PERCUTANEOUS CORONARY INTERVENTION IN NATIVE ARTERIES VS. BYPASS GRAFTS IN PRIOR CORONARY BYPASS GRAFTING PATIENTS: A REPORT FROM THE CATHPCI REGISTRY®

i2 Poster Contributions
Ernest N. Morial Convention Center, Hall F
Tuesday, April 05, 2011, 9:30 a.m.-10:45 a.m.

Session Title: PCI - Carotid, Neurovascular, Endovascular, Cell Therapy, Thrombectomy
Abstract Category: 19. PCI - Thrombectomy/Atherectomy/Embolic Protection and SVG Intervention
Session-Poster Board Number: 2516-508

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Background: The percutaneous coronary intervention (PCI) target vessel and corresponding outcomes in patients with prior coronary artery bypass graft surgery (CABG) are poorly studied. We examined a large registry to: (1) describe the PCI target vessel among patients with prior CABG; (2) identify predictors of PCI in native coronary arteries vs. bypass grafts; and (3) compare the clinical characteristics and outcomes of prior CABG patients who underwent native coronary artery vs. bypass graft PCI.

Methods: We examined prior CABG patients who underwent PCI between January 1, 2004 and June 30, 2009 in the CathPCI Registry. Generalized estimating equations logistic regression modeling was used to generate independent variables associated with native vs. SVG PCI and with in-hospital mortality among prior CABG patients. The multivariable model included variables included in the NCDR® mortality risk prediction model for percutaneous coronary intervention.

Results: During the study period, PCI in prior CABG patients represented 17.5% of the total PCI volume (300,902 of 1,721,046). The PCI target was only a native coronary artery in 62.5% and a bypass graft in 37.5%: saphenous vein grafts (SVGs) (104,678 - 34.9%), arterial grafts (7,517 - 2.5%) or both arterial grafts and SVGs (718, 0.2%). Compared with prior CABG patients undergoing native coronary artery PCI, those undergoing bypass graft PCI had higher risk characteristics and more procedural complications. On multivariable analysis, several parameters (including the presence of graft stenosis and longer interval from CABG) were associated with performing native coronary vs. bypass graft PCI and bypass graft PCI was associated with higher in-hospital mortality (adjusted odds ratio 1.22, 95% CI 1.12, 1.32).

Conclusions: Most PCIs performed in prior CABG patients are done in native coronary artery lesions. Compared to native coronary artery PCI, bypass graft PCI is independently associated with higher in-hospital mortality.