

Biomimetic transcatheter aortic heart valve offers new option for aortic stenosis patients

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Human heart. Credit: copyright American Heart Association

Recent findings from a study on a transcatheter heart valve (THV) system, which includes a new class of transcatheter aortic valve, showed positive results in the device's ability to function as a healthy and natural aortic valve in patients with aortic stenosis (AS). The late-breaking data

was presented at the [Society for Cardiovascular Angiography & Interventions \(SCAI\) 2024 Scientific Sessions](#).

AS is a thickening and narrowing of the [aortic valve](#) that can reduce blood flow to the body and potentially lead to [heart failure](#). For some patients, transcatheter [aortic valve replacement](#) (TAVR) can be an effective treatment option and has become more common in recent years.

A prospective non-randomized, single-arm, single-center, First-in-Human (FIH) study of 28 patients, was designed to evaluate safety and feasibility in patients with severe symptomatic AS with the DurAVR Transcatheter Heart Valve (THV) System from Anteris Technologies. Clinical, echo, [computerized tomography](#) (CT), and cardiac MRI assessments were performed for up to one year.

The DurAVR valve was successfully implanted in 100% of the cases. All patients showed excellent post-procedural hemodynamic results, despite a small mean annulus size. No moderate or severe paravalvular leak was observed. Additionally, [laminar flow](#) was consistently displayed on cardiac MRI. For those patients at 12-month follow-up, the valve also showed a favorable safety profile in all patients and no valve-related complications, strokes, life-threatening bleeding, or reoperations occurred.

"We are excited to share such favorable results early on in our trial as it represents a novel option for TAVR procedures by providing encouraging evidence of improved hemodynamics and normalized blood flow characteristics associated with the system," said Azeem Latib, MD, Director of Interventional Cardiology and Structural Heart Interventions at Montefiore Medical Center in New York.

"We look forward to sharing additional results that support the valve

performance characteristics and how similar they are to the ones of a healthy aortic valve."

Additional testing on the DurAVR THV System is currently underway, and more data is expected to be presented this year.

More information: "Update from the First-in-human study with the novel DurAVR biomimetic transcatheter heart valve" Thursday, May 3, 2024; 2:50-2:57 PM PT, scai.org/scai-2024-scientific-sessions

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