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Venous hypertension of arteriovenous graft resolved by stent-graft placement by an interventional nephrologist: A case report.

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Case Study: An arteriovenous graft (AVG), which is necessary for hemodialysis (HD), has frequent complications; stenosis that causes venous hypertension is concerning for physicians. Herein, we present a case of improved venous hypertension using a COVERA stent-graft in an elderly HD patient.
A 67-year-old male patient was admitted to the emergency room with dyspnea. Left brachio-basilic forearm loop AVG surgery was performed at a local clinic 2 weeks ago, and he was preparing for dialysis. At the time of admission to the emergency room, serum blood urea nitrogen 198.6 mg/dL, creatinine 21.6 mg/dL, potassium 8.2 mEq/L, and chest PA showed pulmonary congestion. The wound of the AVG operation site did not heal, and needle puncture was not possible due to redness and swelling. After inserting a right internal jugular permanent catheter, HD was started.
Ultrasound was performed on the AVG to evaluate the swelling of the arm, and the juxta-graft-venous junction (GVJ) and regurgitation to the periphery of the basilic vein were confirmed.
We diagnosed venous hypertension based on ultrasound showing regurgitation to the periphery of the basilic vein and juxta-GVJ stenosis. The stenosed juxta-GVJ was adequately expanded using a 6-mm balloon, and an 8-mm stent graft was placed into the stenosis site by an interventional nephrologist. Following the successful treatment of the condition, there was no regurgitation to the periphery of the basilic vein. On the 6th day after the procedure, swelling, redness and wound of the arm improved, and needle puncture for hemodialysis was possible.
Stent-graft placement by interventional nephrologist may be an alternative to surgical treatment for venous hypertension caused by stenosis of the GVJ and regurgitation to the periphery in AVG patients.

Figure 1. Vascular ultrasound and fistulography before and after stent-graft placement.