Stenting Edges CABG for Multivessel Disease

Major Adverse Event Rates After 1 Year

	Drug-Eluting Stent ARTS II (n = 607)	CABG ARTS I (n = 605)	Bare-Metal Stent ARTS I (n = 600)
Revascularization	7.4%	3.7%	17.0%
Myocardial Infarctions	1.2%	3.5%	5.0%
Deaths	1.0%	2.7%	2.7%
Cerebrovascular Events	0.8%	1.8%	1.8%

Source: Dr. Serruys

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ORLANDO, FLA. — Stenting may have edged past coronary bypass surgery for treating patients with multivessel coronary disease, based on data from an uncontrolled series of 607 patients who underwent revascularization using drug-eluting stents.

In the multicenter series, 54% of patients had triple-vessel disease and 46% had two-vessel disease. All patients were treated with percutaneous coronary intervention using sirolimus-eluting (Cypher) coronary stents. The Arterial Revascularization Therapies Study Part II (ARTS II) was designed to test whether multivessel stenting was not inferior to coronary bypass graft (CABG), Patrick Serruys, M.D., said at the annual meeting of the American College of Cardiology.

The study's primary end point was the combined rate of death, MI, stroke or transient ischemic attack, and need for revascularization 1 year after treatment. This combined rate was 10.4%, compared with a 11.7% rate in a similar series of 605 patients who underwent coronary bypass surgery during the late 1990s in ARTS I, reported Dr. Serruys, chief of interventional cardiology at the thorax center of Erasmus University in Rotterdam, the Netherlands.

In ARTS II, the incidence of death was 1.0%, the rate of cerebrovascular events was 0.8%, the rate of MI was 1.2%, and the rate of clinically necessary revascularization procedures was 7.4%. (See box.) In the historic series of patients who had coronary surgery, the 1-year rate of death was 2.7%, the rate of cerebrovascular events was 1.8%, the rate of MI was 3.5%, and the rate of clinically necessary revascularization was 3.7%.

Comparison of the combined adverse events showed that stenting was not inferior to CABG. The results further showed that stenting was statistically superior to bypass surgery after 1 year of follow-up, Dr. Serruys said.

An additional analysis compared the combined outcomes of the two series. After adjustment for baseline differences in the patients in both studies, the combined rate of major adverse events was 8.1% with stenting and 13.1% with bypass surgery.

"This study is a breakthrough," commented Valentin Fuster, M.D., director of the cardiovascular institute at Mount Sinai Medical Center, New York. "Even though this was not a prospective, randomized, controlled study, I'm convinced that for patients with multivessel disease, drug-eluting stents may have more of an impact today on the rate of death and myocardial infarction than coronary artery bypass grafting."

The biggest question remaining is whether surgery or drug-eluting–stent placement is the best treatment for patients with diabetes and multivessel coronary disease. In the new study, 26% of enrolled patients had diabetes, so the applicability of the results to patients with diabetes remains unclear.

The superiority of stenting with sirolimus-eluting stents in ARTS II contrasted with the results of the bare-metal–stent arm of ARTS I. In that series of 600 patients, done concurrently with the coronary bypass arm, the combined rate of major adverse events was 26.5% after 1 year, primarily because the rate of clinically necessary revascularization was 17.0%.

The difference in revascularization rates between ARTS I, with bare-metal stents, and ARTS II, with drug-eluting stents, "shows the difference that drug-eluting stents make," commented Fayez Shamoon, M.D., a cardiologist at St. Michael's Medical Center, Newark, N.J. ■