Coronary Artery Bypass Graft Surgeries Decrease

Between 2001 and 2008, the annual rate of coronary artery bypass graft surgeries performed in the United States decreased by more than 30 percent, but rates of percutaneous coronary interventions (PCI; procedures such as balloon angioplasty or stent placement used to open narrowed coronary arteries) did not change significantly, according to a study in the May 4 issue of *JAMA*.

"Coronary revascularization, comprising coronary artery bypass graft (CABG) surgery and PCI, is among the most common major medical procedures provided by the U.S. healthcare system, with more than one million procedures performed annually," offered background information in the article. Several innovations in coronary revascularization, such as drug-eluting stents (DES) and minimally invasive CABG surgery have been adopted widely in the past decade, with the promise of improved clinical outcomes compared with older revascularization technologies and techniques. "Substantial changes in the overall volume of revascularizations or the relative use of CABG surgery vs. PCI would have important ramifications on clinical outcomes, health care costs, and the future organization and delivery of hospital-based cardiovascular care," continued the article.

Andrew J. Epstein, Ph.D., of the Philadelphia Veterans Affairs Medical Center and University of Pennsylvania, Philadelphia, and colleagues conducted a study using a representative national sample of hospitalization claims to estimate trends in the annual volume of coronary revascularization procedures. The study included data on patients undergoing CABG surgery or PCIs between 2001 and 2008 at U.S. hospitals in the Healthcare Cost and Utilization Project's Nationwide Inpatient Sample, which reports inpatient coronary revascularizations. These data was supplemented by Medicare outpatient hospital claims.

The researchers found that there was a 15 percent decrease in the annual rate of coronary revascularizations from 2001-2002 to 2007-2008. There was a substantial decrease in the rate of CABG surgery, with approximately one-third fewer CABG surgeries being performed in 2008 compared with 2001. The annual CABG surgery rate decreased steadily from 1,742 CABG surgeries per million adults per year in 2001-2002 to 1,081 CABG surgeries per million adults per year in 2007-2008, but PCI rates did not significantly change (3,827 PCI per million adults per year in 2001-2002 vs. 3,667 PCI per million adults per year in 2007-2008).

"Between 2001 and 2008, the number of hospitals providing CABG surgery increased by 12 percent, and the number of PCI hospitals increased by 26 percent. The median CABG surgery caseload per hospital decreased by 28 percent and the number of CABG surgery hospitals providing fewer than 100 CABG surgeries per year increased from 11 percent in 2001 to26 percent in 2008," the authors write.

The researchers feel that the findings of this study "suggest the possibility that

several thousand patients who underwent PCI in 2008 would have undergone CABG surgery had patterns of care not changed markedly between 2001 and 2008. Our data implies a sizeable shift in cardiovascular clinical practice patterns away from surgical treatment toward percutaneous, catheter-based interventions."

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