Interventional Radiology Coding Case Studies

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Venography & Embolization of Varicoceles

PROCEDURE: Ultrasound-guided access right internal jugular vein; bilateral selective renal vein catheterization with venogram and bilateral selective testicular vein catheterization with venogram; left testicular vein embolization.

CLINICAL INDICATION: 58 year old male with left testicular pain found to have grade 3/4 varicoceles.

PROCEDURE DETAILS AND FINDINGS: After verbal and informed written consent were obtained, the patient was brought to the angiographic suite and placed in a supine position. Conscious sedation was initiated by the nurse with continued physician and nurse monitoring throughout the procedure. The right neck was preppe d and draped in a standard sterile fashion. Sonographic evaluation of the right neck shows patent UV; an image was stored in PACS.

The skin was anesthetized with 3ml of 2% Lidocaine. Using fluoroscopic and sonographic guidance, a micropuncture needle was advanced into the right UV with subsequent placement of a 5Fr sheath. A 5 Fr Berenstein catheter was maneuvered across the right atrium into the IVC. Bilateral renal vein catheterization was sequentially performed followed by venograms. The left testicular vein was selected off the left inferior renal vein and maneuvered just beyond the ostium. With Vasalva maneuver, venogram showed enlarged testicular vein with distal parallel ascending collaterals and filling of large scrotal varicoceles.

The catheter was maneuvered into the distal testicular vein. A 3Fr Renegade microcatheter was introduced coaxially and maneuvered distally just below the level of the inguinal ligament. The entire distal to proximal vein was embolized with multiple 0.018 in coils ranging 10-12mm diameter x 40cm, ensuring occlusion of the main segment as well as any feeding collaterals. The microcatheter was removed and final venogram showed effective occlusion of the vein with no further filling of the varicoceles or collateral veins.
The catheter was retracted into the IVC. Selective catheterization of the right ovarian vein off the IVC was then performed, and the catheter was placed just beyond the ostium. With Vasalva maneuver, venogram showed normal caliber vein with filling of small varicoceles along the spermatic cord. The right testicular vein was not embolized. The procedure was concluded with removal of the sheath, and satisfactory hemostasis was achieved with manual compression. Total sedation time was 1 hour. The patient was transferred to the PACU in stable overall condition.

VENOGRAPHIC FINDINGS

2. Abnormal left testicular venogram showing an enlarged testicular vein with filling of numerous large scrotal varicoceles. A few ascending collaterals along the distal segment were noted.
3. Post-embolization venogram showed excellent result with complete occlusion of the left testicular vein and no further filling of scrotal varicoceles or collaterals.
4. Normal size right testicular vein. Venogram showed small varicoceles along the spermatic cord.

IMPRESSION: Successful coil embolization of the left testicular vein, which was noted to have severe reflux with filling of grade 3/4 scrotal varicoceles.
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CPT Codes

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Procedure Codes:

- 36011(59)  Right renal vein catheterization
- 36011(59)  Right testicular vein catheterization
- 36012  Left testicular vein catheterization
- 75833(59)  Bilateral renal venograms
- 76496 x2  Bilateral testicular venograms
- 37241  Embolization left testicular vein
- 76937  Ultrasound guidance for vascular access
- 99152  Moderate sedation first 15 minutes
- 99153 x3  Moderate sedation each additional 15 minutes

Diagnosis Codes:

- I86.1  Scrotal varicoceles

Comments:

- Code 36011(59) is assigned for catheterization of the right renal vein, a first order vessel directly off the IVC. It is also assigned for catheterization of the right testicular vein, also a first order vessel off the IVC.
- Code 36012 is assigned for catheterization of the left testicular vein. Catheterization of he left renal is bundled with 36012.
- Code 75822 is assigned for the bilateral renal venograms performed.
- Code 769496 x2 is assigned for bilateral testicular venograms. Please note there are differences of opinion on how to code for testicular venograms. See further detail under Applicable Coding Rules.
- Code 37241 is assigned for embolization of the left testicular vein to treat varicocele.
• Code 76937 is assigned for ultrasound guided vascular access because all documentation requirements were met for the code.
• 60 minutes of moderate conscious sedation noted, billed in 15 minute increments. (99152, 99153)
  o Note that the specific medications administered are not noted on the operative report.

Applicable Coding Rules:

Catheterization Coding

- Non-Selective Catheterization
  
  - Code 36005 is assigned when an upper or lower extremity vessel is accessed and the catheter is not moved beyond the puncture site.
  
  - Code 36010 is assigned when the catheter is advanced from the vessel punctured into the vena cava. Code 36005 is bundled into code 36010.
  
  - Code 36299 is utilized to describe non-selective catheterization of the internal jugular vein.

- Selective Catheterization
  
  - When the initial access is via either the upper or lower extremities, selective catheterization codes are utilized when the catheter is moved beyond the vena cava or vessel punctured.
  
