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SUTURELESS VALVES IN AORTIC STENOSIS

To the Editor:

We read with interest the article by Santarpino and colleagues¹ in which they compared minimally invasive aortic valve replacement with sutureless valves with transcatheter aortic valve implantation in a propensity-matched cohort of 37 patients in each group. They concluded that the advantages of sutureless valves are shorter procedural times (crossclamp time of 38.9 ± 13.7 minutes and cardiopulmonary bypass time of 68.9 ± 20.2 minutes) and less paravalvular leak relative to transcatheter aortic valve implantation. They reported a high incidence of permanent pacemaker implantation (10.8%). The incidence of paravalvular leak with sutureless valves in the literature varies from 2% to 15%.^{2,3} Santarpino and colleagues attributed their low paravalvular leak to "moderate decalcification."

To produce superior results to transcatheter aortic valve implantation in high-risk patients, first, zero paravalvular leak with fairly large prosthesis size and effective orifice area and low pacemaker implantation rate are required. These conditions will not be met by

moderate or even less decalcification of the annulus. Second, cardiopulmonary bypass is the key contraindication to surgery for elderly patients, particularly those with pulmonary dysfunction, not the duration of bypass and clamp time. The bypass and clamp times achieved by Santarpino and colleagues¹ with sutureless valves are not too different from our own propensity-matched series⁴ of 205 patients (crossclamp time of 49 minutes with a range of 42-63 minutes and cardiopulmonary bypass time of 71 minutes with a range of 59-94 minutes) in which we used minimally invasive incision but with valve sutures. Even in reoperative minimal access aortic valve replacement (with or without concomitant procedures) with standard suturing techniques, fairly short cross-clamp times can be achieved.⁵

Very good applications of sutureless valves would be for a patient with a failing homograft with a severely calcified annulus and also for difficult reoperations when the annulus has been destroyed.

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SUTURELESS VERSUS TRANSCATHETER AORTIC VALVE IMPLANTATION: AN UNRESOLVED DILEMMA

To the Editor:

We wish to thank Dr Soppa for his comments on our study published in the February issue of the Journal.¹ His contribution helps to keep alive the debate on the most appropriate treatment strategy for high-risk patients with severe aortic stenosis.

We acknowledge that our study had several limitations, as was stated in the discussion, including a lack of randomization and failure to consider relevant factors such as patient frailty.

The main advantage of sutureless aortic valve replacement versus transcatheter aortic valve implantation is the lower or nil rate of paravalvular leak, which has also been confirmed by other investigators,² and not a shorter cardiopulmonary bypass time, such as suggested by Dr Soppa. This finding is of particular relevance given the well-recognized correlation between even mild paravalvular leakage and increased mortality during follow-up.³ We congratulate Soppa and colleagues for the results they presented at the last Society for Cardiothoracic Surgery Congress showing similar aortic crossclamp times in minimally invasive surgery using a stented prosthesis. Recently, we demonstrated that in patients undergoing isolated aortic valve replacement, the aortic crossclamp times were reduced by 40% when a minimally invasive approach was