

# **The Natural History of Asymptotic Sever Aortic Stenosis and the Effect on Outcome.**

- **Asymptomatic severe aortic stenosis is not a benign disease. Emerging data and recent findings suggest that earlier intervention may result in better outcomes and less organ system damage than watchful waiting.**

- Long-term prognosis tends to be poorer in a greater number of symptomatic patients with severe aortic stenosis than in asymptomatic patients. However, most of the time, asymptomatic patients with severe aortic stenosis are not truly asymptomatic. Many patients do not report their symptoms or are not exerting themselves enough to

generate symptoms. Even though patients are instructed to return to the clinic at the first sign of symptoms, most wait too long and present to the emergency department with acute heart failure.

- Asymptomatic patients with higher transaortic gradients or high peak aortic jet velocity (eg, 5 m/s) are at higher risk for death and have a

**40% chance of undergoing aortic valve replacement in the next 2 years.**

- **The RECOVERY trial, which compared early surgery with conventional treatment in asymptomatic patients with very severe aortic stenosis, showed improved survival outcomes with early aortic valve replacement.**

**Nearly 75% of patients in the conventional treatment arm underwent aortic valve replacement by 4 years, suggesting that “we’re probably waiting too long.”**

- **Asymptomatic severe aortic stenosis is associated with a 1% to 4% risk for sudden death per year and higher rates of rehospitalization for heart failure.**

- Patients who undergo aortic valve replacement have better outcomes than in an nontreated population but still never do quite as well as a healthy population. Surgery or transcatheter aortic valve replacement (TAVR) “swaps out one disease process for a lesser disease process.”

- **Most risks of surgery are based on the patient's physiologic factors, whereas risks of TAVR tend to be associated with the patient's anatomy. For example, a patient with a bicuspid valve, a heavily calcified raphe, and heavy calcification on the opposite leaflets, or a patient with a small aortic annulus may not be a good**

**candidate for TAVR compared with surgery. The patient's age, life expectancy, and other risk factors should also be considered.**

- **Emerging strategies for risk stratification and determining the need for early intervention among patients with asymptomatic aortic stenosis include the evaluation of biomarkers, global longitudinal**

strain, midwall fibrosis on magnetic resonance imaging, extracellular expansion, high transaortic gradient, and high aortic jet velocity.

## **Reference:**

- 1. Kang DH, Park SJ, Lee SA, et al. Early surgery or conservative care for asymptomatic aortic stenosis. *N Engl J Med*. 2020;382(2):111-119.**