Surgery to replace heart valve beneficial even with no symptoms of severe aortic stenosis

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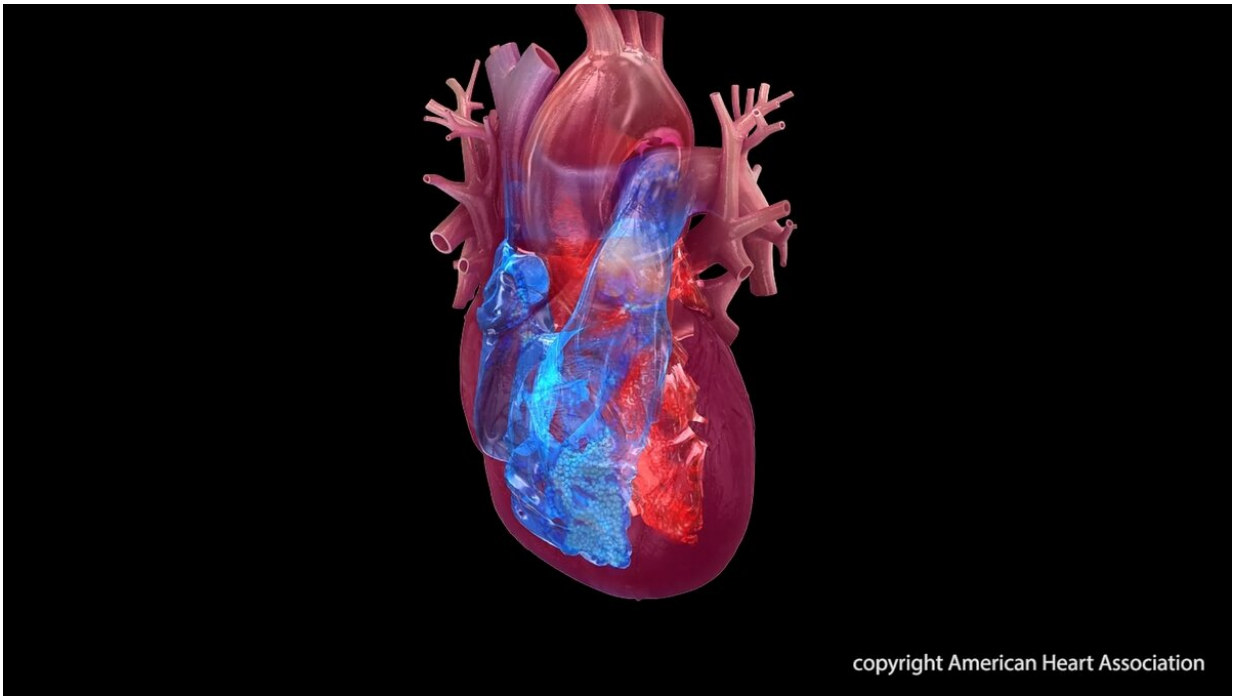

Credit: American Heart Association

For people experiencing severe aortic stenosis who do not have symptoms or need symptom relief, early aortic valve replacement surgery may be beneficial because it reduces the risk of death, heart attack, stroke and heart failure, according to late-breaking research presented today at the American Heart Association's Scientific Sessions 2021.

The heart pumps blood to the rest of the body through the aortic valve. Aortic stenosis occurs if the opening of the valve narrows and restricts blood flow, which may be due to a congenital condition or calcium buildup. Aortic stenosis is one of the most serious and common valve diseases, with 20% of older Americans in the U.S. diagnosed with the condition. Treatment for aortic stenosis can depend on the severity and symptoms. For mild or moderate cases, health professionals may opt for watchful waiting, which is regular monitoring and management to determine if symptoms develop.

For people with severe aortic stenosis who experience symptoms, which may include chest pain or tightness, fatigue, shortness of breath or swelling in the feet and ankles, surgery to replace the aortic valve is the best option to improve symptoms, survival and quality of life. Determining if surgery is the best option isn't as clear when a patient has severe aortic stenosis yet does not experience symptoms and cardiac function is still adequate.

"Managing an asymptomatic patient with severe aortic stenosis can make for a much more difficult decision since valve replacement is not needed to improve the person's quality of life, and the risk of sudden cardiac death is perceived to be low—around 1% per year, though still higher than in the general population," said Marko Banovic, M.D., Ph.D., lead investigator of the trial and an associate professor of cardiology at University Clinical Center of Serbia and the University of Belgrade Medical School in Serbia. "Another factor to consider, though, is that sustained pressure overload of the left heart chamber in severe aortic stenosis during a watchful waiting period is associated with structural and functional cardiac impairment. Without treatment, these impairments may progress and become irreversible by the time valve replacement surgery is done, and there may be potentially more serious complications including heart attack, stroke and death."

The study, the Aortic Valve Replacement Versus Conservative Treatment in Asymptomatic Severe Aortic Stenosis (AVATAR) trial, was designed to evaluate the safety and effectiveness of performing aortic valve replacement surgery earlier for adults who are asymptomatic and have normal left ventricle function. The study was conducted at nine centers across seven European countries and included a total of 157 adults, 57% men, with an average age of 67 years.

All study participants were confirmed to have no symptoms associated with severe aortic stenosis via standardized exercise testing, and they did not have any significant health conditions such as severe lung disease, chronic kidney disease or an overall high surgical risk. The patients were randomly assigned to have early surgery (78 patients) or to receive conservative, non-surgical treatment of watchful waiting (79 patients), in accordance with current treatment guidelines.

Analysis of both study groups found:

- 72 participants in the early surgery group received an aortic valve replacement. After an average follow-up of 32 months, they had lower rates of combined death, heart attack, stroke or unplanned hospitalization for heart failure compared to the watchful waiting group.
- Only 13 patients in the early surgery group experienced one or more of cardiac issues (death, heart attack, stroke or unplanned hospitalization for heart failure), compared to 26 people in the non-surgical treatment group.
- One person in the early surgery group died within 30-days after the operation. Banovic noted the 1.4% intra-operative mortality rate in this group aligned with the anticipated mortality for elective isolated surgical aortic valve replacement.

"We believe our results provide new evidence to aid clinicians when they

are considering treatment options for those patients who have undergone systematic exercise testing to assess truly asymptomatic aortic stenosis with mainly progressive disease and normal left ventricular function," Banovic said. "Our data deliver the additional degree of evidence needed to support the decision for early surgery and reassure a clinician when caring for a patient with severe asymptomatic aortic stenosis and normal left ventricular function. In such cases of low surgical risk and absence of other major health conditions, one may advocate for an early surgery for select patients."

More information: Conference: professional.heart.org/en/meet … /scientific-sessions

Provided by American Heart Association