PREPROCEDURE DIAGNOSIS: , End-stage renal disease.,POSTPROCEDURE DIAGNOSIS: , End-stage renal disease.,PROCEDURES PERFORMED,1. Left arm fistulogram.,2. Percutaneous transluminal angioplasty of the proximal and distal cephalic vein.,3. Ultrasound-guided access of left upper arm brachiocephalic fistula.,ANESTHESIA:, Sedation with local.,COMPLICATIONS:, None.,CONDITION:, Fair.,DISPOSITION:, PACU.,ACCESS SITE:, Left upper arm brachiocephalic fistula.,SHEATH SIZE: , 5 French.,CONTRAST TYPE: , JC PEG tube 70.,CONTRAST VOLUME: , 48 mL.,FLUOROSCOPY TIME: , 16 minutes.,INDICATION FOR PROCEDURE: , This is a 38-year-old female with a left upper arm brachiocephalic fistula which has been transposed. The patient recently underwent a fistulogram with angioplasty at the proximal upper arm cephalic vein due to a stenosis detected on Duplex ultrasound. The patient subsequently was noted to have poor flow to the fistula, and the fistula was difficult to palpate. A repeat ultrasound was performed which demonstrated a high-grade stenosis involving the distal upper arm cephalic vein just distal to the brachial anastomosis. The patient presents today for a left arm fistulogram with angioplasty. The risks, benefits, and alternatives of the procedure were discussed with the patient and understands and in agreement to proceed.,PROCEDURE DETAILS: ,The patient was brought to the angio suite and laid supine on the table. After sedation was administered, the left arm was then prepped

and draped in a standard surgical fashion. Continuous pulse oximetry and cardiac monitoring were performed throughout the procedure. The patient was given 1 g of IV Ancef prior to incision.,The left brachiocephalic fistula was visualized with bevel ultrasound. The cephalic vein in the proximal upper arm region appeared to be of adequate caliber. There was an area of stenosis at the proximal cephalic vein just distal to the brachial artery anastomosis. The cephalic vein in the proximal forearm region was easily compressible. The skin overlying the vessel was injected with 1% lidocaine solution. A small incision was made with the #11 blade. The cephalic vein then was cannulated with a 5 French micropuncture introducer sheath. The sheath was advanced over the wire. A fistulogram was performed which demonstrated a high-grade stenosis just distal to the brachial artery anastomosis. The introducer sheath was then exchanged for a 5 French sheath over a 0.025 guide wire. The sheath was aspirated and flushed with heparinized saline solution. A 0.025 glidewire was then obtained and advanced, placed over the sheath and across the area of stenosis into the brachial artery. A 5 French short Kumpe catheter was used to guide the wire into the distal brachial and radial artery. After crossing the area of stenosis, a 5 x 20 mm standard angioplasty balloon was obtained and prepped from the back table. This was placed over the glidewire into the area of stenosis and inflated to 14 mmHg pressure and then deflated. The balloon was then removed over the wire and repeat fistulogram was performed which demonstrated significant improvement. However, there

is still a remainder of residual stenosis. The 5-mm balloon was placed over the wire again and a repeat angioplasty was performed. The balloon was then removed over the wire and a repeat angiogram was performed which demonstrated again an area of stenosis right at the anastomosis. The glidewire was removed and a 0.014 guide wire was then obtained and placed through the sheath and across the brachial anastomosis and into the radial artery. A 4 x 20 mm cutting balloon was obtained and prepped on the back table. The 5 French sheath was then exchanged for a 6 French sheath. The balloon was then placed over the 0.014 guide wire into the area of stenosis and then inflated to normal pressures at 8 mmHg. The balloon was then deflated and removed over the wire. A 5 mm x 20 mm balloon was obtained and prepped and placed over the wire into the area of stenosis and inflated to pressures of 14 mmHg. A repeat fistulogram was performed after the removal of the balloon which demonstrated excellent results with no significant residual stenosis. The patient actually had a nice palpable thrill at this point. The fistulogram of the distal cephalic vein at the subclavian anastomosis was performed which demonstrated a mild area of stenosis. The sheath was removed and blood pressure was held over the puncture site for approximately 10 minutes.,After hemostasis was achieved, the cephalic vein again was visualized with bevel ultrasound. The proximal cephalic vein was then cannulated after injecting the skin overlying the vessel with a 1% lidocaine solution. A 5 French micropuncture introducer sheath was then placed over the wire into the proximal

cephalic vein. A repeat fistulogram was performed which demonstrated an area of stenosis within the distal cephalic vein just prior to the subclavian vein confluence. The 5 French introducer sheath was then exchanged for a 5 French sheath. The 5 mm x 20 mm balloon was placed over a 0.035 glidewire across the area of stenosis. The balloon was inflated to 14 mmHg. The balloon was then deflated and a repeat fistulogram was performed through the sheath which demonstrated good results. The sheath was then removed and blood pressure was held over the puncture site for approximately 10 minutes. After adequate hemostasis was achieved, the area was cleansed in 2x2 and Tegaderm was applied. The patient tolerated the procedure without any complications. I was present for the entire case. The sponge, instrument, and needle counts are correct at the end of the case. The patient was subsequently taken to PACU in stable condition.,ANGIOGRAPHIC FINDINGS:, The initial left arm brachiocephalic fistulogram demonstrated a stenosis at the brachial artery anastomosis and distally within the cephalic vein. After standard balloon angioplasty, there was a mild improvement but some residual area of stenosis remained at the anastomosis. Then postcutting balloon angioplasty, venogram demonstrated a significant improvement without any evidence of significant stenosis.,Fistulogram of the proximal cephalic vein demonstrated a stenosis just prior to the confluence with the left subclavian vein. Postangioplasty demonstrated excellent results with the standard balloon. There was no evidence of any contrast

extravasation.,IMPRESSION,1. High-grade stenosis involving the cephalic vein at the brachial artery anastomosis and distally. Postcutting balloon and standard balloon angioplasty demonstrated excellent results without any evidence of contrast extravasation.,2. A moderate grade stenosis within the distal cephalic vein just prior to the confluence to the left subclavian vein. Poststandard balloon angioplasty demonstrated excellent results. No evidence of contrast extravasation.