

# Inter-Rater Reliability Testing Case

For 2003 QI Measurement Cycle

PCI and CABG

**NOTE: Please fill out one form for the PCI and one form for the CABG.**

**Do not abstract both procedures to the same form.**

PATIENT NAME: Mary Paine  
SSN: 123-45-6789  
BIRTH DATE: 1/1/1960  
ADMIT DATE: 2/14/2003  
DISCHARGE DATE: 2/25/2003

## HISTORY and PHYSICAL:

The patient is a 40 year old Hispanic female with a history of coronary artery disease, status post MI May 2002, stent placement to the proximal LAD at that time, in-stent restenosis, PTCA and beta-irradiation in September 2002. She did well up until last week when she developed recurrent chest discomfort, but had no EKG changes suggestive of infarction or ischemia. She was subsequently brought to the cardiac cath lab the following day and found to have stenosis at the distant stent edge of the LAD stent and significant 75% ostial lesion of the first diagonal vessel. She underwent stent placement in both areas with a 2.5 x 8 mm velocity stent to the ostial diagonal lesion and a 3.5 x 8 mm sonic stent to the distal stent edge of the previously placed LAD stent.

She had done well this week until approximately 17:00 today, when she suddenly developed a crushing, 10/10 chest discomfort while watching TV that she describes as heavy, crushing, burning-like in sensation, with radiation to her left shoulder and upper arm. She had no shortness of breath but was diaphoretic and had some nausea with vomiting. She denies palpitations, lightheadedness, dizziness, syncope, or presyncope. She has had no PND or orthopnea, lower extremity edema. She is taking her meds as recommended including Plavix. She attempted to use sublingual nitroglycerin and when this did not work, she called 911 and was brought to the ER at Heartbreaker Hospital for further evaluation, admitted at 18:15.

CV risk factors include hypertension, adult onset diabetes, and prior tobacco use, having quit 13 years ago. She also has a history of dyslipidemia but no family history of premature atherosclerotic disease.

Review of systems: Otherwise negative for hematuria, bright red blood per rectum, melena, any signs or symptoms to suggest TIA or CVA. She has had no dysuria and is unaware of kidney problems and has had no recent fevers, chills, night sweats, and no diarrhea.

Past Medical History:

1. CAD, as per the History and Physical.
2. Adult onset diabetes mellitus
3. Hypertension
4. Dyslipidemia
5. Obstructive sleep apnea

There is no history of valvular heart disease, heart murmur, arrhythmia, CHF, CVA, peptic ulcer disease, thyroid disease, kidney disease, asthma, emphysema, or other conditions.

Medications:

1. Lipitor
2. Toprol
3. Plavix
4. Aspirin

Allergies:

No known drug allergies

Social history: Married, lives with husband, works as a secretary, does not use alcohol and does not use excessive caffeine.

Physical Exam:

General: The patient is a somewhat ill appearing female in a moderate amount of distress, pale and diaphoretic.

VS: B: 120/80, HR 60, afebrile, RR approximately 20. Ht. 64 cm, weight 80 kg.

HEENT: Normal.

Neck: Carotids equal without bruits, JVP flat at 90 degrees.

Chest: Anterior chest wall is clear to auscultation without rales or rhonchi. Bases are significant for decreased breath sounds. No rales or rhonchi.

COR: Normal S1-S2, regular rate and rhythm, no murmur, rub or gallop. Frequent premature ventricular beats.

Abdomen: soft, nontender, positive bowel sounds.

Extremities: Negative.

Neuro: Negative.

EKG:

1. EKG #1 obtained at presentation at 18:21 reveals a normal sinus rhythm at a rate with 85 with bigeminy. There is evidence of old anteroseptal wall MI, with new 3mm S-T elevation noted V1, V2, and V3. There is reciprocal change with 1-2 and 3 mm S-T depression noted in II, II, and avF. In comparison to previous EKG of 2/8/03, S-T elevation in the anterior leads is new, as is reciprocal change in the inferior leads.
2. EKG #2 at 19:05. Reveals resolution of bigeminy, although there are frequent PVCs; there is evidence of an anteroseptal wall MI that is age indeterminate with 1-2 mm S-T elevation noted in V1 through V3, reciprocal change has decreased to 1mm depression in II, III, and avF.

