Cypher Bests Endeavor Stent in Late Lumen Loss

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WASHINGTON — The investigational drug-eluting stent Endeavor did not do as well as the Cypher stent in measures of in-segment late lumen loss, according to study results presented at a symposium sponsored by the Cardiovascular Research Foundation.

The ENDEAVOR III trial compared the Endeavor, which is coated with a sirolimus-like drug called ABT-578, and the sirolimus-eluting Cypher. The Endeavor is manufactured by Medtronic Inc., and the Cypher by Cordis Corp.

The study of 436 patients "validates the angiographic and clinical outcomes seen in ENDEAVOR II," said David E. Kandzari, M.D., the study's co–principal investigator. Dr. Kandzari, of Duke University Medical Center in Durham, N.C., disclosed no conflicts of interest.

The Endeavor was recently approved in Europe based on the preceding ENDEAVOR II results. But in ENDEAVOR III, the stent did not meet the noninferiority target for the primary end point, which was in-segment late lumen loss based on qualitative coronary angiography at 8 months.

The 282 patients in the Endeavor arm had an in-segment late loss of 0.34 mm that was consistent with results in ENDEAVOR II. But the results missed the 0.20-mm or less margin of difference from Cypher, which was needed to establish noninferiority. The 94 patients in the Cypher arm had a late loss of 0.13 mm, making for a 0.21-mm difference.

There was angiographic follow-up in 87.3% of the Endeavor patients and in 83.2% of the Cypher patients.

"In this trial, it wasn't that the Endeavor fared unexpectedly worse, but that we saw more favorable outcomes than expected with the Cypher in terms of late loss," Dr. Kandzari told reporters in a briefing. The significance of late loss on clinical outcomes still has to be determined, he added.

The need for target vessel revascularization at 9 months was 6% for the Endeavor and 5.3% for the Cypher.

"In real-world clinical practice, the most meaningful outcome is a clinical event—in particular, target vessel revascularization," he said. At 9 months, those data looked favorable for the Endeavor, he said, adding that they were concordant with ENDEAVOR II data.

The secondary outcomes for Cypher and Endeavor were similar. The need for target vessel revascularization at 9 months was 6% for the Endeavor and 5.3% for the Cypher. Target lesion revascularization was 6.3% for the Endeavor, compared with 3.5% for the Cypher, but with only 113 patients in the Cypher group, the study was not powered for statistical significance, said Dr. Kandzari.

In ENDEAVOR III, target vessel failure was somewhat higher at 12%, compared with 9.5% in ENDEAVOR II, but similar to that seen with Cypher, at 11.5%.

At 9 months, the overall rate of major adverse cardiac events was 7.6% for the Endeavor arm and 7.1% for the Cypher arm. There were two deaths from noncardiac causes in the Endeavor group, compared with none in the Cypher arm. There was no stent thrombosis, according to Dr. Kandzari.

Scott Ward, president of Medtronic Vascular, said the company will continue development of the stent and has started enrollment for ENDEAVOR IV, an 80-center study of 1,548 patients, in which Endeavor will be compared with Boston Scientific Corp.'s paclitaxel-eluting Taxus stent.

Mr. Ward said he believed that the late loss issue will not be a deal-breaker for FDA approval. Regulators are more interested in evaluating how often patients have to come back to be revascularized, he told reporters.

However, in a discussion, Patrick Serruys, M.D., a professor of interventional cardiology at Erasmus University Medical Center in Rotterdam, the Netherlands, said the late-loss problem was significant with Endeavor and that it might become more important in high-risk patients.

Medtronic representatives said the manufacturer expects Food and Drug Administration approval by late 2007. ■