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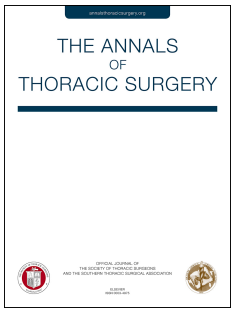

Aortic Valve Replacement in Bioprosthetic Failure: Insights from The STS National Database (Commentary)

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Aortic Valve Replacement in Bioprosthetic Failure: Insights from The STS National Database (Commentary)

Dr. Kalra and colleagues (1) report on 4239 patients from The Society of Thoracic Surgeons (STS) Adult Cardiac Surgery database of all patients who underwent isolated re-operative surgical aortic valve replacement (SAVR) between 2012 and 2016. Complete data was only available for 2186 patients. This is an important manuscript particularly at a juncture where bioprosthetic valve use is expanding to the lower age group patients.

They report that the number of patients who underwent redo SAVR increased between 2012 and 2014, but this reversed between 2015 and 2016. These trends may reflect the FDA approval of valve-in-valve transcatheter aortic valve replacement (VIV TAVR) in 2015. Patients with concomitant coronary artery bypass graft surgery, those requiring surgery on the aortic root and / or the ascending aorta and those with infective endocarditis were excluded. Also, the results of the VIV TAVR from the TAVR registry for the period of the study were not available.

Recently, I operated on a 56 year old female lawyer, who had undergone tissue aortic valve replacement six years earlier in a different center. She was told that the valve will fail at some point and she can have a TAVR. She presented with a large aortic root aneurysm and free aortic regurgitation with a prosthetic valve which had failed. It was not documented, but I am fairly certain that her original valve was bicuspid. She underwent redo aortic root replacement with a mechanical valve and she did well.

With the recent publication of the PARTNER 3 trial (2) and other non-inferiority studies (3), where the use of bioprosthetic valve in the younger age group and lower risk patients is encouraged, my lawyer patient and her treatment made me pensive. Inserting a tissue valve, be it surgically or via TAVR in a 50 year old will subject that patient to two and most probably three major aortic valve interventions.

Many of the patients with tissue bioprosthetic valve have concomitant coronary artery disease, root pathology and other valvar pathology. These patients cannot be

successfully treated with TAVR, especially in one stage. Comparing VIV TAVR to redo SAVR, the risks of reducing the effective orifice area (especially in patients with small native annulus), need for dual anti-platelet therapy, need for anticoagulation, coronary occlusion, not being able to address concomitant pathology; have to be balanced against the risks of a 'bigger procedure', damage to previous bypass grafts, stroke and heart block. Surgical risk no longer dictates the choice between surgery and TAVR. Considerations should be given to life expectancy and valve durability.

To find the optimum treatment for these patients which provides a durable valve with reduced number of interventions and with good quality of life (4), it is our duty to provide our national databases with comprehensive data which includes follow-up. This will provide evidence of a real world practice of large cohorts of patients which can be superior to the evidence of the non-inferiority studies (5).

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