

Complete revascularization improves outcomes for CAD patients

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A 3-year, retrospective study by cardiologists from the Minneapolis Heart Institute Foundation and the University of Minnesota determined that 28.8% of patients with significant coronary artery disease (CAD) who did not undergo complete revascularization had a higher mortality rate than patients completely revascularized. Results of this study appear in the May issue of *Catheterization and Cardiovascular Interventions*, a journal published by Wiley-Blackwell on behalf of The Society for Cardiovascular Angiography and Interventions.

The research team led by Timothy Henry, M.D., FSCAI, reviewed angiographs and clinical data from 493 patients treated at the Minneapolis Heart Institute at Abbott Northwestern Hospital in Minneapolis, between July 2005 and August 2005. Patients were categorized based on angiographic results and initial treatment: (1) normal coronaries, (2) CAD 70% with complete revascularization (CR) by PCI or CABG, (4) CAD >70% with partial revascularization (PR) by PCI or CABG, (5) CAD >70% without revascularization treated with medical therapy, and (6) CAD >70% with no revascularization options despite optimal medical therapy. PCI or percutaneous coronary intervention is commonly known as angioplasty and is a common intervention used to treat CAD. CABG or coronary artery bypass grafting is another procedure where blood vessels from another part of the body (the graft) are transplanted to reroute blood around the blocked artery.

In the current study, the research team determined the prevalence of



treatment options for groups 1-6 (noted above) was 14.8%, 19.5%, 36.9%, 12.8%, 9.3% and 6.7%, respectively. Researchers also found that 3-year mortality increased with angiographic severity of CAD with groups 1-6 having a 2.7%, 6.3%, 8.2%, 12.7%, 17.4%, and 15.2%, rate respectively. "Our results showed patients with incomplete revascularization (groups 4-6) had a risk of mortality more than double that of completely revascularized patients," said Dr. Henry. After 3 years, study participants with incomplete revascularization had a 14.8% mortality risk compared with 6.6% in patients with complete revascularization.

Additionally, the team found that patients with incomplete revascularization were older, more often male, and more likely to have hypertension, diabetes, peripheral arterial disease, previous history of CAD including heart attack, PCI, and CABG. Many of the patients in the "no option" group had more than one reason for no further revascularization including chronic total occlusions (70%), diffuse disease (46%), and collateral dependent perfusion (42%). The "nooption" patients had an annual mortality of 3-5%, similar to patients with incomplete revascularization. Researchers speculate the reasons for improved morality could be associated with advances in medical therapy for patients with CAD.

<u>Coronary artery disease</u> is caused by a buildup of plaque (cholesterol deposits) in the arteries supplying blood to the heart. Overtime, plaque buildup can lead to angina (pectoris), a common symptom of CAD that causes severe chest pain due to the inadequate supply of oxygenated blood to the heart. Experts estimate that 16.8 million Americans are living with CAD and 9.8 million have angina. "This growing patient population is in need of novel therapeutic strategies aimed at improving not only mortality but also quality of life," Dr. Henry concluded.

More information: "Patients with Coronary Artery Disease Not



Amenable to Traditional Revascularization: Prevalence and 3-Year Mortality." Benjamin Williams, Madhav Menon, Daniel Satran, Daniel Hayward, James S. Hodges, M. Nicholas Burke, Randall K. Johnson, Anil K. Poulose, Jay H. Traverse, and Timothy D. Henry. Catheterization and Cardiovascular Interventions; Published Online: March 1, 2010 (<u>DOI:10.1002/ccd.22431</u>); Print Issue: May 2010.

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