

# Treatment that includes surgery results in better blood flow to heart

November 16 2010

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Treatment that included early surgical procedures to open blocked arteries resulted in better blood flow to the heart than aggressive medical treatment alone in patients with both diabetes and heart disease, according to a study presented at the American Heart Association's Scientific Sessions 2010.

Previously, researchers in BARI 2D (Bypass Angioplasty Revascularization Investigation 2 Diabetes) found that over five years there were no fewer deaths and heart attacks in people who had medical treatment along with prompt vessel-opening surgery (revascularization) than in those who received only intensive treatment to manage blood sugar, blood pressure and cholesterol levels (with surgery performed later only if their condition worsened).

"Even though the main trial showed no difference in clinical outcomes, this study revealed that revascularization had a greater benefit in reducing the extent of ischemia (areas with reduced [blood flow](#)), which is often important in controlling symptoms," said Leslee J. Shaw, Ph.D., lead author of the study and professor of medicine at Emory University School of Medicine in Atlanta, Ga.

In the current sub-study of BARI 2D, 1,505 participants underwent an imaging procedure that located and measured areas of [heart muscle](#) receiving sufficient blood flow. One year into the trial, researchers found:

- Fifty-nine percent of revascularization patients and 49 percent of medical patients had normal results with no drug-induced ischemia.
- Reductions in blood flow involved 3 percent of the heart tissue in revascularization patients and 9 percent of heart muscle in medical patients.
- More ischemia was associated with a greater risk of death or [heart attack](#).

The results indicate the value of scanning patients with diabetes and [heart disease](#) who are being managed with medication and lifestyle interventions.

"The benefits of lifestyle and medication take several months, so scanning after a year can provide a barometer of how effective your treatment has been at reducing ischemia," Shaw said. "Because nerves can be damaged by high blood sugar levels, people with diabetes don't always get chest pain when blood flow is reduced. This test can show reductions in blood flow whether or not you have symptoms, and a normal test can be very reassuring."

The BARI 2D trial compared various treatment strategies for patients with both type 2 diabetes and heart disease.

More than 17 million adults in the United States have diabetes, which is one of the strongest risk factors for heart disease.

Provided by American Heart Association

Citation: Treatment that includes surgery results in better blood flow to heart (2010, November

16) retrieved 3 April 2024 from

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