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Case Report

Small Degenerated Surgical Bioprosthetic Valve should be Treated with Supra-Annular Valve-in-Valve Transcatheter Aortic Valve Replacement

Frane Runjić[1#], Andrija Matetic[1], Matjaž Bunc[2], Nikola Crnčević[1] and Ivica Kristić[1*#]

[1]*Department of Cardiology, University Hospital of Split, Split, Croatia*

[2]*Department of Cardiology, Ljubljana University Medical Centre, Ljubljana, Slovenia*

[#]*Contributed equally*

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ABSTRACT

Background: Patient-prothesis mismatch (PPM) is a serious potential complication following surgical aortic valve replacement (SAVR). If it develops, valve-in-valve transcatheter aortic valve replacement (TAVR) is a reasonable therapeutic option. However, there is low evidence on the management of small degenerated surgical bioprosthetic valves, not prone to balloon-valve fracture (BVF).

Case Presentation: This case report presents a successful valve-in-valve TAVR in acute heart failure due to degenerative surgical bioprosthetic valve Trifecta (21 mm) that is not susceptible to BVF. Standard preparation for transfemoral TAVR with a self-expandable valve was conducted, including the over-the-wire pacing. Thereafter, a successful valve-in-valve primary implantation of the self-expanding, supra-annular valve Evolut R 26 (Medtronic™) has been achieved. Follow-up at 3 months showed mild paravalvular leak in the region with clinical and heart function improvements of the patient. Follow-up echocardiographic parameters showed the reduction of anterograde flow impairment and improved effective orifice area (~0.85 cm^2/m^2).

Conclusion: In conclusion, supra-annular valve-in-valve TAVR is a potential therapeutic option for PPM of small degenerated surgical bioprosthetic valves which are not prone to BVF.

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[*]*Correspondence to: Ivica Kristić, M.D., Department of Cardiology, University Hospital of Split, Spinčićeva 1, 21000, Split, Croatia; E-mail: kristicivica@gmail.com*

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