

Interventional Radiology Coding Case Studies

**Prepared by
Stacie L. Buck, RHIA, CCS-P, RCC, CIRCC, AAPC Fellow
President & Senior Consultant**

Week of August 6, 2018

Coronary Angiography, IVUS & Drug Eluting Stent Placement

INDICATION FOR PROCEDURE: A patient with a history of an acute coronary syndrome on August 18, 2017, anterior MI, troponin was 20, the patient was taken directly from the ER to the cath lab, although was pain free at that time and underwent heart catheterization which showed high-grade LAD disease. Moderate disease of the small first OM branch of the circumflex and about 50% to 60% or three stenosis prior to the branch point of the PDA and a dominant RCA. There was no left main, the anteroapical myocardium was akinetic. The patient had intervention on the LAD distally, the mid lesion was stented with a Promus Premier 2.25x12 mm stent and the more proximal LAD was stented with a 2.5x12 mm Promus Premier stents. Stents were not post dilated. The patient has had intermittent angina symptoms since leaving the hospital, but did have a normal nuclear stress test in my office two days ago. However, there was a high concern about the fact that the stents were undersized for the LAD in this gentleman, so it was recommended that repeat angiography and IVUS of the LAD be performed.

PROCEDURES PERFORMED:

1. Selective angiography of the LAD.
2. IVUS of the LAD.
3. Stenting of the distal 75% to 80% stenosis beyond the mid LAD stent with a Promus Premier 2.5x16 mm stent. Postdilated to 2.75 mm diameter along with post-dilatation of the 2.25 mid LAD stent to 2.75 mm diameter. The stents are telescoped together.
4. Pre-dilatation of the proximal 2.5x12 mm stent to 3.25 mm followed by stenting of the proximal 70% stenosis with a Promus Premier 3.0x12 mm stent. Both the new and old proximal stents, which are telescoped together were post dilated to 3.25 mm diameter.
5. Right femoral artery angiography in closure with a ProGlide suture.

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.

MEDICATIONS:

1. Versed 4 mg IV.
2. Dilaudid 2 mg IV.
3. Angiomax bolus and infusion protocol.
4. Intracoronary nitroglycerin and IV nitroglycerin.
5. Omnipaque contrast 130 mL

EQUIPMENT USED:

1. A 6-French CLS 3.5 guide catheter, Fielder XT wire, Boston Scientific IVUS catheter and Emerge 3.0x12 mm balloon for initial proximal dilatation of the proximal stent that was unopposed.
2. Promus Premier 2.5x16 mm drug-eluting stent placed distal to the mid LAD stent and telescoped into it.
3. Emerge 2.75x15 mm balloon used to dilate two mid LAD stents inflated to 14 atmospheres.
4. Promus Premier 3.0x12 mm drug-eluting stent placed proximal to the previously placed proximal LAD stent.
5. NC Emerge 3.25x12 mm balloon used to dilate two proximal stents, which are telescoped together. Inflated to 15 atmospheres, which is 3.31 mm diameter.
6. Right femoral artery ProGlide suture for closure of the right femoral artery.

DETAILS OF THE PROCEDURE: The risks of the procedure were explained to the patient. The patient read the consent form and signed giving his concurrence for the procedure. The patient was taken to the cath lab where prepped and draped in usual fashion. Time-out was performed. Conscious sedation medications were given. Right groin was anesthetized with Xylocaine 2%, 20 mL Using anterior wall puncture technique, the right femoral artery was cannulated on the first stick and a 6-French sheath placed. We used a 6-French CLS 3.5 guide catheter to cannulate the left anterior descending artery (no left main). Angiography was performed. Angiomax was given, intracoronary nitroglycerin was given. The Fielder XT wire was used to pass down the LAD without difficulty. We then IVUS'd the LAD vessel. The distal LAD in the distal mid portion beyond the two stents showed a high-grade 75%-80% stenosis. It was a 2.75 mm diameter vessel. The mid LAD stent placed one month ago was 2.0 mm in diameter, it was opposed to the vessel wall. It is a 2.25x12 mm Promus Premier stent. There was a lot of atherosclerosis in the vessel at that point, but the vessel was a 2.75 mm diameter vessel. The vessel was only minimally atherosclerotic proximal to the mid LAD stent going into the more proximal LAD stent. The proximal LAD stent was about 2.25-2.5 mm diameter but the proximal LAD vessel was 3.25-3.5 mm diameter. It was 2.5x12 mm Promus Premier stent. There is a proximal 70% stenosis in the native LAD proximal at the stent.

We approached this intervention by first placing an Emerge 3.0x12 mm balloon into the distal lesion beyond the second stent for sizing purposes and determine we would need a stent distally. We did

RadRx

"Your Prescription for Accurate Coding & Reimbursement"

Copyright 2018. All Rights Reserved.

www.radrx.com

not inflate the balloon. We then brought this balloon into the proximal LAD stent and inflated it to 12 atmospheres, which is 3.23 mm diameter to fully expand more proximal LAD stent and opposed to the vessel wall.

