

CASE STUDY:

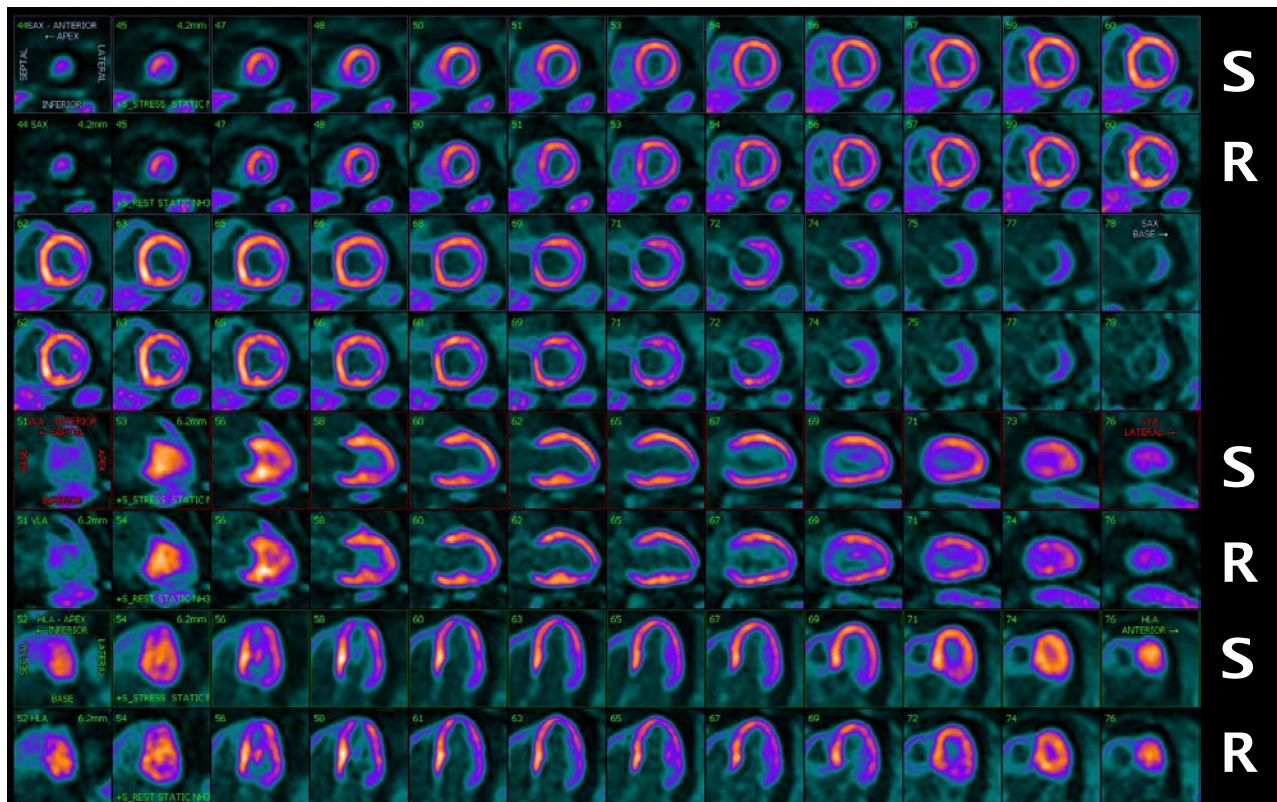
Systolic Dysfunction, Avoidance of a Coronary Angiogram Due to Chronic Kidney Disease

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67 yo. M with a history of paroxysmal atrial fibrillation, heart failure with preserved ejection fraction, diabetes mellitus type II, dyslipidemia, obese, chronic kidney disease and hypertension with newly diagnosed left ventricular systolic dysfunction noted on a transthoracic echocardiogram (LVEF=60%) during atrial fibrillation. The cardiologist recommended a PET-CT to further assess his new left ventricular systolic dysfunction in the context of multiple coronary heart disease risk factors.

