

COMPARISON:, None.,MEDICATIONS:, Lopressor 5mg IV at 0920 hours.,HEART RATE: ,Recorded heart rate 55 to 57bpm.,EXAM:,Initial unenhanced axial CT imaging of the heart was obtained with ECG gating for the purpose of coronary artery calcium scoring (Agatston Method) and calcium volume determination.,18 gauge IV Intracath was inserted into the right antecubital vein.,A 20cc saline bolus was injected intravenously to confirm vein patency and adequacy of venous access.,Multi-detector CT imaging was performed with a 64 slice MDCT scanner with images obtained from the mid ascending aorta to the diaphragm at 0.5mm slice thickness during breath-holding.,95 cc of Isovue was administered followed by a 90cc saline “bolus chaser”. Image reconstruction was performed using retrospective cardiac gating. Calcium scoring analysis (Agatston Method and volume determination) was performed.,FINDINGS:,CALCIUM SCORE: The patient's total Agatston calcium score is: 115. The Agatston score for the individual vessels are: LM: 49. RCA: 1. LAD: 2. CX: 2. Other: 62. The Agatston calcium score places the patient in the 90th percentile, which means 10 percent of the male population in this age group would have a higher calcium score.,QUALITY ASSESSMENT:, Examination is of good quality with good bolus timing and good demonstration of coronary arteries.,LEFT MAIN CORONARY ARTERY:, The left main coronary artery has a posteriorly positioned take-off from the valve cusp, with a patent ostium, and it has an extramural (non-malignant) course. The vessel is of moderate size. There

is an apparent second ostium, in a more normal anatomic location, but quite small. This has an extramural (non-malignant) course. There is mixed calcific/atheromatous plaque within the distal vessel, as well as positive remodeling. There is no high grade stenosis but a flow-limiting lesion can not be excluded. The vessel trifurcates into a left anterior descending artery, a ramus intermedius and a left circumflex artery.,LEFT ANTERIOR DESCENDING CORONARY

ARTERY:, The left anterior descending artery is a moderate-size vessel, with ostial calcific plaque and soft plaque without a high-grade stenosis, but there may be a flow-limiting lesion here. There is a moderate size bifurcating first diagonal branch with ostial calcification, but no flow-limiting lesion. LAD continues as a moderate-size vessel to the posterior apex of the left ventricle.,Ramus intermedius branch is a moderate to large-size vessel with extensive calcific plaque, but no ostial stenosis. The dense calcific plaque limits evaluation of the vessel lumen, and a flow-limiting lesion within the proximal vessel cannot be excluded. The vessel continues as a small vessel on the left lateral ventricular wall.,LEFT CIRCUMFLEX CORONARY

ARTERY:, The left circumflex artery is a moderate-size vessel with a normal ostium giving rise to a small OM1 branch and a large OM2 branch supplying much of the posterolateral wall of the left ventricular. The AV-groove branch tapers at the base of the heart. There is minimal calcific plaque within the mid vessel, but there is no flow-limiting stenosis.,RIGHT CORONARY ARTERY:, The right coronary artery is a large

vessel with a normal ostium giving rise to a moderate-size acute marginal branch and continuing as a large vessel to the crux of the heart supplying a left posterior descending artery and small posterolateral ventricular branches. There is minimal calcific plaque within the mid vessel, but there is no flow-limiting lesion.,Coronary circulation is right dominant.,FUNCTIONAL ANALYSIS:, End diastolic volume: 106ml End systolic volume: 44ml Ejection fraction: 58 percent,ANATOMIC ANALYSIS:,Normal heart size with no demonstrated ventricular wall abnormalities. There are no demonstrated myocardial bridges. Normal left atrial appendage with no evidence of thrombosis.,Cardiac valves are normal.,The aortic diameter measures 33mm just distal to the sino-tubular junction. The visualized thoracic aorta appears normal in size.,Normal pericardium without pericardial thickening or effusion.,There is no demonstrated mediastinal or hilar adenopathy. The visualized lung parenchyma is unremarkable.,There are two left and two right pulmonary veins.,IMPRESSION:,Ventricular function: Normal.,Single vessel coronary artery analysis:,LM: There is a posterior origin from the valve cusp. There is mixed calcific/atheromatous plaque and positive remodeling plaque within the LM, and although there is no high grade stenosis, a flow-limiting lesion can not be excluded. In addition, there is an apparent second ostium of indeterminate significance, but both ostia have extramural (non-malignant) courses.,LAD: Dense calcific plaque within the proximal vessel with ostial calcification and possible flow-limiting proximal lesion. There

is a ramus branch with dense calcific plaque limiting evaluation of the vessel lumen, but a flow-limiting lesion cannot be excluded here.,CX: Minimal calcific plaque with no flow-limiting lesion.,RCA: Minimal calcific plaque with no flow-limiting lesion.,Coronary artery dominance: Right.