We wanted to make sure that we did not catch balloons and stents on the edges of this more proximal unopposed stent.

We then positioned a DES Promus Premier 2.5x16 mm stent distally in the vessel and telescoped into the mid LAD stent and deployed it at 17 atmospheres, which is 2.75 mm diameter. We then post dilated the two mid LAD stents with an NC Emerge 2.75x15 mm balloon going up to 14 atmospheres.

We then deployed a DES Promus Turmeric 3.0x12 mm stent in the proximal vessel. The distal edge is telescoped into the previously placed proximal LAD stent. We deployed it to 18 atmospheres, which is 3.24 mm diameter. We then post dilated these two proximal stents with NC Emerge 3.25x12 mm stent, inflating to 15 atmospheres, which was 3.31 mm diameter.

Final angiographic result was excellent. There was no significant residual stenosis. No side branch occlusion. No dissection.

Right femoral artery angiography was performed and a ProGlide suture was used to close the vessel. The patient tolerated the procedure well. There were no complications.

CONCLUSIONS:

1. Angiography of the LAD.
2. IVUS of the LAD.
3. Stenting of the mid LAD with a Promus Premier DES 2.5x16 mm stent distal to the previously placed mid LAD stent, but telescoped into it and post dilated to 2.75 mm diameter. Post-dilatation of the 2.25x12 mm previously placed mid LAD stent to 2.75 mm diameter.
4. Post-dilatation of the proximal previously placed 2.5x12 mm Promus Premier stent because it was unopposed to the vessel wall and under expanded followed by stenting of the proximal LAD with a Promus Premier 3.0x12 mm DES stent telescoped into the previously placed proximal LAD stent. Post-dilatation of these two proximal LAD stents with a 3.25x12 mm high pressure balloon going up to 3.31 mm diameter. Excellent angiographic results.
5. ProGlide suture closure of the right femoral artery.
6. Aspirin, Plavix and Angiomax.

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 August 6, 2018

Coronary Angiography, IVUS & Drug Eluting Stent Placement

Procedure Codes:

- 93454-59 Coronary angiography
- 92978 Coronary IVUS

Hospital OPPS

- C9600-LD Drug-eluting stent LAD

Physician MPFS

- 92928-LD Drug-eluting stent LAD

Supplies

- Q9967 x130 LOCM 300-399 MG/ML (facility only)
- J2250 x4 Injection, midazolam hydrochloride, per 1 mg (Versed)
- J1170 Hydromorphone HCl (Dilaudid)

Diagnosis Codes:

- T82.855A Stenosis LAD Stent
- I25.119 ASHD of native coronary artery w/ unspecified angina

Comments:

- Code 93454 is assigned for selective angiography of the right and left coronary arteries.
- Code 92978 is assigned for coronary IVUS.
- Drug eluting stent placement is reported with code C9600-LD in the hospital outpatient setting. Code 92928-LD is utilized for physician billing.
- Moderate sedation is noted, but there is no mention of time to assign appropriate codes.
- *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 Rules:

Catheterization Codes

- Accessing the vessel and selective catheterization of the coronary vessels and crossing of the lesion is bundled into the coronary revascularization codes. All catheter placements related to the performance of the therapeutic intervention, including catheter placements for any angiography associated with the therapeutic intervention should not be coded separately.
- Catheterization codes may be reported when other procedures are performed in conjunction with coronary interventions.

Diagnostic Coronary Angiography

- An initial diagnostic coronary angiogram or diagnostic cardiac catheterization may be reported when performed. If a prior diagnostic coronary angiogram or diagnostic cardiac catheterization has been performed, these studies should only be reported separately in accordance with established guidelines.
- Diagnostic coronary angiography performed at the time of a coronary interventional procedure may be reported separately when:
 - ❖ No prior catheter-based coronary angiography study has been performed,
 - ❖ No prior catheter-based coronary angiography study is available and a full diagnostic study is performed, and the decision to intervene is based on the diagnostic study.
 - ❖ A second diagnostic cardiac catheterization may be appropriate when an exam was performed elsewhere and results are not available, the patient's condition has changed since the first exam or films from the first exam provided inadequate visualization of pathology.
 - ❖ Diagnostic angiography performed at a separate setting from an interventional procedure is separately reported.

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.

Medical necessity should be documented for the diagnostic studies and modifier -59 appended to those codes.

Applicable Coding Rules (continued):

- **Bundled Components.** Diagnostic coronary angiography codes (93454-93461) and injection procedure codes (93563-93564) are not reported with percutaneous coronary revascularization services for contrast injections, angiography, roadmapping, and/or fluoroscopic guidance necessary for the coronary intervention, vessel measurement for the coronary intervention and post coronary PTA/stent/atherectomy angiography.

