STRESS TESTING IS ASSOCIATED WITH INCREASED REPEAT REvascularization RATES FOLLOWING MULTIVESSEL CORONARY REvascularization

ACC Poster Contributions
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Background: High rates of stress testing may lead to unnecessary revascularization among patients with asymptomatic coronary artery disease. We analyzed the relationship between the use of stress testing and repeat revascularization among a cohort of Medicare beneficiaries admitted with acute coronary syndromes (ACS).

Methods: Analysis of Medicare claims from 2003 and 2004 identified beneficiaries >65 years who were admitted with ACS and received an initial multivessel revascularization with either PCI or CABG within 30 days of ACS admission and survived without repeat revascularization for at least 60 days. A total of 99,487 patients (33,279 PCI and 66,208 CABG) were included. Medicare claims data from 2003-2007 was used to quantify the use of stress testing and repeat revascularization. Logistic regression was used to adjust for observed patient demographics and comorbidities.

Results: Within three years of initial revascularization, 58.1% of patients received at least one stress test and 11.1% a repeat revascularization. PCI patients were more likely to receive both stress tests (Adjusted OR: 1.72 [1.67-1.77]) and repeat revascularizations (OR 3.94 [3.78-4.11]). Most (72.8%) repeat revascularizations were preceded by a stress test, while only 21.4% of repeat revascularizations were preceded by recurrent ACS. Rates of repeat revascularization and stress testing were highly correlated across health referral regions (correlation coefficient 0.60, p < 0.001).

Conclusions: Stress testing is commonly utilized in patients who have received revascularization for ACS, and the rate of repeat revascularization increases with higher rates of testing. The vast majority of repeat revascularization procedures are performed after elective stress testing, with a minority of patients experiencing a repeat ACS event. Additional work is necessary to understand how regional variations in the use of stress testing affect patient outcomes after an ACS-related revascularization.