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## **DRUG-ELUTING STENT IMPLANTATION IN CORONARY BIFURCATION LESIONS YIELDS FAVORABLE RESULTS**

*Large, 'Real World' Registry Shows Good Long-Term Outcomes in Complex Lesions*

**Orlando, FL** –The long-term clinical results after implantation of drug-eluting stents in notoriously complex coronary bifurcation lesions appear to be favorable in a large, real world registry of more than 1,600 patients, according to research presented during the i2 Summit at the American College of Cardiology's 58<sup>th</sup> annual scientific session.

Even in this era of drug-eluting stents, the coronary bifurcation lesion remains a complex lesion to treat with a relatively lower angiographic success rate and a higher risk of procedural complications and restenosis. Results of coronary bifurcation stenting have been highly variable according to stent strategies and techniques. This retrospective multicenter registry sought to determine the long-term clinical outcome of drug-eluting stent (DES) implantation in coronary bifurcation lesions in Korea.

“Most of the studies have been focused on a certain type of stenting technique,” said Hyeon-Cheol Gwon, M.D., Ph.D, Professor of Internal Medicine, Division of Cardiology, Sungkyunkwan University School of Medicine, Samsung Medical Center, Seoul, Republic of Korea. “Most have been too small to show overall outcomes. To date, there has been no large, real world registry of DES implantation in coronary bifurcation lesions.”

A total of 1,691 lesions from 1,668 patients from 16 cardiovascular intervention centers were included in the registry. Acute coronary syndrome was noted in 58.1 percent, diabetes in 30.8 percent, and previous myocardial infarction in 8.3 percent of the patients. Stent implantation was performed between January, 2004 and June, 2006. The main branch diameter was  $\geq 2.5$  mm, and

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side branch diameter was  $\geq 2.0$  mm. Patients with cardiogenic shock, myocardial infarction within 48 hours of onset, and left main bifurcation were excluded. Qualitative coronary angiography was performed in the core laboratory at Samsung Medical Center.

The left anterior descending artery was the most frequently treated lesion location, in 76.2 percent of patients, and true bifurcation was found in 50.5 percent. A one-stent technique was performed in 82.4 percent of cases, T-stenting in 8.3 percent, Crush technique in 5.9 percent and other techniques in 3.4 percent. A sirolimus-eluting stent was used in 63.3 percent, and a paclitaxel-eluting stent was used in 33.9 percent. The angiographic success rate was 98.2 percent in the main branch, but 58.0 percent in the side branch.

At a median follow up of 22 months, cardiac mortality was 0.9 percent, the target lesion revascularization rate was 4.7 percent, and the definite or probable stent thrombosis rate was 0.66 percent. The long-term clinical outcomes were similar between the simple conservative strategy and the complex aggressive strategy. The angiographic success in the side branch was not a significant predictor of long-term clinical outcome.

“The coronary bifurcation lesion represents a complex lesion subset even with modern coronary intervention techniques,” Gwon said. “The favorable outcomes shown in this registry should reassure us about the long-term results of DES implantation in the coronary bifurcation lesion. But even though bifurcation lesions are complex, we had better try to avoid complex techniques if possible.”

*Dr. Gwon will present the study “Favorable Long-Term Clinical Results After the Implantation of Drug-Eluting Stent in the Bifurcation Lesion in the Real World Registry: Findings From Coronary Bifurcation Stenting Registry” on Sunday, March 29 at 2:20 p.m. in Room W315B.*

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The American of Cardiology’s Innovation in Intervention: i2 Summit 2009 features the latest in interventional science and is the leading forum and exposition for interventional cardiology. A platform for the world’s leading interventional cardiologists to share knowledge, discuss new ideas and discover new innovations, the i2 Summit 2009, in partnership with the Cardiovascular Research Foundation, is being held in conjunction with ACC.09, the American College of Cardiology’s 58<sup>th</sup> annual scientific meeting. The American College of Cardiology ([www.acc.org](http://www.acc.org)) works to influence health care policy and represents the majority of board certified cardiovascular care specialists through education, research, promotion, and the development and application of standards and guidelines.