

Interventional Radiology Coding Case Studies

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Pulmonary Angiogram & Phrenic Angiogram

CLINICAL HISTORY: The patient is a 50-year-old female with incidentally identified asymptomatic vascular anomaly in the right lower lobe, who presents to interventional radiology for diagnostic arteriograms from the systemic arterial and pulmonary arterial systems. The patient has a positive agitated saline echocardiogram. Pulmonary arteriovenous malformation is suspected. Of note, the patient also has a small patent foramen ovale.

PROCEDURES:

1. Real-time ultrasound-guided access into the right common femoral artery after documentation of selected vessel patency and permanent imaging storing in the patient records.
2. Right common femoral arteriogram.
3. Right phrenic arteriogram.
4. Real-time ultrasound guided access into the right common femoral vein after documentation of selected vessel patency and permanent imaging storing in the patient records.
5. Right pulmonary arteriogram.
6. Closure of the right common femoral arteriotomy with a Star close device.
7. Closure of the left common femoral venotomy with manual pressure.

Pre-Procedure Diagnosis: RLL PULMONARY VASCULAR ABNORMALITY

Post-Procedure Diagnosis: RLL PULMONARY VASCULAR ABNORMALITY

MONITORING: The procedure was performed with general anesthesia.

MEDICATIONS: Refer to anesthesia notes for details. 10 ml of 1 % LidocaineSQ. 1 g Ancef IV

CONTRAST: 50 ml Omnipaque 300.

FLUOROSCOPY TIME: 33.

DAP: 13842 uGym2.

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SITE MARKING: As part of the pre-procedure verification policy, a site marking procedure was initiated. Due to the nature the procedure, the insertion site could not be predetermined thus invoking the policy of exemption to site laterality and marking. Insertion site marking was performed in the procedure room in conjunction with imaging confirmation.

PROCEDURE NOTE: Informed consent was obtained from the patient prior to the procedure. During this process, the procedure and potential alternatives were explained along with the intended outcome and benefits. The risks of the procedure, including the possibility of an unsuccessful procedure, as well as the risk of not doing the procedure, were discussed. The patient was given the opportunity to ask questions regarding the procedure and appeared competent to make decisions. A signed consent form documenting this discussion was placed in the medical record. A time-out procedure was performed. The patient was placed supine on the fluoroscopy table. General anesthesia was induced.

The right groin was prepped and draped in usual sterile fashion. All elements of maximal sterile barrier technique followed including use of cap, mask, sterile gown, sterile gloves, a sterile full body drape and hand hygiene. Also followed skin preparation with 2% chlorhexidine for cutaneous antisepsis, and sterile ultrasound preparation with sterile gel and probe cover when applicable. 10 ml of 1 % Lidocaine was used to obtain local anesthesia of the skin and deeper tissues.

Using standard interventional, sterile and Seldinger technique, a 5-Fr sheath was introduced over a 0.035 inch Bentson wire into the right common femoral artery. A right common femoral arteriogram was performed. A 5 French Mickelson catheter was introduced over the wire into the abdominal aorta. The wire was withdrawn. Contrast was injected and the right phrenic artery was accessed with the Mickelson catheter directly off the aorta. A right phrenic arteriogram was performed.

Using standard interventional, sterile and Seldinger technique, a 5 French sheath was introduced over a 0.035 inch Bentson wire into the right common femoral vein. A 5 French pigtail catheter was then advanced into the right atrium and pressure was measured at 18/14 mmHg with a mean of 16 mmHg. The pigtail was then advanced into the main pulmonary artery and pressure was measured at 32/19 mmHg with a mean of 25 mmHg. The pigtail was then advanced into the right pulmonary artery and a right pulmonary arteriogram was performed.

A Star close device was utilized to close the right common femoral arteriotomy. Pressure was utilized to close the left common femoral venotomy. The patient tolerated the procedure well. Hemostasis was achieved.

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FINDINGS: Right phrenic arteriogram demonstrates abnormal systemic arterial supply to a portion of the posterior right lower lobe. Multiple small intercostal arteries are also seen collateralizing to this region. There are abnormal fistulous connections between these systemic arterial branches and the pulmonary artery supplying this abnormal portion of lung. There is retrograde flow within the pulmonary artery branches in this region. The capillary bed eventually opacifies and there is normal pulmonary venous drainage from this portion of the lung.

Right pulmonary arteriogram demonstrates retrograde inflow of unopacified blood from the systemic artery branches into tortuous branches of the right pulmonary artery. No evidence of a pulmonary arteriovenous malformation.

IMPRESSION: Abnormal fistula between the systemic arterial system (phrenic artery and small intercostal arteries) to the right posterior lower lobe pulmonary artery branch with retrograde flow in this pulmonary artery during systole. The portion of the right posterior lower lobe that is fed by this flow demonstrates normal parenchymal blush with drainage via the pulmonary veins. No pulmonary arteriovenous malformation or other source of right to left shunt is seen. The positive agitated saline echocardiogram may be due to her small patent foramen ovale.

