

Interventional Radiology Coding Case Studies
Prepared by
Stacie L. Buck, RHIA, CCS-P, RCC, CIRCC, AAPC Fellow
President & Senior Consultant

Week of January 15, 2018

**Fistulogram, Mechanical & Pharmacologic Thrombolysis for
Malfunctioning Fistula**

CLINICAL HISTORY: This is a 39-year-old male with a history of longstanding renal disease and has had a right upper extremity HeRO graft placed. This has been malfunctioning on his last dialysis session.

INFORMED CONSENT: The patient's diagnosis, treatment plan/procedure, risks and benefits, treatment alternatives, complications, and prognosis with and without treatment were explained to the patient and/or patient's family in plain language. Informed consent was obtained and we were asked to proceed with the procedure.

PROCEDURE: All elements of a maximal sterile barrier technique were utilized during this procedure including cap, mask, sterile gown, sterile gloves, large sterile sheet, hand hygiene, and 2% chlorhexidine for cutaneous antisepsis

Fluoroscopy Time: A total of 14.4 minutes of fluoroscopic x-ray time were utilized to perform this procedure. **CONTRAST USED:** LOCM 300-399 MG/ML 95 mL.

The IV moderate conscious sedation was supervised by the operating physician(s) using fentanyl and Versed for 100 minutes. The patient was independently monitored by the IVR nurse. There were no complications.

The patient was brought to the fluoroscopy suite and placed in the supine position on the fluoroscopy table. The right arm was abducted in a 90 position for access to the right upper extremity HeRO graft. The right upper extremity was prepped and draped in the usual sterile fashion. Ultrasound survey was performed with images stored and sent to PACS.

A site was selected for puncture near the arteriovenous anastomosis in a centrally directed orientation. The skin and subcutaneous tissues were infiltrated with 2% Lidocaine for local anesthesia, and under ultrasound guidance, a 21-gauge micropuncture needle was advanced into the distal graft. A 0.018 microwire was passed through the needle and observed to enter

RadRx

"Your Prescription for Accurate Coding & Reimbursement"

Copyright 2018. All Rights Reserved.

www.radrx.com

Distribution of this document is strictly prohibited. The content is created exclusively for those individuals who have a paid subscription to the RadRx Weekly Interventional Case Studies. Email info@radrx.com to purchase a subscription.

the graft centrally. The needle was removed and a 4-French microsheath was placed over the wire. The inner dilator and wire were removed, and then a Glidewire was passed centrally. An MPA catheter was then passed over the Glidewire centrally and a pullback angiogram was performed to identify the site of occlusion.

The Glidewire was then passed again centrally and the MPA catheter was removed. The 7 mm x 4 cm balloon was used to dilate a waist near the transition point of the HeRO graft just distal to the metal ring. The 7 mm balloon was then used to macerate thrombus along the distal most aspect of the graft, just proximal to the puncture site above the arterial anastomosis. The wire was left in place while the balloon was removed.

We then turned our attention to the more proximal graft site for a peripherally oriented puncture. The skin and subcutaneous tissues were infiltrated with 2% Lidocaine for local anesthesia and a 21-gauge micropuncture was used to access the graft. A 0.018 microwire was passed and the needle was removed. A 4-French microcatheter was placed over the microwire and the inner dilator and microwire were removed. Glidewire was then used to navigate into the brachial artery. The 4-French microsheat was removed, and a Kumpe catheter was placed over the Glidewire. The Kumpe catheter as navigated into the proximal brachial artery, the wire was removed, and an angiogram was performed.

The torque wire was then navigated through the Kumpe catheter into the axillary artery and the Kumpe catheter was removed. A 4 mm x 4 cm balloon was passed over the wire to the arterial anastomosis for sequential balloon dilation of both the arterial anastomosis and the proximal most aspect of the venous outflow. After several balloon dilations, it was noted that the entire length of the venous outflow had slow flow to no flow and there was a concern for thrombosis. At this point, we placed a wire across the arterial anastomosis into the brachial artery and the balloon was exchanged for the Kumpe catheter. The Kumpe catheter was placed at the puncture site for hemostasis.