Coronary Revascularization Codes (Angioplasty, Atherectomy, Stent)

- The coronary revascularization codes include transluminal coronary angioplasty, coronary atherectomy and intracoronary stent placement.
- The following components are bundled into the coronary revascularization codes:
 - ❖ Accessing and selectively catheterizing the vessel
 - ❖ Traversing the lesion, all RS&I
 - ❖ RS&I related to the intervention
 - ❖ Closure of arteriotomy
 - ❖ Imaging to document completion
- CPT® has designated five major coronary arteries:

Major Coronary Arteries & Branches		
Artery	Branches	Modifier
Left main coronary	None	-LM
Ramus Intermedius	None	-RI
Left anterior descending	Diagonal Branch 1 Diagonal Branch 2	-LD
Right coronary	Posterior descending Posterolaterals	-RC
Left circumflex	Obtuse marginal 1 Obtuse marginal 2	-LC



"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.

- A primary CPT code is reported for each major coronary artery treated with add on codes assigned for additional branches of each main coronary artery treated.

Applicable Coding Rules (continued):

- ❖ Up to two coronary artery branches are recognized for the following:
 - Left anterior descending (LAD) and diagonal branches 1 & 2
 - Left Circumflex (LC) and the obtuse marginals
 - Right coronary (RC) and the posterior descending and posterolaterals
- ❖ The left main (LM) and ramus intermedius (RI) coronary arteries do not have recognized branches for reporting purposes.
 - The **ramus intermedius** is a variant coronary artery resulting from trifurcation of the left main coronary artery.
- ❖ Percutaneous coronary interventions are reported for up to two branches of a major coronary artery when reporting is allowed. Additional percutaneous coronary intervention in a third branch of the same of the same major coronary artery is not separately reportable.
- **Single vs. Multiple Vessels.** Coronary revascularization codes are assigned one time per vessel (lesion) treated.
- **Multiple Stents.** When there are multiple stents placed in the same vessel, only one stent placement is reported
- **Drug-Eluting Stents.** CMS has created C codes for reporting percutaneous coronary interventions performed with drug eluting stents. These C codes should be used for the reporting of outpatient hospital services. These codes should not be reported by the physician performing the procedure.
- **Multiple Lesions.** When there are multiple lesions treated within the same vessel, only one coronary revascularization code is reported for that vessel. When a coronary revascularization is performed in the proximal, mid and/or distal segments of a single major coronary artery only one code is reported.

RadRx

"Your Prescription for Accurate Coding & Reimbursement"

Copyright 2018. All Rights Reserved.

www.radrx.com

Applicable Coding Rules (continued):

- **“Bridging” Lesions.** At times a “bridging lesion” may be encountered. This is a single lesion that spans two vessels. When a single lesion extends from one target vessel into another target vessel, but can be treated with a single intervention, only one coronary revascularization code should be assigned.
 - ❖ Example: When a lesion in the left main coronary extends into the proximal left circumflex and is treated with a single stent, code 92928 is the only code reported.
- **Bifurcation Lesions.** A bifurcation lesion is located where the main stem of a vessel divides into two branch vessels. When a bifurcation lesion is treated, codes are assigned for both vessels treated.
 - ❖ Example: When a bifurcation lesion involving the LAD and the first diagonal artery is treated by placing a stent in both vessels, both codes 92928 and 92929 are reported.
- When one segment of a major coronary artery is treated through the native circulation and treatment of another segment in the same artery requires access through a coronary bypass graft (CABG), both interventions are reported separately.

Coronary Revascularization Imaging Supervision & Interpretation

- **Bundled Components.** All imaging supervision and interpretation work directly related to the intervention is bundled into the surgical codes for coronary revascularization. This work includes the following services: contrast injections, angiography, roadmapping, and/or fluoroscopic guidance necessary for the coronary intervention, vessel measurement for the coronary intervention and post coronary PTA/stent/atherectomy angiography.

Choosing the Correct Code

- Coronary revascularization codes are assigned for each of the five major coronary arteries.
- To select the appropriate codes for these therapeutic interventions determine the following:

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.

- ❖ Each major coronary artery treated: left main, left anterior descending, left circumflex, right coronary, ramus intermedius
- ❖ The most extensive intervention performed in each vessel

Applicable Coding Rules (continued):

- The most extensive procedure performed will determine the primary CPT® code assigned for each major coronary artery followed by the appropriate add on codes.
- Use the following hierarchy to determine the most extensive procedure. The list is ordered from lowest to highest:
 - ❖ Angioplasty: balloon, cutting balloon, wired balloon, cryoplasty
 - ❖ Atherectomy: directional, rotational, laser
 - ❖ Stent: balloon expandable, self-expanding, bare metal, drug eluting, covered
- The coronary revascularization base code that includes the most intensive service provided for the targeted vessel should be reported. One base code is reported per major coronary artery: 92920, 92924, 92928, 92933, 92937, 92941, or 92943.
- The coronary revascularization add on code that includes the most intensive service provided for the targeted branch should be reported. Add on codes reported for additional branches of target vessel: 92921, 92925, 92929, 92934, 92938, and 92944.

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.