  - Code for the highest order of vessel selected, the most distal catheter placement, and always code selective catheterization over non-selective catheterization as non-selective catheterization codes are bundled with selective catheterization codes.
  
  - Code each vascular family separately. If one family requires a lesser order catheterization from the other, append modifier -59 to the lesser order code.
  
  - Only one 36011 may be assigned per vascular family. There are no add-on codes for catheterizations of the venous system. Assign code 36012 for additional second or third order branches catheterized in the same vascular family.
Venography Coding

- Codes 75831 (unilateral) and 75833 (bilateral) for renal venography have the term “selective” in the code description. When this term is in the code description, it means that the catheter must be placed in that particular vessel for imaging for which there is an interpretation.

- There are no venography codes that specifically describe imaging of the gonadal veins (ovarian or testicular) and there is no official guidance on how venography of these vessels should be reported, however here are some recommendations for coding these studies:
  - Since the left gonadal vein (ovarian/testicular) is off of the left renal, consider 75831 for a left gonadal (ovarian/testicular) venogram.
  - Since the right gonadal vein (ovarian/testicular) is directly off of the IVC, consider 75820 for a right gonadal (ovarian/testicular) venogram.
  - Bilateral ovarian/testicular venography may be reported with either 75822 or 75833.
  - If 75831/75833 and/or 75820/75822 have already been assigned for renal and/or extremity imaging consider 76496 for imaging of the gonadal veins.
  - Be sure to check with your payers regarding correct reporting of these procedures.

Embolization Coding Rules

Catheterization Codes

- When performing embolization procedures the catheter must be manipulated through the arterial or venous system to perform the procedure. Catheterization codes should be assigned in accordance with the rules for reporting selective catheterization.
  - The NCCI Manual Chapter 5 states: "For vascular embolization procedures (CPT codes 37241-37244) physicians may separately report selective catheterization CPT codes. However, physicians should not separately report nonselective catheterization CPT codes for these procedures."

- Remember in the lower extremities, the external iliac and common femoral are considered one vessel for coding purposes and in the upper extremities the subclavian and axillary are also considered one vessel for coding purposes.
It is important to note that the site of the embolization alone is not the sole factor in determining catheterization selectivity. There may be instances when it is necessary to place the catheter beyond the vessel that is the site of the embolization. Remember, catheter selectivity is based on the most distal catheter placement.

Diagnostic Angiography

An initial diagnostic angiogram may be reported when performed. If a prior diagnostic angiogram has been performed, diagnostic angiography should only be reported separately in accordance with guidelines established for reporting with transcatheter procedures.

- The NCCI Manual Chapter 5 states: "Angiography may be a separately reportable procedure with modifier 59 only if it satisfies guidelines for diagnostic angiography included in the “Vascular Embolization and Occlusion” section of the CPT Manual, national Medicare guidelines, and local Medicare Administrative Contractor guidelines."

Embolization Codes (37241-37244)

- Embolization codes 37241-37244 are assigned based on the presenting clinical indication.

- Code 37241 for venous embolization and occlusion other than hemorrhage or tumor is assigned for the following clinical indications:
  - Venous malformations
  - Capillary hemangiomas
  - Varicoceles
  - Visceral (gastric/esophageal) varices
  - Incompetent ovarian vein for pelvic congestion syndrome
  - Patent perforators siphoning flow from extremity venous bypass grafts
    - For embolization of hemodialysis access see code +36909
  - Vascular malformations primarily lymphatic (microcystic lymphatic malformation)
- **Multiple Vessels.** Embolization codes are not assigned per vessel, rather they are assigned once per operative field.

- **Operative field.** Only one embolization code should be reported for each operative field. An operative field refers to the area immediately surrounding and directly involved in a treatment/procedure. Embolization procedures performed at a single setting that include multiple surgical fields such as for a patient with multiple trauma and bleeding from the pelvis and the spleen, may be reported with multiple embolization codes.
  
  - The following are considered one operative field: multiple vessels feeding a bladder tumor, multiple vessels in the same extremity, multiple vessels for endoleak, multiple hemodialysis side branches, bilateral uterine arteries.

  - The following are considered two or more operative fields: bilateral organs, bilateral arteriovenous malformations, bilateral testicular veins (varicocele), bilateral ovarian veins (pelvic congestion), intracranial aneurysms (two or more), multiple bleeds (spleen, pelvis).
    
    - CPT Assistant November 2013, states that when two distinct liver lesions are treated, the lesions are considered two separate operative fields (right lobe and left lobe), therefore 37243 may be assigned two times.

- Administration of Heparin, Nitroglycerin, etc. during the procedure is not coded separately.

**RS&I Codes**

- **Bundled Components.** All RS&I work is bundled into the surgical code for embolization. This work includes the following services: contrast injections, angiography/venography, roadmapping, and fluoroscopic guidance for the intervention, vessel measurement, and completion angiography/venography.

- Code 75898 is not utilized with codes 37241-37244 for completion angiograms to check the results of the embolization.