MedicalXpress

Drug-coated stents less risky for heart bypass patients

January 22 2009

Coronary bypass surgery may carry less risk of serious complications if stents coated with a drug that suppresses cell growth are used in the procedure rather than bare-metal stents, UT Southwestern Medical Center researchers and colleagues have found.

The study, appearing online and in an upcoming issue of *The Journal of the American College of Cardiology*, is the first large, multicenter trial comparing two types of commonly used stents. Stents are small mesh tubes that reinforce the walls of blocked blood vessels. In this study, stents were used to treat blockages in diseased coronary arteries.

In bypass surgery, grafts are taken from the saphenous vein in the patient's thigh and sewn to the coronary arteries to help improve blood flow to the heart, relieve severe chest pain and reduce the risk of heart attacks from blocked arteries. Years after surgery, those grafts may develop blockages inside the graft that are challenging to treat because of high rates of recurrence.

"We wanted to see if one type of stent was superior in reducing the incidence of re-narrowing of the vein graft," said Dr. Emmanouil Brilakis, assistant professor of internal medicine at UT Southwestern and lead author of the study. "Stented vein grafts have a very high risk of re-narrowing - sometimes up to 50 percent when bare metal stents are used.

"Drug-eluting stents could provide a solution to this problem, but limited clinical results have been reported to date. The drug-eluting stents

examined in our study are coated with a medication called paclitaxel, which inhibits cell growth."

The drug coating is contained on a polymer that covers the surface of the stents and eventually elutes, or washes out of the stent, over a period of several months or years.

In the study, researchers examined 80 patients, roughly half of whom had vein grafts with drug-eluting stents and the other half who had the same procedure with bare-metal stents.

Researchers found that 51 percent of patients with the bare-metal stent had re-narrowing of the vein graft over several months compared with 9 percent of the drug-eluting stent group. In addition, 28 percent of patients who had a bare-metal stent required another procedure to treat the same blockage, while only 5 percent of patients who had the drug-eluting stent did.

Some previous studies have indicated that patients receiving drug-eluting stents in saphenous vein grafts may not reduce the risk of re-narrowing and may be associated with increased risk of death, Dr. Brilakis said.

"Our findings suggest that drug-eluting stents are a better choice than bare-metal stents for this type of procedure," he said. "Patients receiving paclitaxel-eluting stents in our study were significantly less likely to have recurrence of their graft blockage and to require repeat procedures. The rates of death were similar in both study groups, although our study was not designed to detect differences in mortality."

The researchers now hope to repeat the study in an expanded group of patients, which would provide important data to determine definitively the efficacy and safety of each kind of stent.

Source: UT Southwestern Medical Center