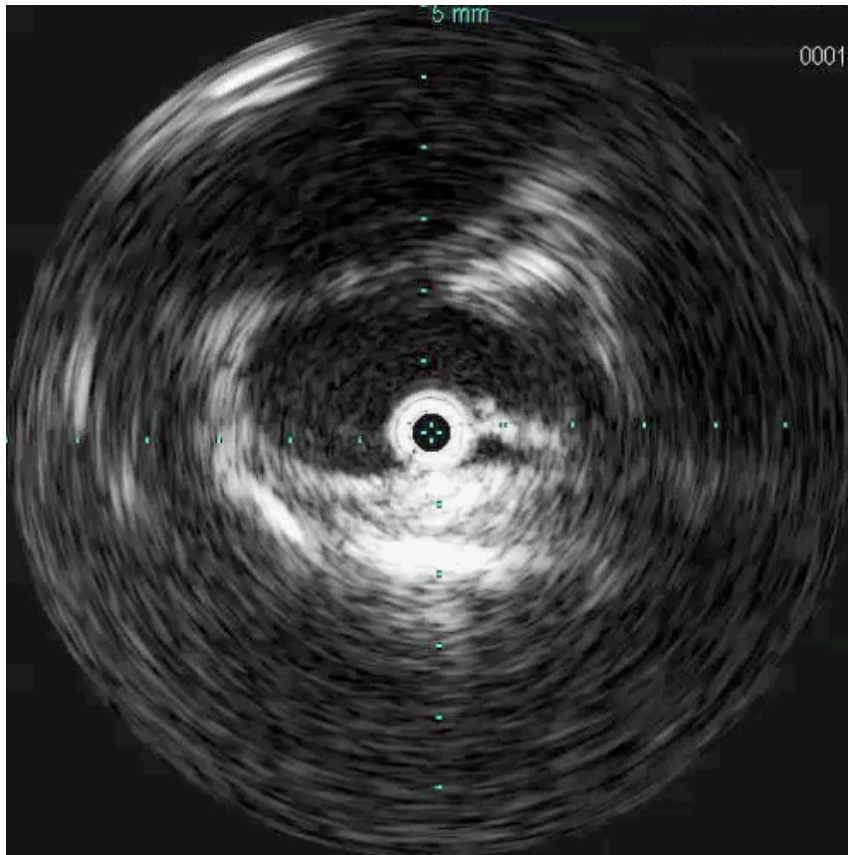
Results



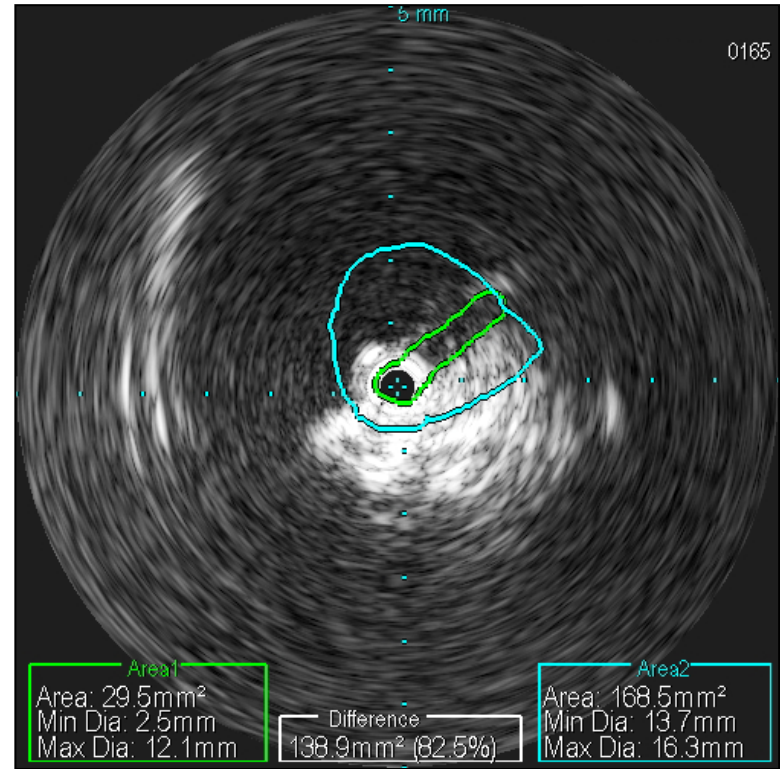
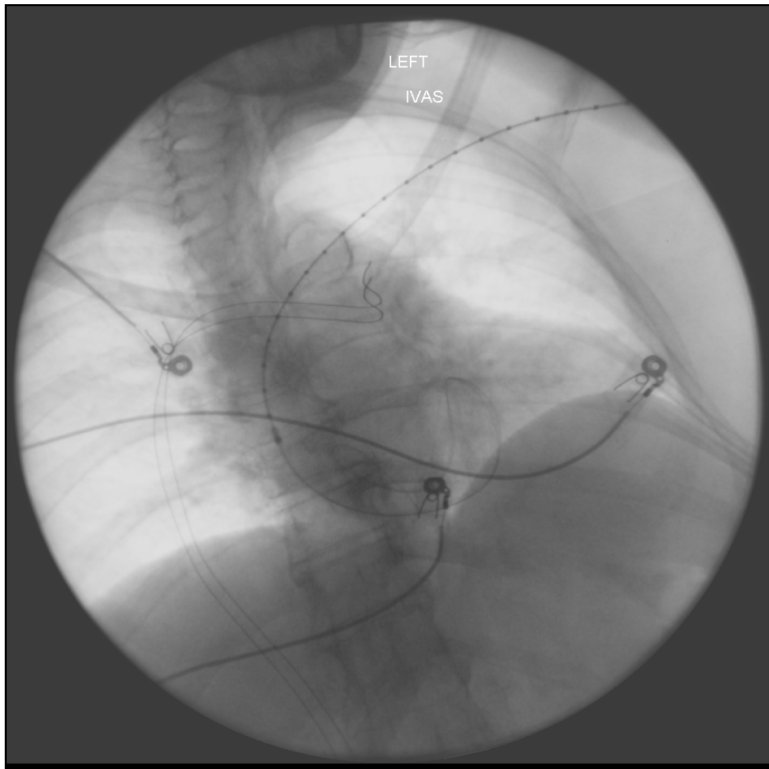
- Mild residual juxta-anastomotic stenosis due to dense fibrotic changes, but complete resolution of mid-cephalic and arch stenosis as well as multiple high-grade tandem stenosis of the subclavian and brachiocephalic and thrombus.

IVUS Findings

Post



Conclusion



- The diagnostic assistance of IVUS was critical in the central vein stenosis due to the nature of the stenosis which consisted of very thin and severe anastomotic narrowing that was not clearly visualized on DSA