Due to his significant chronic kidney disease, a coronary angiogram was deferred in favor of Regadenoson MPI PET-CT. This was felt to be a better option to avoid iodinated contrast and still assess for myocardial ischemia and/or injury.

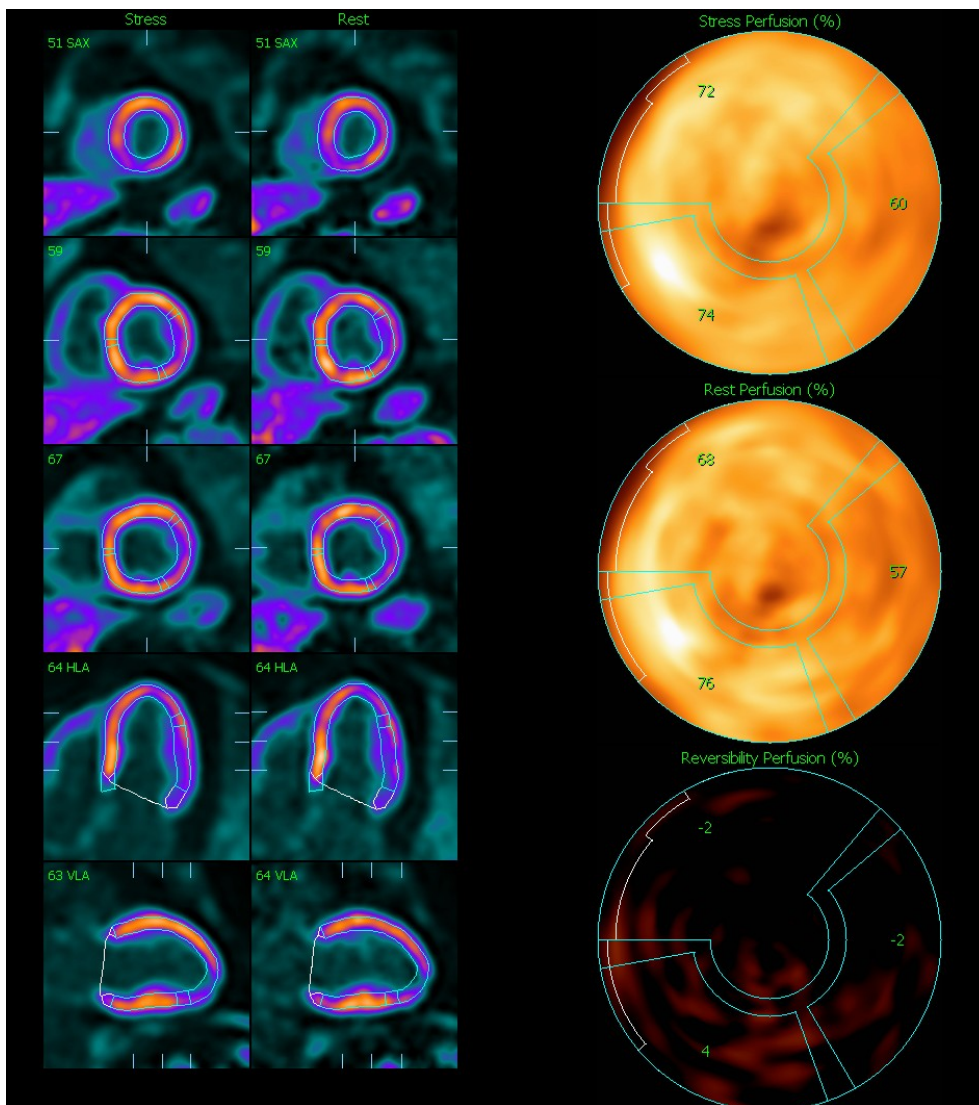
Regadenoson MPI PET-CT was performed in sinus rhythm and demonstrated normal global left ventricular



