Percutaneous Fenestration and Stent-graft Insertion for Treatment of Hemodialysis-related Venous Outflow Tract Occlusion

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**Case Presentation:** A 48 year-old man with left brachio-jugular AV graft was referred to our vascular center due to a segmental occlusion of the venous outflow tract including anastomosis and proximal jugular vein.

**Fig 1.** Initial fistulography showed a short segment stenosis in the jugular vein (arrow). **Fig 2.** Eight-month follow-up fistulography revealed complete occlusion in the outflow tract. **Fig 3.** The occluded segment could not be passed in both the antegrade and retrograde approach. **Fig 4.** A new tract was made in the subcutaneous layer from the graft to the innominate vein by fluoroscopy-guided percutaneous puncture using a 21-G micropuncture needle. **Fig 5.** A stent-graft (8 X 70mm) was placed in the new subcutaneous tract after balloon angioplasty. **Fig 6.** Final fistulography revealed completely recovered graft patency without contrast extravasation. The recanalized segment was patent for 37 month until the a new AV graft was formed.

**Conclusion:** Recanalization of venous outflow tract occlusion by means of percutaneous puncture is feasible which can be used as a last resort technique, but should be performed with great care.