

Fractional Flow Reserve as PCI Guide Costs Less

BY MITCHEL L. ZOLER

BARCELONA — Using fractional flow reserve to guide coronary stenting produced a sizeable reduction in treatment costs during the year afterward in a randomized study with about 1,000 patients.

Those who underwent assessment with a coronary-pressure guidewire also had better clinical outcomes, with a statistically significant 5% absolute cut in the combined rate of death, MI, or need for revascularization after 1 year, Dr. Nico H.J. Pijls said at the annual congress of the European Society of Cardiology.

The improved outcomes came with an average \$2,063 saving per patient in total first-year medical costs in favor of patients managed with pressure-wire guidance. Each patient with fractional flow reserve (FFR) assessment received, on average, one fewer stent during their percutaneous coronary intervention.

FFR-guided stenting “is one of the rare situations in medicine in which a new, innovative treatment not only im-

Lüscher, who had no relevant disclosures.

Pressure wires are likely most helpful for patients with stenoses that block 50%-70% of a vessel, the “middle” lesions that have the greatest ambiguity about their ischemic impact, he added.

“Eliminating patients who don’t need a stent with a flow wire would have an impact on that middle ground,” agreed Dr. Alfred A. Bove, a cardiologist at Temple University Medical Center in Philadel-

phia and president of the American College of Cardiology. Pressure wire information would also help the long-term management of patients following PCI.

Use of pressure wires received a boost when the FAME results first appeared. “It’s being used a lot in questionable lesions,” Dr. Bove said in an interview.

FAME enrolled 1,005 patients with multivessel coronary disease at 6 U.S. centers and 14 sites in Europe. Patients

were randomized to undergo PCI guided by angiography or FFR. The main driver of the difference in clinical outcomes was the significantly reduced rate of death and MI, which was 7% FFR patients and 11% angiography patients.

FAME was partially sponsored by Radi Medical Systems (since acquired by St. Jude Medical), which markets the Certus wire used in the study. Dr. Pijls had no other disclosures relevant to the study. ■



Using pressure-wire guidance, we can stent ischemic lesions and treat nonischemic lesions medically.

DR. PIJLS

proves outcomes but also is cost saving,” said Dr. Pijls, professor of cardiology at Catharina Hospital in Eindhoven, the Netherlands. The results “support the evolving paradigm of ‘functionally complete revascularization’: stenting ischemic lesions and medically treating nonischemic lesions,” he said.

Dr. Pijls reported expanded results from the Fractional Flow Reserve Versus Angiography for Multivessel Evaluation (FAME) trial. A report on the primary study result—the 5% improvement in the overall rate of major adverse coronary events when using FFR data—was published earlier this year (N. Engl. J. Med. 2009;360:213-24).

The data showed an important clinical advantage for FFR-guided PCI and the “remarkable” finding that this strategy was also cheaper, said Dr. Thomas F. Lüscher, professor and chairman of cardiology at the University of Zurich and the ESC’s discussant for the report. Assessment with a pressure wire also did not add time to the procedure, which took an average of 70 minutes using conventional angiography and 71 minutes with the pressure wire, probably because of the time saved in placing an average of one fewer stent per patient.

FFR adds to the information about which stenoses need stenting because it takes into account the collateral flow that can make some stenoses irrelevant. Pressure wires and a strict definition of a stenosis that requires opening help avoid the tendency of interventionalists to stent all stenoses that look significant, said Dr.

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