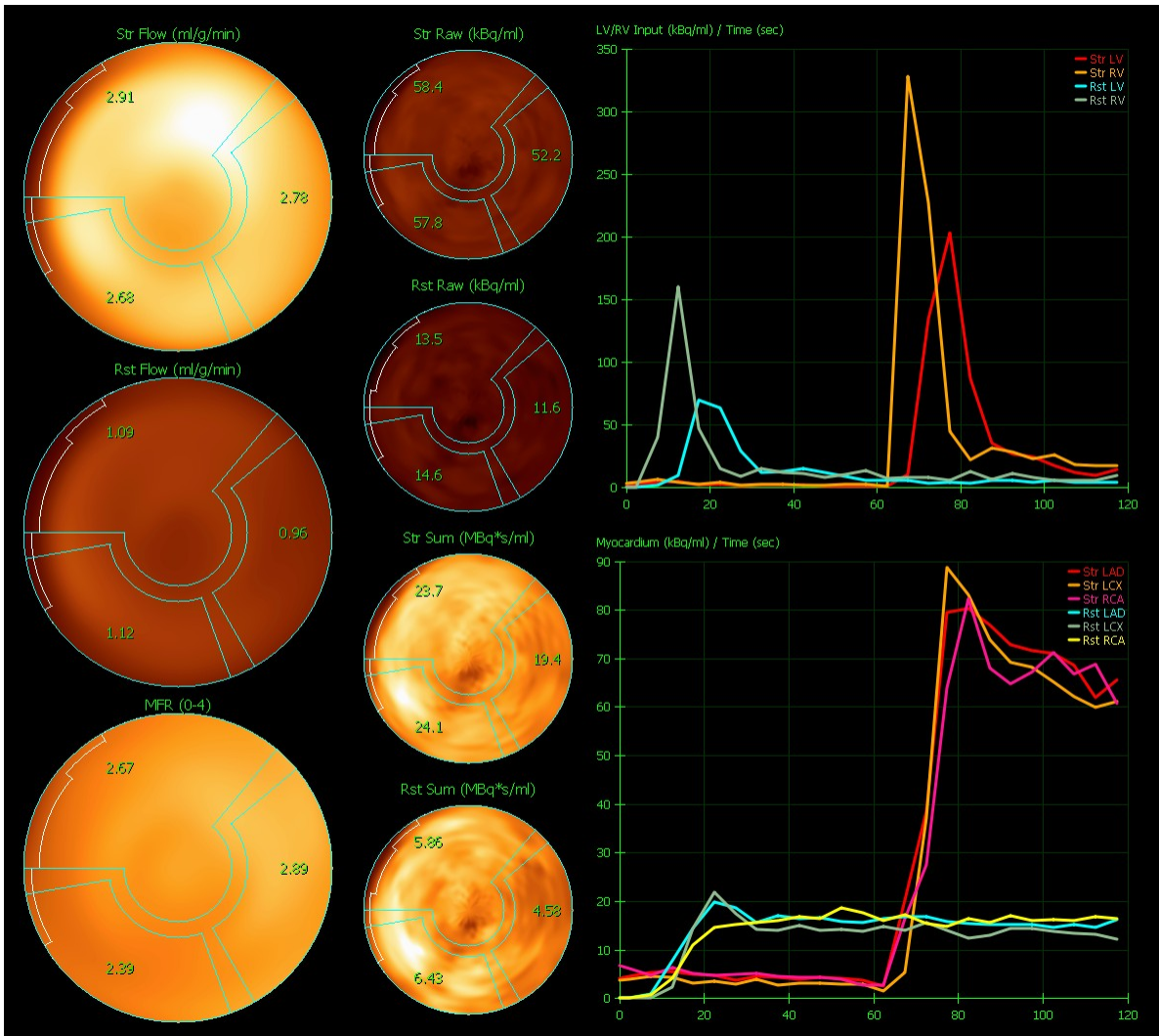
SA, HLA, VLA, Stress / Rest Slices

function and normal myocardial perfusion with normal myocardial blood flow and myocardial flow reserve. Right ventricular ejection fraction and volume were normal. There was mild coronary artery calcification in the left anterior descending coronary artery and right coronary artery. There was no evidence of stress induced myocardial ischemia.