Laboratory:

1. Hct 40.3, WBC 12.6, remainder within normal limits. PT/PTT is 11.9/19.6, INR 1.0
2. Potassium 3.1, BUN/Creatinine 11/0.9, glucose 264.
3. CPK 65, MB-1, troponin less than 0.3

Impression:

1. Possible acute anterior wall MI, doubt pericarditis. No evidence of PE or aortic dissection.
2. HTN
3. Adult onset DM, diet controlled.
4. Dyslipidemia.

In summary, patient is a 40 year old female with a history of CAD, status post multiple interventions to the proximal LAD and diagonal vessel, the last of which occurred one week ago. She had recurrent chest discomfort today with EKG changes suggestive of a new anterior wall ischemia. She is currently hemodynamically stable; however, has significant ectopy with pain and has no evidence of CHF. She has had no sustained arrhythmia at this point. She is taking medications as prescribed. There is certainly the possibility that she has spasm or subacute in-stent restenosis. It is quite early for in-stent restenosis, but certainly possible. Again, nothing to suggest embolism, aortic dissection, pericarditis, or pneumothorax.

Plan:

1. Continue IV nitroglycerin
2. Continue beta blockade
3. Continue heparin
4. Consider GP2b3a inhibition
5. Will likely proceed to emergent cardiac catheterization for possible PTCA and stent placement and/or to rule out subacute thrombosis or late sub acute thrombosis of the newly placed diagonal and distal LAD stents.

## CATH LAB REPORT

Patient: Mary Paine  
Date: 2/14/03  
Start time: 20:28  
End Time 22:40

### Procedures:

1. Left heart catheterization
2. Left ventriculogram
3. Selective coronary arteriography
4. Angioplasty

### Past Medical History:

1. Acute anterior wall MI this admit
  - a. Status post PTCA and stent placement to ostial diagonal lesion and mid to distal LAD 2/7/03.
  - b. Status post PTCA and beta irradiation to the proximal LAD stent, 12/02.
  - c. Status post proximal LAD stent, 5/2, secondary to anterior wall MI.
2. Adult onset DM, HTN, dyslipidemia, history of obstructive sleep apnea.

### Indications:

Given her extensive cardiac history in the very recent past, she is brought to the cardiac cath lab to further delineate coronary anatomy and to rule out late in-stent thrombosis versus new disease of the LAD. See H&P for details.

### Findings of procedures:

Fluoroscopy: Prior to injection of contrast, there was no significant coronary calcium noted. Stents can be seen in the proximal to mid LAD and first diagonal vessel.

Left Ventriculogram: LVgram was performed in the RAO projection at approximately 30 degrees. The mid anterior and anteroapical walls are noted to be severely hypokinetic to akinetic. The inferior wall squeezes reasonably well. The aortic valve is noted to be trileaflet. There is no significant aortic insufficiency or mitral regurgitation noted.

Complications: none apparent.

### Selective Coronary Angiography:

1. Left main coronary artery: the left main coronary artery is a large caliber vessel arising in its usual position. It bifurcates into the left anterior descending and the left circumflex coronary arteries. It is free of disease.
2. Left anterior descending artery is 100% occluded at its proximal portion proximal to the original stent. No distal flow can be seen.

3. Left circumflex coronary artery is a large caliber vessel, giving rise to three obtuse marginal branches. There is no significant disease along the course of the left circumflex and its branch vessels.
4. Right coronary artery is a large caliber dominant vessel giving rise to a posterior descending artery and two posterolateral branches. There is no significant disease along the course of the RCA and its branch vessels.

Final Impression:

1. 100% occluded proximal LAD.
2. Normal left main.
3. Normal left circumflex.
4. Normal RCA.
5. Moderated elevated LVEDP of 26 mmHg.
6. Anterior and anteroapical severe hypokinesia to akinesia with calculated EF of 37%, which is new from previous LV gram obtained one week ago.
7. No significant aortic valve gradient.

Plan:

1. Will refer for attempted salvage and PTCA and stent placement of the proximal LAD. Given multiple procedures done to this vessel, it is certainly likely that the patient will require single vessel CABG for definitive therapy.
2. Optimize medical management.

PCI REPORT

Indication: This 40 year old woman presented to the ER today with chest pain and anterior ST segment elevation, diagnostic of an acute inferior wall MI. Angiography this evening shows a complete occlusion of the very proximal LAD just before the beginning of a stented segment of the LAD and first diagonal branch, with the most recent stent intervention procedure done seen days ago. Please refer to admit H&P.

