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MY APPROACH

MY APPROACH to patients with asymptomatic aortic stenosis (with normal left ventricular ejection fraction)☆

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In contrast to patients with symptomatic severe aortic stenosis, with whom making a shared decision to move forward with aortic valve replacement is usually pretty easy, patients with asymptomatic severe aortic stenosis can present a challenging clinical dilemma. We all have been taught that the highest risk for an asymptomatic patient with severe aortic stenosis is aortic valve replacement itself. Indeed, if you read classic papers on patients with asymptomatic severe aortic stenosis (Pellikka and Rosenhek et al, for instance) but also recent observational studies (Taniguchi et al), you learn that the risk of cardiac death in patients who remain asymptomatic until death is low, between 1% and 1.5% per year. On the other hand, recent trials (eg, NOTION) of low-risk patients (STS score < 4) undergoing transcatheter or surgical aortic valve replacement show a 1-year event rate (all-cause mortality, stroke, or myocardial infarction) of 10% to 14%. Hence, waiting for symptoms is certainly a reasonable approach. However, many patients will develop symptoms within the first year following the diagnosis. Indeed, 1-year event-free survival (event defined as death or aortic valve replacement) in patients with asymptomatic very severe aortic stenosis (ie, peak aortic velocities >5.5 m/sec) has been reported as low as <50%; with peak velocities between 4.0 and 5.0 m/sec it improves to >80%. The message is: expect symptoms to develop within the next 6 to 12 months and don't miss them.

Therefore, my approach to a patient with asymptomatic severe aortic stenosis is as follows:

- Take a look at the patient's echocardiograms yourself. Make sure that the tracings/measurements are of high quality and the derived aortic valve data are correctly calculated.
- Perform a thorough physical exam. Does the auscultation confirm severe aortic stenosis?
- Take a thorough history on every patient with asymptomatic severe aortic stenosis. The more detailed questions you ask, the more helpful answers you will get; and don't forget to include family observations. I ask questions like: "Did you adjust your lifestyle? Are you avoiding activities that you used to do 6 to 12 months ago? Are you getting tired more easily?" Just asking about shortness of breath, chest pain/pressure/tightness, and syncope is insufficient.

If I encounter an asymptomatic patient (and, yes, they exist) who answers every question with a "no," runs the treadmill every day, and is as happy as he/she can be, I simply present the above-mentioned numbers, and, at the end, make an educated/informed shared decision with the patient. Some will ask me, "I am strong now; why wait if aortic valve replacement can't be avoided after all?" I often agree with those patients, especially if they have a low surgical risk and show a high peak velocity (>5 m/sec) or a high mean gradient (>60 mm Hg) on echocardiography. If patients feel uncomfortable and would like to postpone aortic valve replacement as long as possible, I see them back within 6 to 12 months (as recommended by the guidelines), earlier if any symptoms arise. Our most recent paper on outcomes associated with guideline adherence nicely shows that patients with asymptomatic severe aortic stenosis do better if you follow them closely.

Of note, ongoing low-risk transcatheter aortic valve replacement trials (STS risk score <3) include for the first time asymptomatic patients with aortic valve areas <1.0 cm^2 and maximum peak velocities >5 m/sec or mean aortic valve gradients >40 mm Hg.

The bottom line is that there are not many truly asymptomatic patients with severe aortic stenosis out there. Be thorough in your history and physical exam and evaluation of the echocardiographic data. If you indeed encounter an asymptomatic patient, come to a well-informed, shared decision with the patient on either early aortic valve replacement or close (6–12 months) monitoring. Neither decision is wrong in my eyes

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