



## SIMPLIFYING COMPLEX AORTIC ROOT REOPERATIONS

### To the Editor:

Reoperations to replace a failing bioprosthesis after a previous modified Bentall procedure are quite challenging procedures because they require taking down the previously implanted conduit and coronary ostia anastomoses, all cumbersome, time-consuming, and risky surgical steps. In their recent article, Nakayama and colleagues<sup>1</sup> propose what they consider an innovative procedure by reporting the use of a sutureless bioprosthesis to replace a degenerated pericardial valve inside a constructed bioconduit; at reoperation, the calcified valve leaflets were excised together with part of the stent material followed by implant of a Perceval sutureless bioprosthesis (Corcym S.r.L.).

Although it has been demonstrated that sutureless bioprostheses have some definitive advantages over traditional stented tissue valves, such as a reduced ischemic time for implant and improved hemodynamic performance, their durability has not yet been assessed because data at an adequate follow-up interval are lacking.<sup>2</sup> Nevertheless, the possibility of using such devices in risky and cumbersome aortic root reoperations, as outlined by Nakayama and colleagues,<sup>1</sup> with a limited surgical approach, thus avoiding a technically challenging procedure such as a redo Bentall operation, represents a further advantage of these devices.

This has been clearly shown by our recent review of this specific issue, which identified 25 patients in whom a sutureless or rapid-deployment prosthesis was used in complex redo procedures. Of these, 17 patients had a degenerated stentless bioprosthesis, 6 patients has a failing homograft, and 2 patients had failure of a valve-sparing procedure.<sup>3</sup> In most of these patients, stentless bioprostheses and homografts were used as aortic root replacement at the index operation, and at reoperation a Perceval sutureless

bioprosthesis was implanted in all but 4 patients to replace the degenerated aortic valve. All patients survived reoperation and were reported to be alive 3 months to 4 years postoperatively.

Our review has provided evidence that sutureless bioprostheses may render complex and hazardous aortic root reoperations simpler, representing at the same time a valid alternative to valve-in-valve procedures in selected patients and thus hopefully will be included by future guidelines as a possible recommendation in such technically demanding scenarios.<sup>3</sup>

Igor Vendramin, MD  
Uberto Bortolotti, MD  
Ugolino Livi, MD  
Cardiothoracic Department  
University Hospital  
Udine, Italy

### Conflict of Interest Statement

The authors reported no conflicts of interest.

The *Journal* policy requires editors and reviewers to disclose conflicts of interest and to decline handling or reviewing manuscripts for which they may have a conflict of interest. The editors and reviewers of this article have no conflicts of interest.

### References

1. Nakayama T, Nakamura Y, Yasumoto Y, Gersak B. Sutureless aortic valve for reoperative aortic valve replacement as an alternative to composite graft replacement. *J Thorac Cardiovasc Surg Tech*. 2024;24:50-52.
2. D'Onofrio A, Salizzoni S, Filippini C, et al. Surgical aortic valve replacement with new-generation bioprostheses: sutureless versus rapid-deployment. *J Thorac Cardiovasc Surg*. 2020;159(2):432-442.
3. Vendramin I, Lechiancole A, Piani D, et al. Use of sutureless and rapid deployment prostheses in challenging reoperations. *J Cardiovasc Develop Dis*. 2021;8(7):74. <https://doi.org/10.3390/jcdd8070074>

<https://doi.org/10.1016/j.xjtc.2024.05.002>