As noted, the patient experienced the acute onset of severe anterior chest pain today, and came to the ER at 18:15. Angiography shows occlusion of the LAD with no significant distal collateral fill. No left main, right coronary, or circumflex coronary artery stenosis of significance is present. Optimal treatment is reopening of the LAD and diagonal as soon as possible, probably followed by coronary artery bypass surgery to the diagonal and LAD at a time interval depending on the findings and clinical course.

Description of procedure: After consent from the patient and her husband was obtained, a #6 French JL4 guiding catheter was advanced to the proximal aorta. The ACT was approximately 240 seconds. Integrilin bolus and infusion was started. A 0.014 Choice extra support guidewire was passed down the LAD, followed by a 3.0 mm diameter

Maverick balloon, 15 mm long. The balloon was passed up and down the LAD, then dilated beginning distal to the stented segment at low pressures and progressing more proximally. Dilatation from 3 to 5 atmospheres was performed. After multiple short low-pressure dilatations, brisk antegrade flow was established in the LAD. Attention was then directed to the diagonal branch, which had been stented. A 0.014 Choice extra support and a 0.014 Wisdom guide wires would not pass from the LAD into the diagonal. A 0.014 PT Cruiser wire did pass into the diagonal after a small amount of manipulation, followed by the Maverick balloon. This was inflated up and down the proximal portion of the diagonal, again at low pressures. Antegrade flow was established about three-quarters of the way down the diagonal. The more distal diagonal was treated by moving the guide wire up and down, then using a 1.3 mm balloon at low pressures distally. Effective antegrade flow was established in the diagonal branch, but there was still a very distal cutoff in the diagonal. A further low-pressure dilatation had been done in the LAD to treat clot in the stented segment along the struts of the stent. Final cineangiograms were obtained in the 15 degree RAO and 50 degree left hemi-axial projections. These showed TIMI III flow down the LAD and the proximal three-quarters of the diagonal branch. No significant residual stenosis was present. There remained a small amount of thrombus in the distal portion of the stented segment of the LAD along the wall.

Optimal treatment appeared to be continued Integrilin overnight, as long as the patient hemodynamics and symptoms remained stable (she was quite comfortable with a decrease in her chest pain from 10/10 to 1 to 2 over 10 at the end of the procedure.) The catheter introducer was sutured in place. The patient was transferred to the ICU for post catheterization care. There were no complications of the procedure.

#### Conclusion:

- A. The maximum stenosis in the LAD decreased from 100% to 20% post procedure, with a small amount of thrombus still present along the wall of the stented portion of the artery.
- B. The diagonal was opened without stenosis through three-quarters of its length. There is a subtotal occlusion by thrombus in the very distal portion of this branch.
- C. There were no complications of the procedure.

#### Recommendations/Plan:

The patient is continued on aspirin, Integrilin infusion, nitroglycerin infusion, and beta blocker, as well as sedation and analgesia. Because of her multiple restenoses, even after brachytherapy, and her subacute thrombotic closure of the LAD despite platelet inhibitor therapy, optimal continued treatment includes revascularization of the anterior wall with coronary artery bypass grafts to the diagonal LAD. This will be accomplished in the near future.

## OPERATIVE REPORT

Patient: Mary Paine  
Date: 2/19/03  
Time in OR: 14:46  
Procedure Start: 15:27  
Procedure end: 18:58  
Time out of OR: 19:05

### Preop Diagnosis:

1. Single-vessel atherosclerotic CAD with recent MI
2. Recurrent stent occlusive problems.

Postop Diagnoses: Same.

### Operation:

Off-pump CABG X1. Left anterior mammary artery graft to left anterior descending, flow 70 cc/min.

### History and Indications:

See Admit H&P, Cath Lab Report, and PCI Report for history and indications. Surgery was deferred until today to allow clearance of Plavix. She has remained stable since the last study, requiring nitroglycerin and morphine for two occasions of chest pain while on bed rest.

### Procedure:

The patient was brought to the operating room and EKG monitoring was established. Intravenous, central venous, arterial and S-G catheters were placed. A Foley catheter and transesophageal echo probes were placed. Her anterior chest, abdomen, and both legs were prepped with Betadine and isolated using dry sterile drapes and an Ioban drape.