A Glidewire was navigated through the MPA catheter in a centrally directed fashion to measure for the length of the UniFuse catheter. We selected a 20 cm Uni Fuse catheter to place across the venous graft for tPA infusion. Once the UniFuse catheter was in place over the Glidewire, the Glidewire was removed and the obturator wire was placed. We then infused tPA in 0.3 to 0.4 mL aliquots every 20 seconds over the course of approximately 5 to 10 minutes. Once 10 mL of the solution was infused, the obturator wire was removed and the Glidewire was navigated into the venous outflow. The 7 mm x 4 cm balloon was passed over the wire and serial dilation was performed from the distal aspect of the HeRO graft to the proximal most aspect at the puncture site. The balloon was deflated, and then the Kumpe catheter was exchanged for a 0.035 Fogarty balloon. The Fogarty balloon was passed over the Glidewire into the brachial artery, the balloon was partially inflated and the balloon was pulled through the arterial anastomosis. The



"Your Prescription for Accurate Coding & Reimbursement"

Copyright 2018. All Rights Reserved.

www.radrx.com

Distribution of this document is strictly prohibited. The content is created exclusively for those individuals who have a paid subscription to the RadRx Weekly Interventional Case Studies. Email info@radrx.com to purchase a subscription.

balloon was deflated and withdrawn, and then the Kumpe catheter was passed again across the arterial anastomosis for an angiogram. The angiogram demonstrated a patent HeRO graft. At this point, all catheters, wires and balloons were removed and manual pressure was used for hemostasis. The patient tolerated the procedure well and remained hemodynamically stable throughout. No complications were encountered and no significant blood loss was encountered.

DISCUSSION

The initial ultrasound survey demonstrates thrombus within the proximal aspect of the venous outflow.

The initial pullback angiogram demonstrates a patent HeRO graft from the distal most aspect to the mid aspect of the venous outflow. There was only a small amount of thrombus within the most distal aspect of the venous outflow. A small waist was present just above the junction of the graft to the metal hub. This was balloon dilated with a 6 mm x 4 cm Charger balloon without significant stenosis thereafter. Angiogram of the brachial artery demonstrates very little flow through the arterial anastomosis, which is felt to represent a stenosis at the initiation. The arterial anastomosis was balloon dilated with a 4 mm x 4 cm Charger balloon. Pharmacologic and mechanical thrombolysis of thrombus in the length of the venous outflow. Status post balloon maceration and passage of a Fogarty balloon across the arterial anastomosis, there is restored flow through the hemodialysis HeRO graft.

The arterial injection of the Kumpe catheter into the brachial artery demonstrates relatively slow flow through the upper arm artery. At the completion of the case, there was pulsatile flow through the length of the graft, which was improved from the beginning of the procedure.

IMPRESSION: HeRO. Status post mechanical and pharmacologic thrombolysis of a thrombosed graft. Status post balloon angioplasty of the arteriovenous anastomosis of the HeRO graft with a 4 mm x 4 cm Charger balloon. Pulsatile flow was present at the completion of the case, which was improved.

RadRx

"Your Prescription for Accurate Coding & Reimbursement"

Copyright 2018. All Rights Reserved.

www.radrx.com

Distribution of this document is strictly prohibited. The content is created exclusively for those individuals who have a paid subscription to the RadRx Weekly Interventional Case Studies. Email info@radrx.com to purchase a subscription.

Interventional Radiology Coding Case Studies CPT Codes

Week of January 15, 2018

Fistulogram, Mechanical & Pharmacologic Thrombolysis for Malfunctioning Fistula

Procedure Codes:

- 36905 Fistulogram followed by thrombectomy and angioplasty graft
- 36215 Catheterization of brachial artery
- 75710-RT Imaging of brachial artery (right upper extremity)
- 76937 Ultrasound guidance vascular access
- 99152 Initial 15 minutes of moderate sedation
- 99153 x6 Each additional 15 minutes moderate sedation
- Q9967 x95 LOCM 300-399 MG/ML
- J2250 Injection, midazolam hydrochloride, per 1 mg (Versed)
- J3010 Injection, fentanyl citrate, 0.1 mg
- J2997 Injection, alteplase recombinant, 1 mg (tPA)

Diagnosis Codes:

