Patients fare just as well if their nonemergency angioplasty is performed at hospitals

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Hospitals that do not have cardiac surgery capability can perform nonemergency angioplasty and stent implantation as safely as hospitals that do offer cardiac surgery. That is the finding of the nation's first large, randomized study to assess whether patients do just as well having nonemergency angioplasty performed at smaller, community hospitals that do not offer cardiac surgery.

Results of the study, called the Cardiovascular Patient Outcomes Research Team Elective Angioplasty Study (C-PORT-E), are being presented on Nov. 14, at the American Heart Association's Scientific Sessions 2011. The study, led by Johns Hopkins cardiologist Thomas Aversano, evaluated the outcomes of more than 18,500 patients who were randomly assigned to have heart artery-opening angioplasty or stenting at hospitals with or without cardiac surgery capability.

The study included 60 hospitals in nine states without cardiac surgery backup. In order to participate in the study, those hospitals had to perform a minimum of 200 angioplasty procedures each year and complete a formal angioplasty development program.

Emergency angioplasty is performed during a heart attack, when a vessel needs to be opened right away to restore blood flow in the heart. Nonemergency procedures are offered to patients with blockages that may be causing chest pain.

"Historically, angioplasty has been performed at hospitals that had cardiac surgery backup in case complications from the procedure required emergency surgical intervention. Initially, in the late 1970s, the rate of complications requiring emergency surgery was as high as 15 percent," says Aversano, who is an associate professor of medicine at the Johns Hopkins University School of Medicine. "Today, however, the rate of complications from angioplasty is very low."

During angioplasty, a tiny balloon is inflated within a coronary artery to push away plaque that is causing a blockage in the vessel. Stents, which act like tiny scaffolds, also can be put in place to keep the artery open. In rare cases, the procedure can cause a tear in the vessel or closing of the artery, requiring open-heart surgery to repair the problem.

Data from the study indicated that emergency surgery was rarely needed, and patients in neither group were more likely to have such a complication. Also, the researchers found that the death rate within six weeks for any cause was less than one percent among patients in both groups.

The American Heart Association and the American College of Cardiologists currently recommend that nonemergency angioplasty only be performed within hospitals that offer open-heart surgery.

"Hospitals with cardiac surgery usually have a higher volume of heart-related cases overall, and that's one reason why those hospitals have been thought to offer better quality of care for nonemergency procedures," says Aversano, who adds that until this study, there was a lack of good outcomes data.

The researchers do not believe that every hospital should be performing angioplasty. However, they wanted to know if hospitals that offer emergency angioplasty to open blocked coronary arteries in heart attack

patients can also safely perform elective angioplasty.

"It is not reasonable to have doctors, nurses and technicians who are specially trained in performing angioplasty on hand 24/7 just to handle emergency cases," says Aversano. "Also, having the ability to perform elective cases, as well as emergency ones, increases quality that comes with more experience."

About 850,000 angioplasties are performed in the United States each year. Many states restrict hospitals that don't offer cardiac surgery from performing angioplasty, which is a minimally invasive procedure performed by specially trained cardiologists rather than cardiac surgeons. As a result, hospitals feel pressured to create costly cardiac surgery programs so that they can offer angioplasty.

"The goal of our study," says Aversano, "is to give health care planners the best possible information on which to base their decisions about the allocation of resources, so that patients can have access to the highest quality of care."

More data from the CPORT study, focusing on the quality of procedures, are expected to be released early in 2012. Those data will reveal patient outcomes nine months after their angioplasty in terms of death, heart attack, and whether the vessel that was opened by angioplasty or stenting became blocked again, requiring another procedure.

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