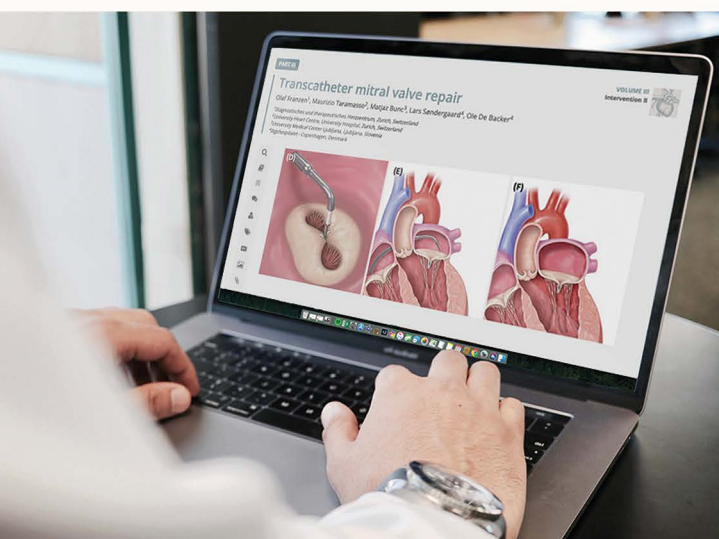


THE PCR-EAPCI TEXTBOOK

By and For the interventional community
and dedicated to the patients it serves

Edited by William Wijns, Alec Vahanian, Patrick W. Serruys,
Eric Eeckhout, Rodney De Palma, Marc van Sambeek

**Everything you need to keep constantly up to date
with all the latest knowledge and skills in your field!**



**Substantial updates and
new content throughout
2022!**

Make the most of PCR Courses with
updated and highly educational
content on interventional
cardiovascular medicine.

SUBSCRIBE NOW
on [PCRtextbook.com](https://www.pcrtextbook.com)

Proud to be your daily companion since 2012



Warm thanks

to all who have contributed to the
success of this visionary reference book

PCR



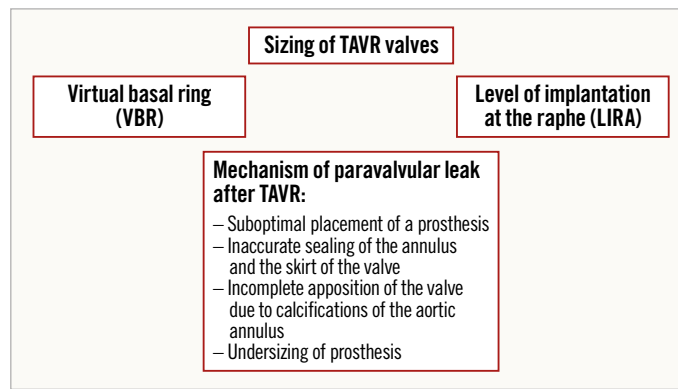


Figure 1. Methods for sizing TAVR valves, and the common mechanism of paravalvular leak in the setting of TAVR. TAVR: transcatheter aortic valve replacement

sealing of the valve with an acceptable mean gradient of less than 20 mmHg.

There are several important questions that we need further data to answer in the future. Are we creating a degree of patient-prosthesis mismatch which needs a longer follow-up period to be detectable⁸. Can we achieve the same results of eliminating PVL in BAV patients by routine post-deployment ballooning? Does the outcome in BAV sizing vary with different types of TAVR prostheses? How accurate is the LIRA method for BAV sizing with changes in body surface area or aortic angle? Is there a direct association between the high complication rate up to 30 days and the undersizing of THV⁹? Cardiovascular outcomes based on the different prosthetic types used in TAVR, and those linked to the indexed effective orifice area of such prostheses matched to body surface area, need to be highlighted in future clinical trials.