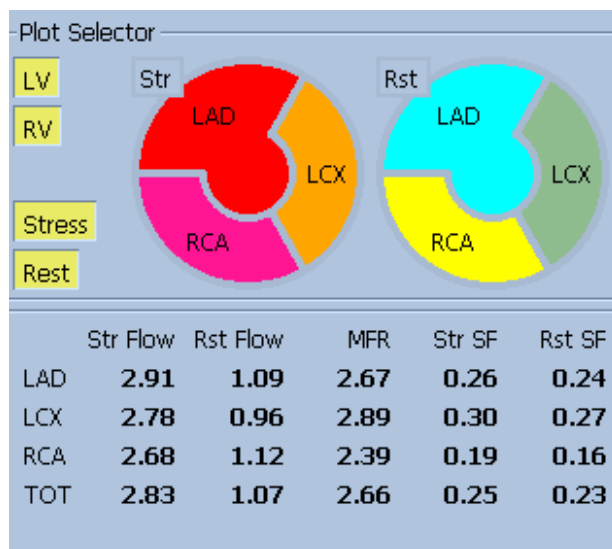
In patients with chronic kidney disease and newly diagnosed left ventricular systolic dysfunction, MPI PET-CT obviates the need to pursue conventional coronary angiography to preserve renal function. The advantages of PET over SPECT include lower radiation exposure and more robust attenuation correction.



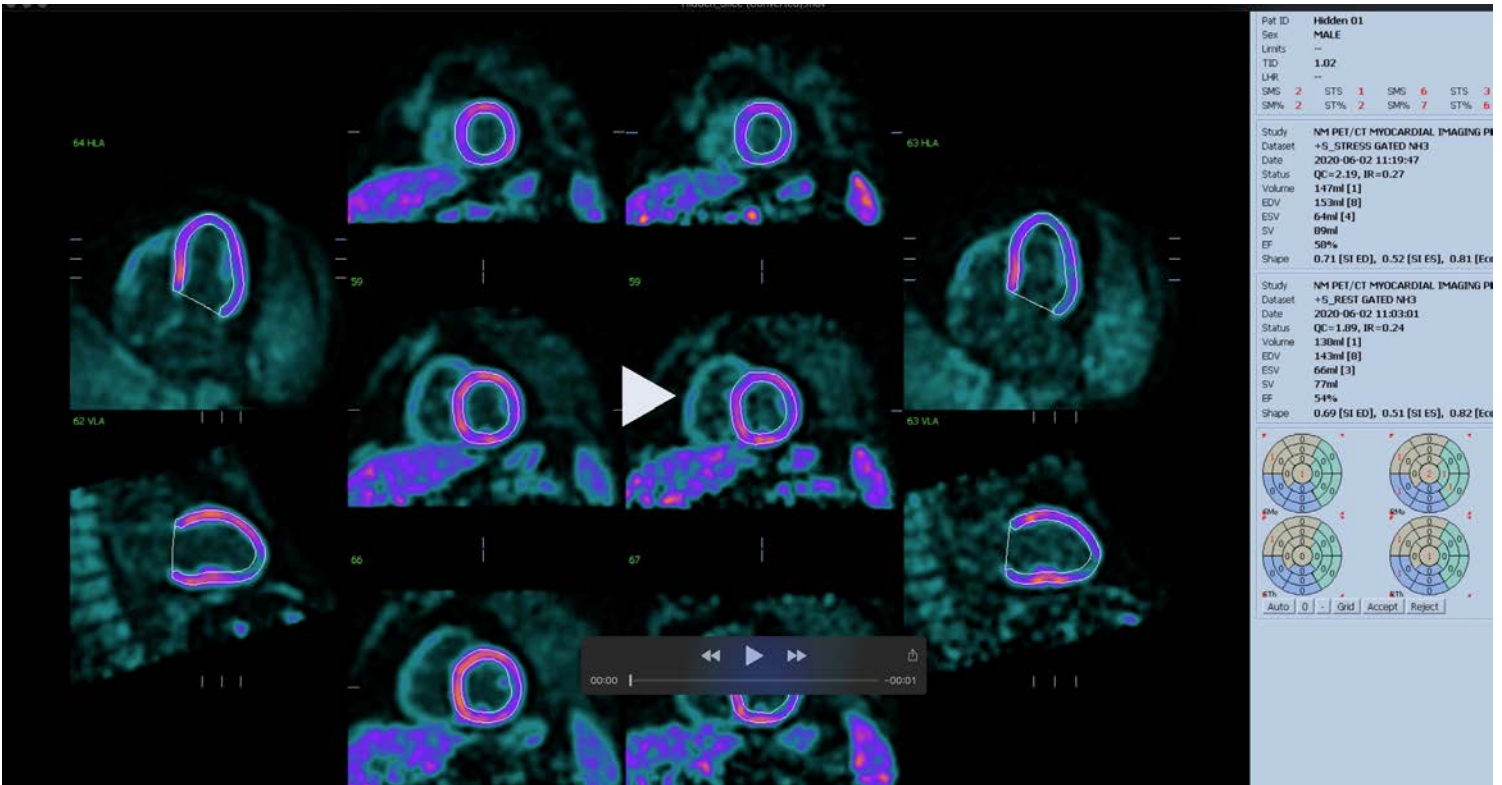
Stress / Rest and Reversibility Extent Ischemia Percentage



