Gene Therapy May Help Rebuild Blood Vessels

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Despite being too sick for treatment of severe coronary artery disease or not responding to other treatment options, a group of patients experienced promising outcomes after participating in angiogenic gene therapy, according to doctors from the Baylor College of Medicine, Weill Cornell Medical College and Stony Brook University Medical Center and reported online in the journal Human Gene Therapy.

Basically, angiogenic gene therapy is an investigational (translation: new) therapy that delivers a growth factor gene to trigger the formation of fresh blood vessels to provide increased blood supply to tissue not receiving blood because of a coronary artery blockage.

For the study, researchers followed 31 Weill Cornell patients diagnosed with severe coronary artery disease who were given gene therapy via direct injections of angiogenic growth factor into the their heart muscles. Findings showed the five- and 10-year survival rate for these patients were just as good, or better, in some cases, than what other groups with similar heart issues experienced after treatment with traditional medical therapy (usually coronary artery bypass surgery).

“After long-term follow-up, the patients who received angiogenic gene therapy appear to have improved outcomes, “ said Ronald G. Crystal, MD, chairman and professor of genetic medicine at Weill Cornell. “The study results give us greater insight into the safety and effectiveness of gene therapy to rebuild blood vessels in patients living with coronary artery disease.”

According to researchers, the next step will be to evaluate larger patient groups in a controlled study that compares outcome results.

There’s a test that detects two important types of plaque buildup in the arteries—calcified and non-calcified—that put people at risk of cardiovascular disease. What’s more, the test is especially key in detecting the presence of non-calcified plaque buildup that’s experienced mostly by black people.

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