

Early experience with percutaneous interventions on failing HeRO arteriovenous grafts.

View Presentation

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Purpose:

Purpose: To determine the etiology of Hemodialysis Reliable Outflow (HeRO) device dysfunction and post-interventional outcome. The HeRO device is a permanent access solution for access-challenged hemodialysis patients. The device consists of a PTFE graft connected to a tunneled catheter, thus bypassing any central venous pathology and negating the possibility of a venous anastomosis stenosis.

Materials:

Materials and methods: Review of our surgical database revealed a total of 50 patients who underwent surgical HeRO device insertion between 2/06 and 10/10. The average age was 55.8 years (range 31-83). Clinical, radiologic, and surgical notes were reviewed to determine which grafts underwent percutaneous interventions, the associated findings, and eventual outcomes.

Results:

Results: A total of 67 percutaneous interventions were performed on 20 patients who presented to our interventional radiology department with HeRO graft dysfunction. First-time thrombosis or dysfunction of the HeRO grafts occurred at a mean 170 days (range 15-470 days) after HeRO insertion. 59 of the procedures were performed due to HeRO graft thrombosis and eight were performed due to abnormal flows at hemodialysis. The technical success rate for restoring function was 100%. A median of 2.5 interventions were performed on the intervened-upon HeRO grafts. The most common angiographic abnormality identified were apparent intragraft stenoses (n=46). Of these, 24 were in the venous limb, 12 were in the arterial limb, and 10 were midgraft. In 12 procedures (all of which were thrombosed grafts), no identifiable abnormality was identified. In three patients, a fibrin sheath was identified. Uncommon causes included native artery stenosis, graft kinking, catheter end-walling, catheter tip malposition, and azygous vein stenosis. Ten patients are still currently using their HeRO graft with an average of 342 days since their first intervention.

Conclusions:

Conclusion: The most common cause of HeRO graft thrombosis or dysfunction was an intragraft stenosis. Percutaneous interventions were highly successful at restoring function.