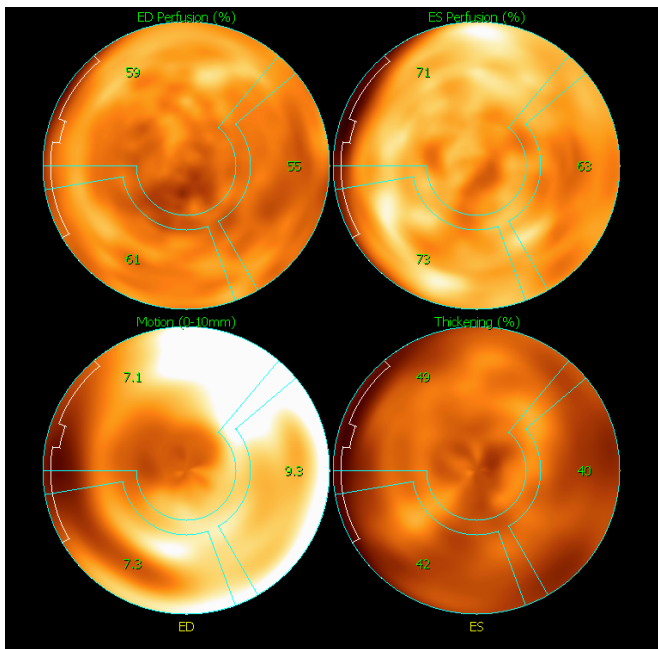
Global and Regional Myocardial Blood Flow and Quality Control Curves



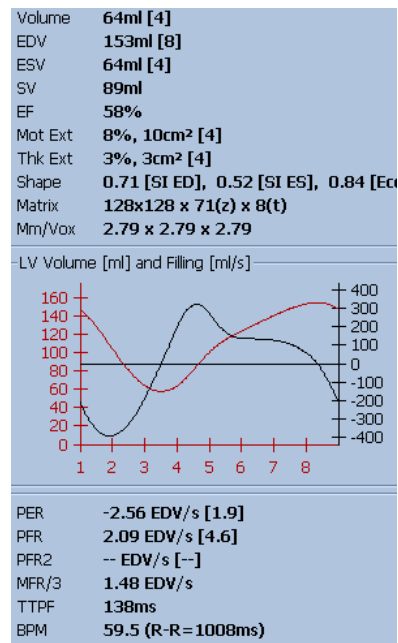
Global, Regional and Reserve Myocardial Blood Flow Values



Eight Frame Stress / Rest Gated Cine. Click on image to link to video.



ED, ES, Motion, Thickening Percentages



Functional Data Including Ejection Fraction

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