

Positive adenosine stress ECG in patients with a normal myocardial perfusion scan

To the Editor:

Dr. Sharma and colleagues should be congratulated on their research of ST segment depression on adenosine stress testing and normal myocardial perfusion imaging¹; however, the data seem to imply something quite different than the stated conclusions.

Only patients with normal myocardial perfusion and ST depression with adenosine stress were evaluated. Since all patients had ECG evidence of ischemia, it is not possible to conclude that the “specificity of ECG changes during adenosine infusion for the detection of severe obstructive CAD is poor.” To determine specificity, both positive and negative test results must be evaluated, but this was not done. If the authors are referring to patients with 5 minutes or more of ST segment depression vs those with a shorter duration, then they would need to only look at patients undergoing angiography, and compare those with more vs less than 5 minutes of ST segment depression.

The authors conclude “patients with multiple coronary risk factors, particularly diabetes mellitus, should undergo further investigation.” Why? All patients had a 0% incidence of a hard cardiac event (cardiac death or

nonfatal myocardial infarction) during follow-up. Further investigation will not improve upon 0%, and their data provide no proof that angiography or revascularization was beneficial. A literature review may allow this hypothesis, but their data do not.

Nevertheless, this research is helpful because it reaffirms the value of a normal myocardial perfusion scan. Their data demonstrate that even if adenosine stress testing shows ST segment depression, in patients with a normal myocardial perfusion scan the annual risk of a hard cardiac event is very low.

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Reference

1. Sharma J, Roncari C, Giedd KN, Fox JT, Kanei Y. Patients with adenosine-induced ST-segment depressions and normal myocardial perfusion imaging: Cardiac outcomes at 24 months. *J Nucl Cardiol* 2010 [Epub ahead of print].

doi:10.1007/s12350-010-9274-7