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Letter: Transcatheter paravalvular leak closure – insights on selection criteria, imaging, and comparative outcomes

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We read with interest the prospective multicentre registry by Albenque et al reporting medium-term outcomes and prognostic factors after transcatheter paravalvular leak (PVL) closure[1]. The authors should be acknowledged for providing one of the few prospective datasets with a 2-year follow-up in this challenging patient population. Their finding that early clinical success at one month is the strongest predictor of adverse outcomes is clinically relevant and consistent with prior observational data[2,3]. However, several methodological aspects merit further clarification.

First, the definitions of technical and clinical success deviate in part from the Academic Research Consortium (ARC) and ARC-aligned frameworks commonly used in contemporary structural heart studies[2,3]. The use of standardised endpoint definitions would improve comparability across registries and enhance external validity. In addition, the absence of a surgical comparator arm limits the interpretation of outcomes in the context of current evidence, suggesting comparable long-term survival but higher early mortality with redo-surgery[3,4]. Even a non-randomised, propensity-adjusted comparison could have provided additional clinical perspective.

Second, patient selection criteria for transcatheter versus surgical PVL closure are not fully detailed. Although decisions were made by local Heart Teams, the lack of explicit, harmonised criteria across centres introduces potential intercentre variability. Prior studies have shown that parameters such as extent of dehiscence, circumferential involvement, and proximity to the sewing ring critically influence the choice of therapy[3-5]. Clear reporting of these criteria would strengthen the reproducibility and generalisability of the authors' registry findings.

Third, more granular echocardiographic characterisation would add substantial value. The number of PVLs per patient, their individual grades, morphology, and cumulative burden were not fully reported. This is clinically relevant, as multiple or complex PVLs have been associated with worse haemolysis and higher rehospitalisation rates[5]. Moreover, established echocardiographic predictors such as mitral annular calcification and prior infective endocarditis – previously linked to reduced clinical success and survival – were not analysed and could potentially refine risk stratification[3,4].

Lastly, issues related to residual and recurrent PVL deserve further attention. It remains unclear whether follow-up imaging was performed systematically in all patients or only in those who were symptomatic and what proportion of patients lacked routine echocardiographic reassessment. The absence of data on recurrent PVL, as well as on patients with prior transcatheter aortic valve implantation or mitral valve replacement, represents an important limitation given the evolving landscape of prosthetic valve interventions[5-7]. Addressing these points in future analyses or supplementary data would further enhance the clinical impact of this important registry.

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Conflict of interest statement

The authors have no conflicts of interest to declare.

References

1. Albenque G, Smolka G, Blanchard D, Kloëckner M, Brochet E, Bouisset F, Leurent G, Thambo JB, Combes N, Dumonteil N, Bauer F, Nejjari M, Pillière R, Dauphin C, Bonnet G, Ciobotaru V, Kételers R, Gallet R, Hammoudi N, Mangin L, Bouvaist H, Spaulding C, Aminian A, Kilic T, Popovic B, Armero S, Champagnac D, Gérardin B, Hascoet S. Medium-term outcomes and prognostic factors after transcatheter paravalvular leak closure: an international prospective multicentre registry. *EuroIntervention*. 2026;22:e113-22.

2. Ruiz CE, Hahn RT, Berrebi A, Borer JS, Cutlip DE, Fontana G, Gerosa G, Ibrahim R, Jelnin V, Jilaihawi H, Jolicoeur EM, Kliger C, Kronzon I, Leipsic J, Maisano F, Millan X, Nataf P, O'Gara PT, Pibarot P, Ramee SR, Rihal CS, Rodes-Cabau J, Sorajja P, Suri R, Swain JA, Turi ZG, Tuzcu EM, Weissman NJ, Zamorano JL, Serruys PW, Leon MB; Paravalvular Leak Academic Research Consortium. Clinical Trial Principles and Endpoint Definitions for Paravalvular Leaks in Surgical Prosthesis: An Expert Statement. *J Am Coll Cardiol*. 2017;69:2067-87.

3. Güner A, Kırma C, Ertürk M, Türkmen M, Alıcı G, Karabay CY, Uzun F, Kılıçgedik A, Gündüz S, Güler GB, Kalkan AK, Özkan B, Sarı M, Gürsoy MO, Tekin M, Yıldız M, Can F, Kırali K, Fedakar A, Sarıkaya S, Aydın Ü, Kahraman S, İyigün T, Aksüt M, Karpuzoğlu E, Çiloğlu K, Sungur MA, Tanboğa İH, Özkan M. Transcatheter Closure or Surgery for Symptomatic Paravalvular Leaks: The Multicenter KISS Registry. *J Am Heart Assoc*. 2024;13:e032262.

4. Alkhouli M, Rihal CS, Zack CJ, Eleid MF, Maor E, Sarraf M, Cabalka AK, Reeder GS, Hagler DJ, Maalouf JF, Nkomo VT, Schaff HV, Said SM. Transcatheter and Surgical Management of Mitral Paravalvular Leak: Long-Term Outcomes. *JACC Cardiovasc Interv*. 2017;10:1946-56.

5. Gürsoy MO, Güner A, Kalçık M, Bayam E, Özkan M. A comprehensive review of the diagnosis and management of mitral paravalvular leakage. *Anatol J Cardiol*. 2020;24:350-60.

6. Ruberti A, Flores-Umanzor E, Sanchis L, Pilgrim T, Regueiro A, Garot P, Ibrahim R, Velazquez G, Smolka G, Abdul-Jawad Altisent O, Cepas-Guillén P, Hascoët S, Occhipinti G, Cruz-Gonzalez I, Sitges M, Vidal B, Martí-Aguasca G, Onorato EM, Osten M, Rodes-Cabau J, Toth GG, Dumonteil N, Calvert PA, Horlick E, Freixa X.Transcatheter Mitral and Aortic Paravalvular Leak Closure: Innovations, Challenges, and Future Directions. *Circ Cardiovasc Interv*. 2026:e015984.

7. Sciaramenti G, Menzato E, Clo' S, Izzo C, Rotondo L, Dal Passo B, Meossi S, Tezze R, Frascaro F, Tonet E, Marchini F, Cocco M, Tumscitz C, Penzo C, Campo G, Pavasini R. Paravalvular Leak After Transcatheter Aortic Valve Replacement (TAVR): A Literature Review. J Clin Med. 2025;14:8905.