PLAN: The patient was stable after the procedure and was transferred to the interventional recovery area. The patient will be discharged home after adequate bed rest for the arteriotomy. This case will be discussed at thoracic conference to determine future treatment plan if any is indicated. Her patent foramen ovale will also be addressed at that time with input from thoracic surgery.

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Interventional Radiology Coding Case Studies

CPT Codes

Week of September 3, 2018

Pulmonary Angiogram & Phrenic Angiogram

Procedure Codes:

- 36245 Catheterization of phrenic artery
- 36014 Catheterization of right pulmonary artery
- 75726 Phrenic artery angiogram
- 75741-RT RT Pulmonary angiogram
- 76937 US Guidance for access of RCFA
- 76937-59 US Guidance for access of RCFV
- G0269 StarClose for RCFA
- Q9967 X50 LOCM 300-399
- J0690 X2 Ancef 1 g

Diagnosis Codes:

- R93.1 Abnormal findings diagnostic imaging of heart & coronary circulation
- Q21.1 Atrial septal defect
- I77.0 Arteriovenous fistula

Comments:

- Code 36245 is assigned for catheterization of the phrenic artery directly off the aorta, a first order vessel.
- Code 36014 is assigned for selective catheterization of the right pulmonary artery.
- Code 75726 is assigned for the phrenic arteriogram. Code 75726 may be assigned for selective imaging of an artery arising from the thoracic aorta when imaging is performed to evaluate an internal organ.
- Code 75741 is assigned for selective imaging of the right pulmonary artery.
- Access was gained at both the right common femoral artery and right common femoral vein under ultrasound guidance and all documentation requirements were met to assigned code 76937. Assign one time for each access.
- G0269 may be assigned by the facility for placement of a StarClose at the RCFA.
- *Supplies are billed by the facility performing the procedure and should not be assigned for professional fee coding.*

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Applicable Coding Rules:

Catheterizations

➤ Non-Selective Catheterization

- ❖ Access is gained via an upper extremity vein or lower extremity vein.
- ❖ Code 36013 describes a nonselective catheterization of the right heart or main pulmonary artery. This code is bundled with 36014 and 36015.

➤ Selective Catheterization

- ❖ In the pulmonary system there are only two distinct vascular families: the right pulmonary artery and the left pulmonary artery. Remember, the catheterization codes are reported for each vascular family.
- ❖ When the catheter is selectively placed in both the right and left pulmonary arteries, code 36014 is reported with modifier -50.
- ❖ When multiple segmental or subsegmental catheterizations are performed, code 36015 may be reported multiple times.
- ❖ Code 36014 is bundled with code 36015 when both are performed on the same side, since the work of moving the catheter into the left or right pulmonary artery is included in the work to move the catheter into the segmental or subsegmental artery branches. When 36014 and 36015 are performed on opposite sides, it is appropriate to code 36014-59 and 36015.
- ❖ Although venous access is utilized to gain access to the pulmonary system, do not assign those additional codes for venous catheterization for access to the pulmonary system.
 - If a vena cavagram is performed, code 36010 is not reported since the catheter is manipulated through the vena cava to perform a pulmonary angiogram. Code 36010 is a non-selective code bundled with 36013-36015.

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Applicable Coding Rules (continued):

- Note that if the procedure is performed via jugular access, rather than femoral access, code 36010 may be coded separately because of the additional work of placing the catheter in the vessel, rather than a simple pull back of the catheter as with the femoral approach. (*CPT® Assistant, Special Issue 2006*)

Pulmonary Angiography

- Code 75746 describes non-selective pulmonary imaging from the main pulmonary artery or other non-selective catheterization.
- Code 75741 describes unilateral selective pulmonary imaging. To assign this code, the catheter must be placed in either the right or left the pulmonary artery for contrast injection and imaging.
- Code 75743 describes bilateral selective pulmonary imaging. To assign this code, the catheter must be placed in both of the pulmonary arteries for contrast injection and imaging.
- Code +75774 is assigned when the catheter is moved beyond the right and/or left pulmonary arteries for additional imaging of each of the pulmonary branches.
- When pulmonary angiography is performed in conjunction with venography of the central venous system, both exams may be coded separately.

Phrenic Angiography

- Code 75726 may be assigned for selective imaging of an artery arising from the thoracic aorta when imaging is performed to evaluate an internal organ.
 - ❖ Code 75726 is used for the esophageal, mediastinal and pericardial branches of the thoracic aorta as well as the inferior phrenics to evaluate an organ. Imaging of the supreme intercostal is reported with code 75726 when evaluation of a bronchial structure is performed such as in cases of bronchial bleeding.

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