This is the beginning of a new era for BAV TAVR, in terms of a focus on reduction of complications. A randomised clinical trial with longer follow-up is required in order to draw more extensive guidelines for the accurate sizing of TAVR valves and to draw any conclusions regarding such an important challenge in the TAVR era.

Conflict of interest statement

The authors have no conflicts of interest to declare.

References

1. Tchetché D, de Biase C, van Gils L, Parma R, Ochala A, Lefevre T, Hovasse T, De Backer O, Sondergaard L, Bleiziffer S, Lange R, Kornowski R, Landes U, Norgaard BL,

Biasco L, Philippart R, Molina-Martin de Nicolas J, Mylotte D, Lemee C, Dumonteil N, Van Mieghem NM. Bicuspid Aortic Valve Anatomy and Relationship With Devices: The BAVARD Multicenter Registry. *Circ Cardiovasc Interv.* 2019;12:e007107.

2. Kong WKF, Delgado V, Bax JJ. Bicuspid Aortic Valve: What to Image in Patients Considered for Transcatheter Aortic Valve Replacement? *Circ Cardiovasc Imaging.* 2017;10:e005987.

3. Zegdi R, Ciobotaru V, Noghin M, Sleilaty G, Lafont A, Latrémouille C, Deloche A, Fabiani JN. Is it reasonable to treat all calcified stenotic aortic valves with a valved stent? Results from a human anatomic study in adults. *J Am Coll Cardiol.* 2008;51:579-84.

4. Beneduce A, Russo F, Ghizzoni G, Romano V, Ancona MB, Bellini B, Ferri L, Vella C, Iannopolo G, Palmisano A, Esposito A, Montorfano M. Transcatheter aortic valve replacement in raphe-type bicuspid valves with the ACURATE neo2 according to the LIRA method. *AsiaIntervention.* 2022;8:146-9.

5. Iannopolo G, Romano V, Buzzatti N, Ancona M, Ferri L, Russo F, Bellini B, Granada JF, Chieffo A, Montorfano M. Supra-annular sizing of transcatheter aortic valve prostheses in raphe-type bicuspid aortic valve disease: the LIRA method. *Int J Cardiol.* 2020;317:144-51.

6. Iannopolo G, Romano V, Buzzatti N, De Backer O, Sondergaard L, Merkely B, Prendergast BD, Giannini F, Colombo A, Latib A, Granada JF, Chieffo A, Montorfano M. A novel supra-annular plane to predict TAVI prosthesis anchoring in raphe-type bicuspid aortic valve disease: the LIRA plane. *EuroIntervention.* 2020;16:259-61.

7. Bellini B, Iannopolo G, Buzzatti N, Romano V, Melillo F, Ancona MB, Vella C, Ferri L, Russo F, Montorfano M. TAVR in Bicuspid Valve With Pure Aortic Regurgitation: Prosthesis Sizing According to the LIRA Method. *JACC Cardiovasc Interv.* 2021;14:e263-5.

8. León Del Pino MDC, Ruiz Ortiz M, Delgado Ortega M, Sánchez Fernández J, Ferreiro Quero C, Durán Jiménez E, Romero Moreno M, Segura Saint-Gerons J, Ojeda Pineda S, Pan Álvarez-Ossorio M, Mesa Rubio D. Prosthesis-patient mismatch after transcatheter aortic valve replacement: prevalence and medium term prognostic impact. *Int J Cardiovasc Imaging.* 2019;35:827-36.

9. Abdelghani M, Mankerious N, Allali A, Landt M, Kaur J, Sulimov DS, Merten C, Sachse S, Mehilli J, Neumann FJ, Frerker C, Kurz T, El-Mawardy M, Richardt G, Abdel-Wahab M. Bioprosthetic Valve Performance After Transcatheter Aortic Valve Replacement With Self-Expanding Versus Balloon-Expandable Valves in Large Versus Small Aortic Valve Annuli: Insights From the CHOICE Trial and the CHOICE-Extend Registry. *JACC Cardiovasc Interv.* 2018;11:2507-18.