- T82.868A Thrombosis due to vascular prosthetic devices, implants and grafts, initial encounter

Comments:

- Direct access into the graft followed by fistulogram, followed by thrombectomy and angioplasty of the arterial anastomosis (36905). Additional punctures are included.
- The brachial artery was catheterized and imaging of the arm was performed in addition to imaging of the graft. (36215, 75710-RT).
- Documentation requirements met for ultrasound guidance for vascular access (+76937).
- 100 minutes of moderate conscious sedation noted, billed in 15 minute increments. (99152, 99153). At least 8 minutes of a 15 minute block must be completed to assign an additional 15 minutes.
- Drug amounts were not specified in the report to assign a quantity.
- *Supplies are billed by the facility performing the procedure and should not be assigned for professional fee coding.*

RadRx

"Your Prescription for Accurate Coding & Reimbursement"

Copyright 2018. All Rights Reserved.

www.radrx.com

Applicable Coding Guidelines:

- Evaluation of the peri-anastomotic portion of inflow is considered an integral part of the dialysis fistulagram and is included in the work for 36901.
 - ❖ The peri-anastomotic portion of the vessel at the arterial anastomosis includes the short segment of the artery immediately adjacent to the anastomosis, the anastomosis itself and the portion of the vessel or graft immediately distal to the anastomosis.
- The arterial inflow to the dialysis circuit is considered a separate vessel. If a more proximal inflow problem separate from the peripheral dialysis segment is suspected, additional catheter placement and imaging required for adequate evaluation of the artery may be separately reported. This work is not included in 36901.
- If catheter is selectively advanced from the dialysis circuit puncture beyond the peri-anastomotic segment into the inflow artery an additional catheter code may be reported, typically code 36215 is reported for this work. This includes placement of the catheter retrograde into the inflow artery and into the aorta if necessary (36200 is bundled into 36215).
- Code 75710 may be reported when a separate diagnostic evaluation is performed of the inflow artery.
- Use of a balloon to remove a thrombus is considered part of the thrombectomy and should not be coded separately.
 - ❖ Removal of the arterial plug is included in 36904 when a balloon catheter is used.
 - ❖ A separate stenosis treated with balloon angioplasty must be documented to report code 36905 instead of code 36904 when angioplasty is performed with thrombectomy.

RadRx

"Your Prescription for Accurate Coding & Reimbursement"

Copyright 2018. All Rights Reserved.

www.radrx.com

Distribution of this document is strictly prohibited. The content is created exclusively for those individuals who have a paid subscription to the RadRx Weekly Interventional Case Studies. Email info@radrx.com to purchase a subscription.

Key Terms	
Dialysis Circuit	Begins at the arterial anastomosis and extends to the right atrium. Comprised of two segments (zones): peripheral dialysis segment & central dialysis segment
Peripheral Dialysis Segment	Begins at the arterial anastomosis and extends to the central dialysis segment. Includes the peri-anastomotic region: region of the dialysis circuit near the arterial anastomosis encompassing a short segment of the parent artery, the anastomosis, and a short segment of the dialysis circuit immediately adjacent to the anastomosis. <ul style="list-style-type: none"> • Upper extremity: Extends through the axillary vein (cephalic vein w/ cephalic venous outflow) • Lower extremity: Extends through the common femoral vein
Central Dialysis Segment	Includes all draining veins central to the peripheral dialysis segment. <ul style="list-style-type: none"> • Upper extremity: includes veins central to the axillary and cephalic veins, including the subclavian and innominate veins through the SVC. • Lower extremity: includes central veins to the common femoral vein, including the external and common iliac veins through the IVC.
Peri-anastomotic region	Region of the dialysis circuit near the arterial anastomosis encompassing a short segment of the parent artery, the anastomosis, and a short segment of the dialysis circuit immediately adjacent to the anastomosis. This region is included within the peripheral segment of the dialysis circuit.



"Your Prescription for Accurate Coding & Reimbursement"

Copyright 2018. All Rights Reserved.

www.radrx.com

Distribution of this document is strictly prohibited. The content is created exclusively for those individuals who have a paid subscription to the RadRx Weekly Interventional Case Studies. Email info@radrx.com to purchase a subscription.