Asymptomatic patient with positive stress test

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Clinical history

- Man 81 y.o.
- Dyslipemia, stress, overweight, family history.
- Asymptomatic with positive exercise test.
- Aortic stenosis.
- EKG: synus rythm 75 bpm, mild repolarization changes.
- The patient underwent a dipyridamole/rest myocardial perfusion gated SPECT study with $^{99m}$Tc-MIBI.
Myocardial perfusion study
Quantitation of perfusion and function
The gated SPECT results indicate:

a) One-vessel disease.
b) Two-vessel disease.
c) Three-vessel disease.
d) Diffuse subendocardial ischemia.
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- There are multiple, reversible perfusion defects involving all three major vascular territories.
- There is a drop in post-stress LVEF (60% to 47%) and transient dilation of the left ventricle.
How would you manage the patient?

a) Perform invasive coronary angiography.
b) Perform CT angiography.
c) Perform PET viability study.
d) Do nothing but medical treatment.
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- The patient has a high risk gated SPECT result, so he might benefit from myocardial revascularization.
- CT angiography or PET would not add to patient management in this scenario.
- Medical treatment alone is associated with higher cardiac event rate in these patients.
Coronary angiography

Left coronary artery – anterior view
Left coronary artery – LAO view
Right coronary artery
Coronary angiography

- Results showed multivessel disease.
- The patient underwent CABG.
Teaching points

• Myocardial perfusion imaging is useful for identifying multivessel disease, since most patients have perfusion abnormalities indicative of ischemia.

• In few cases, balanced ischemia can produce “normal” perfusion images but frequently showing myocardial stunning with transient LV dilation and lower post-stress LVEF.

• High risk studies indicate the need for aggressive management.
Bibliography


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