

Commentary: Valve-sparing reimplantation: Is support the key to aortic valve repair?



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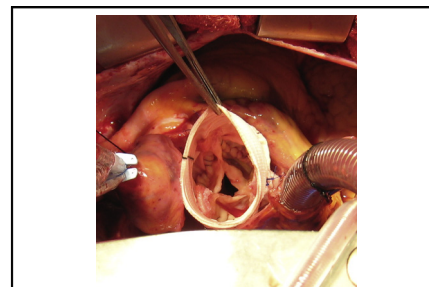
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The treatment for regurgitant aortic valve disease has progressed tremendously in the last 50 years, evolving from replacement, to repairing normal valves, to the possibility of repairing abnormal valves. Not surprisingly, this evolution followed the same trajectory as that of mitral valve repair and for some of the same reasons. Presumed or real advantages of a decrease in thromboembolic events, lower rates of endocarditis, and the avoidance of long-term anticoagulation all reinforce the preference of repair over replacement. Reardon¹ highlighted the negative impact of valve replacement (vs repair) and referenced the seminal work of Carpentier² with mitral valve repair to suggest the benefit of aortic valve repair. A lesson learned from Carpentier is the benefit of supporting the leaflet repair with a mitral ring or band. In this issue of the *Journal*, Mastrobuoni and colleagues³ demonstrate a similar finding when the aortic valve is repaired.

In this study from the Belgium group led by El Khoury, the results from 440 valve-sparing root replacements (VSRRs) were reviewed.³ The group was subdivided into 3 cohorts related to the traditional indications for VSRR: conventional for treatment of root aneurysms without aortic valve disease, debated for root aneurysms with aortic valve disease, and nonconventional for aortic valve disease when a root aneurysm is not involved. Their results demonstrated that independent of the status of the root and degree of aortic valve disease, VSRR could be performed safely and with excellent long-term durability.³ These results attest to the beauty of the VSRR, or the David procedure, and merit publication both for dissemination of the results as well as a tribute to the work of the El Khoury group and the vision of David and Feindel.⁴

Of interest are the 76 patients in the third, nonconventional group. They were younger (mean age, 42 years) and 68% had bicuspid aortic valves (BAVs). In part because of the presence of BAVs, 74 of the 76 patients required a cusp repair. The amount of repairs is not surprising in the



Tirone David VSRR.

Central Message

VSRR is used for treatment of aortic root disease independently of aortic valve disease. Using this approach for normal roots may enhance the repair of aortic valves.

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nonconventional group. By definition, the aortic valve disease in this group was secondary to leaflet pathology, which requires repairing or replacing the valve. The authors previously reported on the use of VSRR to increase the success of BAV repair, with a 6-year overall survival of 98% and freedom from reoperation and aortic valve disease greater than 2+ of 100%.⁵ Thus, it is not surprising that in the “debated” group, in which of the 212 patients, 76 underwent BAV repair and 170 underwent cusp repair, the overall results were good and not limited to just BAV.

We can conjecture that *any* aortic valve repair benefits from the structural support provided by the artificial Dacron graft. This is not something stumbled upon. The authors are recognized for their detailed studies and understanding of the anatomy of the aortic valve and aortic root, and the role of support in aortic valve repairs.^{6,7} To successfully combine 2 procedures requiring expertise (ie, VSRR and aortic cusp repair) is a testament their experience. Of note, as Reardon¹ remarks, the devil is in the details.

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