

Paravalvular leak assessment after transcatheter aortic valve implantation

 **Tomislav Šipić,**
 **Ivana Jurin ***,
 **Daniel Unić,**
 **Igor Rudež,**
 **Šime Manola**
 **Irzal Hadžibegović,**

University Hospital Dubrava,
Zagreb, Croatia

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***ADDRESS FOR CORRESPONDENCE:** Ivana Jurin, Klinička bolnica Dubrava, Avenija Gojka Šuška 6, HR-10000 Zagreb, Croatia. / Phone: +385-95-559-387 / E-mail: ivanajurin1912@gmail.com

ORCID: Ivana Jurin, <https://orcid.org/0000-0002-2637-9691> • Tomislav Šipić, <https://orcid.org/0000-0001-8652-4523>
 Daniel Unić, <https://orcid.org/0000-0003-2740-4067> • Igor Rudež, <https://orcid.org/0000-0002-7735-6721>
 Šime Manola, <https://orcid.org/0000-0001-6444-2674> • Irzal Hadžibegović, <https://orcid.org/0000-0002-3768-9134>

The occurrence of paravalvular leak (PVL) has been a matter of concern since the beginning of transcatheter aortic valve implantation (TAVI) not only because it was quite often but also because more than moderate PVL was an independent predictor of mortality^{1,2}. The prevalence of PVL remains above 3.4% according to more recent series although it has decreased over time mainly due to more experienced operators and better patient selection. However, the ability of current TAVI valves to limit PVR in the noncompliant, calcified annulus is a result of improved procedural planning and techniques. Due to specific features of PVL which are often multiple, eccentric, and irregular, echocardiographic imaging in detection and quantification of PVL is challenging. Several of the parameters that are generally used to grade native aortic regurgitation are difficult to apply to the context of PVL. Recently, quantitative assessment of regurgitation with aortography has emerged and been validated, with favorable reproducibility and accuracy. PVL-graded moderate severity or greater is often associated with inappropriate positioning of the TAVI valve stent position, irregular stent shape due to eccentric calcium or raphe, and/or free space between stent and native annulus due to valve under-sizing or under-expansion. The use of corrective procedures may be considered depending on the severity of PVL and the anticipated risk of complications associated with these procedures. It is worth mentioning that most PVLs remain clinically silent, but 1-3% of patients with PVL require treatment due to symptoms of heart failure, hemolysis, or both. PVL closure is a complex and technically demanding procedure with a limited clinical experience. To the best of our knowledge to this date, no recommended approach or clear guidelines were proposed considering this procedure. More systematic and trial data are needed to make more definitive conclusions about management strategies.

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LITERATURE

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