See Article page 118 in the December 2020 issue.

Commentary: A new little piece for a great puzzle

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Recent decades have seen an increasing number of aortic valve replacements (AVRs) performed each year, with a significant shift from mechanical prosthesis to bioprosthesis implantation owing to the reluctance of even younger patients to take oral anticoagulants.¹ Both European and American guidelines have supported bioprosthesis implantation in patients age >60 years.² However, with the average lifespan of a bioprosthesis, estimated at 15 years in elderly patients but less in younger patients, we should expect a significant increase in patients with structural degeneration and failure of aortic valve bioprostheses.¹⁻³

Redo surgical operation carries a high risk, especially in patients with a patent previous coronary bypass associated with a degenerated AVR and serious comorbidities.⁴ Transcatheter aortic valve-in-valve (ViV) implantation in a failed bioprosthesis appears to be an increasingly good option with extensive worldwide experience.⁵

Moreover, with the advent of transcatheter aortic valve replacement (TAVR), the number of patients needing a further AVR is expected to increase; thus, it makes sense to evaluate the transcatheter ViV approach for a degenerated TAVR, as in the case reported by Ricciardi and colleagues. After careful evaluation with the heart team, the authors chose the transapical route for TAVR.

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CENTRAL MESSAGE

No route for ViV should be ineludibly foreclosed in high-risk redo cases; in this case report, the authors had success with a transapical approach.

Recently published long-term results of the VIVID Registry⁶ reported a rate of reintervention for TAVR degeneration at 8 years of 93.5%; 16 of 40 patients (40%) needing a redo received a new TAVR. The Edwards balloon-expandable valve, as used in this case, was associated with a high risk of new intervention (hazard ratio [HR], 3.34; $P = .02$). Interestingly, among 1006 patients undergoing aortic ViV, a transapical route was used in roughly 25%, although non-transfemoral access was identified as an independent risk factor (HR, 1.43) for lower survival. However, as noted by the authors,⁷ little is known about the results of transapical ViV for TAVR degeneration, and this interesting case report adds a new piece to the great puzzle of ViV.

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