CATEGORIES OTHER: Statistics and Trial Design
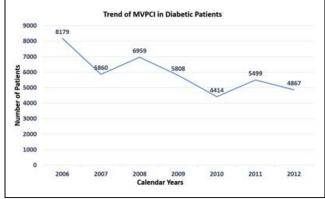
TCT-480

National Trend in Multivessel Percutaneous Coronary Intervention in Patients with Diabetes Mellitus in the United States

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BACKGROUND Patients with diabetes and multivessel coronary artery disease treated with multivessel percutaneous coronary intervention (MVPCI) have higher mortality, non-fatal myocardial infarction and repeat revascularization rates compared to coronary artery bypass graft surgery (CABG). Our study objective is to assess the trend of MVPCI with stent placement in diabetic patients.

METHODS Data were obtained from nationwide inpatient sample from 2006-2012, which is a 20% stratified probability sample of discharges in all community hospitals participating in Healthcare Cost and Utilization Project. International Classification of Diseases 9 codes were used to identify diabetic patients who underwent percutaneous coronary intervention with stents in two or more vessels. Patients who had history of CABG, cardiac transplant, missing data, or were <18 years old were excluded. Trend analysis was performed on the number of MVPCIs.

RESULTS A total of 41,586 patients underwent MVPCI between 2006 and 2012. The mean age of the patients undergoing MVPCI was 65.2±11.46 years. There were 59.89% males and 40.11% females. The trend analysis showed that incidence of MVPCI in diabetics decreased by 40.49% from a peak of 8179 in 2006 to 4867 in 2012 (Figure). Drug eluting stents were used in 78% patients, while non-drug eluting stents were used in 15.4% patients, and 6.6% of the patients received both.

CONCLUSIONS There was a significant decrease in the number of MVPCI procedures performed on diabetic patients with multivessel coronary artery disease between year 2006 and 2012.

CATEGORIES CORONARY: PCI Outcomes

KEYWORDS Diabetes, Multivessel percutaneous coronary intervention, Percutaneous coronary intervention trend

TCT-481

Percutaneous Coronary Intervention versus Coronary-Artery Bypass Grafting for Left Main Coronary Disease with Reduced Left Ventricular Ejection Fraction

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BACKGROUND Unprotected left main coronary artery (ULMCA) stenting has been performed as an alternative to coronary artery bypass grafting (CABG). However, benefits of percutaneous coronary intervention (PCI) in patients with ULMCA disease and reduced left ventricular ejection fraction (LVEF) have not been established.

METHODS We identified 364 patients with left ventricular systolic dysfunction (LVEF less than 45%) who underwent left main coronary revascularization by PCI and CABG from IRIS-MAIN registry (total 4253 patients) between February 2003 and June 2014. The primary end point was a major adverse cardiac or cerebrovascular event (MACCE), which was composite of all cause of death, myocardial infarction, target vessel revascularization or cerebrovascular event, were compared between those undergoing PCI (n=137) and CABG (n=227) at 1 year follow-up.

RESULTS Mean age was 66.7±11.6 years and 65.0±8.8 years in the PCI and CABG groups, respectively (p=0.17). Male made up 77% and 81% (p=0.37). The 1-year incidence of MACCE was similar between two groups (PCI: 18.8% vs. CABG: 13.0%, p=0.16). In addition, death (11.9% vs. 9.8%, p=0.30), MI (0.9% vs. 0.5%, p=0.68) and target vessel revascularization was not significantly different (PCI: 5.2% vs. CABG: 1.9%, p=0.13). After adjustment, the hazard ratio was 1.40 (95% confidence interval [CI]: 0.71 - 2.79, p=0.33); for all cause of death; 2.37 (95% CI: 0.64 - 8.75, p=0.20) for target vessel revascularization; 1.49 (95% CI: 0.85 - 2.62, p=0.16) for MACCE.

Table 1. Incidence of Clinical Outcomes at 1 Year

Clinical Outcomes	PCI (N=137)	CABG (N=227)	P value
MACCE†	25 (18.8%)	29 (13.0%)	0.160
Death	18 (11.9%)	22 (9.8%)	0.301
Cardiac death	11 (8.3%)	14 (9.3%)	0.204
Myocardial Infarction	1 (0.9%)	1 (0.5%)	0.678
Any Repeat Revascularization	7 (5.1%)	5 (2.2%)	0.145
Target Vessel Revascularization	6 (4.3%)	4 (1.9%)	0.127
Cerebrovascular event	2 (1.5%)	4 (1.9%)	0.846

†The composite of all cause of death, myocardial infarction, target vessel revascularization and cerebrovascular event