P3653 : The prognostic value of coronary flow reserve in medically treated patients with single vessel disease and intermediate stenosis severity: a stress echo study

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Background: According to 2005 AHA Guidelines on percutaneous intervention, intracoronary physiologic measurement in the assessment of the effects of intermediate coronary stenoses in patients with anginal symptoms is a Class IIa indication.

Aim: To assess the additional prognostic value of Doppler echocardiographic derived CFR in patients with single vessel disease and intermediate stenosis severity.

Methods: We enrolled 88 patients (51 males; age 66±10 years) with angiographically assessed single vessel coronary artery disease, of either the left anterior descending artery (LAD, n=70) or of the right coronary artery (RCA, n=18) with quantitatively assessed stenosis severity between 50 and 75%. All patients underwent dipyridamole (up to 0.84 mg/kg over 6 minutes) stress echocardiography. All patients were followed-up for a median of 37 months (1st quartile 20, 3rd quartile 54) after the diagnostic coronary angiography (without percutaneous intervention for a clinically-driven decision).

Results: The mean diameter stenosis was 58±10% for LAD and 58±6% for RCA disease. Mean CFR on LAD was 1.9±0.23 and on RCA 2.1±0.3. A regional wall motion abnormality at peak stress was present in 14 patients. During follow-up of 37 months, 29 events occurred: 9 nonfatal myocardial infarction, 20 re-hospitalizations for unstable angina. The 36-month spontaneous event-free survival was higher in patients with normal and lower in patients with reduced CFR (see Figure). At Cox analysis, a CFR <2 (hazard ratio [HR] 9.0, 95% CI 2.8-31.3, P < .000) was the only independent prognostic predictor of outcome.

Conclusions: In medically treated patients, with single vessel disease of intermediate severity, reduced CFR is associated with a worse outcome.