Drug-Eluting Stents for Primary PCI Superfluous?

BY BRUCE JANCIN

SNOWMASS, Colo. — The added value of using a drug-eluting stent rather than a bare-metal one in primary percutaneous coronary intervention for ST-elevation MI may be marginal at best.

Results with bare-metal stents (BMS) in primary PCI for STEMI are so good that there is little potential for clinically meaningful advantage in using drug-eluting stents (DES), Dr. Spencer B. King III asserted at a conference sponsored by the American College of Cardiology.

Moreover, while there is little potential upside in using DES in this setting, there is plenty of potential downside, related mostly to the associated requirement for long-term dual antiplatelet therapy.

When an unfamiliar patient with STEMI arrives in diuresis at the hospital in the dead of night and the primary PCI team swings into action to meet the 90-minute door-to-balloon time requirement, key details of the patient’s history can get overlooked in the rush of events. For example, physicians may discover a day or two later that the patient requires warfarin for recurrent paroxysmal atrial fibrillation, or plans to have her gallbladder removed in the coming weeks or months.

Those circumstances are incompatible with long-term dual antiplatelet therapy—and yet discontinuing the medication places the patient at sharply increased risk for stent thrombosis, explained Dr. King, the conference program director and president of Saint Joseph’s Heart and Vascular Institute, Atlanta.

In his view, the best randomized prospective clinical trial data on the issue of DES versus BMS for primary PCI comes from the Harmonizing Outcomes With Revascularization and Stents in Acute Myocardial Infarction (HORIZONS-AMI) trial in which 3,400 STEMI patients were randomized 3:1 to primary PCI with a Taxus DES or a BMS.

The recently available 1-year HORIZONS-AMI major adverse cardiac event data tell the tale: This composite end point, comprised of death, reinfarction, stroke, or stent thrombosis, occurred in 8.1% of the DES group and 8.0% of the BMS group.

Also, the 1-year target lesion revascularization rate was only slightly better in the DES group: 4.5%, versus 7.5%.

“Routine use of drug-eluting stents enabled you to avoid three reinterventions per 100 patients. To achieve that, you had to put drug-eluting stents in everybody. So are we trading these mild improvements for long-term concerns regarding chronic antithrombotic therapy?” the cardiologist asked.

Other, smaller randomized trials have shown a larger difference in repeat revascularization rates between DES and BMS. That’s because those studies featured mandatory angiographic follow-up, which always drives reintervention rates higher without producing any difference in hard end points. In HORIZONS-AMI, which did not include mandatory follow-up angiography, reintervention was triggered by ischemic symptoms, Dr. King noted.

Statewide primary PCI registries in Massachusetts and New York have shown a survival benefit favoring DES over BMS in STEMI. But those registry data are likely confounded by selection bias, with sicker patients being relegated to BMS, and by the greater likelihood that DES recipients received long-term dual antiplatelet therapy, said Dr. King, a senior author in the New York State study.

He urged his fellow interventionalists to keep their eyes on the big picture: “Remember, the main goal of primary PCI is to stop the heart attack, not to worry about which stent we put in.”

Dr. King disclosed serving as a consultant to BG Medicine, CeloNova Biosciences, Cordis, Medtronic, and NorthPoint Domain.

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