A midline sternotomy incision was made and the sternum divided along its full length. Hemostasis was obtained using bone wax and electrocautery. There was a mild tendency to ooze. The heparin drip had been stopped about 4 hours prior to the procedure.

A retractor was placed and the pericardium opened. The left sternal edge was then elevated and the mammary artery taken down as a pedicle graft for the branches. She was heparinized prior to dividing it distally and the mammary was injected with dilute papaverine solution to counteract spasm. There was excellent antegrade flow.

A Medtronic Octopus stabilizer was used and initially inspection for the diagonal and left anterior descending did not show any vessel. The left anterior descending was finally identified well distally and was dissected out at this point and the myocardial breach was

carefully divided at about 6 7, exposing a relatively large, normal-walled vessel. Careful searching for the diagonal could not show any branches and we did not wish to dissect any more proximally beneath the myocardium, as we were getting fairly deep into the myocardium at this level. It was elected to anastomose end-to-end into the left anterior descending only. The Octopus stabilizer was used and Meditape passed around the proximal left anterior descending, but only loosely looped. A longitudinal arteriotomy was made in the left anterior descending (LAD) and there was relatively mild antegrade flow. A 2.5 mm probe was passed into the vessel and then this was replaced with a shunt. The mammary was trimmed and then sutured end-to-side with running 8-0 Prolene and the anastomosis itself looked excellent.

The shunt was removed prior to the completing the closure, after which the mammary pedicle was tacked to the myocardium to prevent tractional torsion on the anastomosis. With release of the mammary clamp, there appeared to be excellent filling of the distal vessel without anastomotic leak.

The wound was irrigated with warm saline and cefuroxime solution. Graft flow was measured and was excellent. A #28 angled chest tube was placed in the inferior pericardium and a #28 straight chest tube in a substernal position.

Superior and mediastinal fat was reapproximated in front of the aorta and heart to protect it from the sternum. The chest wall was closed in the usual fashion. Sponge counts, instrument counts, and needle counts were all reported correct. She appeared to tolerate the procedure well. Blood loss was relatively minor and no blood products were transfused. She was forwarded to the intensive care unit still intubated and asleep, but in satisfactory and stable condition.

## DISCHARGE SUMMARY

Patient: Mary Paine  
Admit Date: 2/14/2003  
Discharge Date: 2/25/2003  
Admit Diagnosis: Chest pain, presumably CAD  
Discharge Diagnosis: Status post off-pump CABG X1.

History of present illness: The patient is a 40 year old woman who has a history of coronary artery disease and MI who is status post percutaneous transluminal coronary angioplasty intervention. She presented with one week of chest pain and was admitted through the emergency department.

Upon cardiac catheterization, it was noted that her left anterior descending artery was occluded distal to the stent, and a surgical consult was obtained.

Other past medical history:

1. History of HTN
2. Non-insulin dependent diabetes mellitus
3. Status post hysterectomy

Also noted was the patient had been getting Plavix on a daily basis preoperatively.

Operative course:

The patient was taken to the OR on 2/19/03 with a normalized bleeding time for an off-pump CABG x1 with the graft being the left internal mammary artery bypassing the left anterior descending artery. The patient was immediately postoperatively transferred to the ICU on minimal hemodynamic support and was intubated and on ventilatory support.

Hospital Course:

The patient was extubated on the operative evening at 22:30.

Postop day #1, patient was transferred to the regular Telemetry Unit and invasive lines and tubes were removed.

Postop day #2, the Pain Service was consulted for help with pain management.

There was no evidence of new MI following the procedure and the rest of the hospital course has been largely uneventful. She was discharged to home on 2/25/03 in the care of her family and friends.

## LABORATORY & TEST RECORD

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	2/14 18:21	2/14 18:26	2/14 19:05	2/14 23:05	2/15 03:30	2/15 12:24	2/15 20:26	2/20 05:56	2/21 07:38
EKG	xx		xx	xx				xx	xx
Creat		0.9			0.8				
Serum CK		65			4845	2560	1438		
CK2/CKT		0.02							
Troponin		<0.3			>500	388.6	251		
Serum Myoglobin					429.5	108.0	58.3		

Reference Ranges:

Serum CK: 8-150 U/L  
CK2/CKT: <0.06  
Troponin: <0.6 is Negative  
Serum Myoglobin: 3-73 ng/mL