

M.J.J. is a consultant to Biostable, Medtronic.

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**AORTIC
ANNULOPLASTY
DURING BICUSPID
AORTIC VALVE REPAIR:
“SIMPLE IS GOOD BUT
NOT SIMPLER”(QUOTE
EINSTEIN)**



To the Editor:

In the past, it was undoubtedly an attractive concept that subvalvular annuloplasty might be sufficient for bicuspid aortic valve (BAV) repair stabilization. However, we now understand that the idea of a functional aortic annulus and its 3-dimensional characteristics requires more sustainability in its repair.

Shraer and colleagues¹ from the Lansac group recently found that simultaneous stabilization of both elements of functional aortic annulus, that is, the annular horizontal plane between leaflets nadirs and sinotubular junction, is more durable than the subvalvular annuloplasty alone. The presence of aortic root remodeling did not influence results.

During 17 years between 2003 and 2020, there were 279 BAV repairs performed with a median follow-up of 3 to 4 years. They showed an evolution toward a simpler stabilization method with single annuloplasty at first, but they switched back to a more complex strategy involving both annuli. Simultaneously, a promising concept of symmetrical repair with a commissural angle between 160 and 180° was introduced.

The discussion around the concept of 180-degree configuration arose after Acher and colleagues² showed that postoperative commissural asymmetry was the strongest predictor of repair failure. Subsequently, de Kerchove and colleagues³ modified their reimplantation technique by tailoring the commissural angle to 180° and proved its reproducibility and effectiveness. It is worth mentioning that the annuloplasty with the HAART ring is the other method that offers a 180-degree commissural configuration; 2 symmetrically opposite commissural posts ensure an ideal valve configuration and annulus remodelling.⁴ Also, it has

the potential to standardize the subvalvular annuloplasty procedure in the future.

Recently, our group published 17 years of experience study of BAV repair showing the symmetrical preoperative configuration as a positive predictor of durability. Moreover, we found that double annulus repair provides better repair durability with freedom from reoperation of 91.8% at 7 years.⁵ Likewise, in Shraer and colleagues' study,¹ the gradients were not only sustained but also smaller in this subgroup of patients at 2 years.

In an echo head-to-head prospective study, we compared subcommissural and circumferential annuloplasty and observed lower postoperative gradients with the latter. It would be interesting to see longer follow-ups in the study by Shraer and colleagues¹ and assess the evolution of transvalvular gradients because it is not a static parameter. Several reports confirmed a significant trend of gradient increase during the follow-up period after BAV repair and an increased risk of aortic stenosis.

In conclusion, it is not only simple stabilization by reduction annuloplasty techniques but also the symmetrical configuration that should be considered fundamental goals of BAV repair. Nevertheless, the authors are congratulated for the excellent study and in-depth analysis of factors associated with enhancing BAV repair durability and encouraging results of reproducibility.

Marek J. Jasinski, MD, PhD, FETCS
Department of Cardiac Surgery
Wroclaw Medical University
Wroclaw, Poland

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