












The Transcatheter Mitral Valve Replacement program at the University Hospital Centre Zagreb – a case series

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Background: Mitral regurgitation (MR) is a common valvular heart disease¹. Without treatment prognosis is poor, especially if left ventricular (LV) function is reduced². In high-risk patients who are not eligible candidates for surgery or transcatheter edge-to-edge repair (TEER), transcatheter mitral valve replacement (TMVR) is a viable option^{2,3}. All-cause mortality is highest 3-months after valve implantation, while improvement in symptoms and reduction of MR severity are sustained after 2-years of follow-up².

Case series: From April to July 2023, four high-risk patients underwent TMVR with Tendyne™ valve (Abbott Vascular, CA, USA) implantation in UHC Zagreb.

Case 1 is a 75-year-old female with degenerative MR and preserved LV function – due to fragility and comorbidities the patient was not a candidate for mitral valve (MV) surgery, while due to calcification and MV leaflet morphology TEER was denied. After successful TMVR, mean pressure gradient was 4-5mmHg, no residual MR.

Case 2 is a 72-year-old-male with ischemic cardiomyopathy (CMP) who underwent CABG 20 years ago. Due to heart failure, atrial fibrillation with bradycardia and LBBB, CRT was implanted. Because of severe MR due to prolapse P1/P2 and chordal rupture, the patient was a candidate for TMVR – postprocedural mean PG was 5-6mmHg, no residual MR.

Case 3 is a 76-year-old female with toxic CMP after chemotherapy for breast cancer and functional MR. Due to deep indentations on the posterior leaflet, TEER was denied, so TMVR was performed – post implantation mean PG was 3mmHg, no residual MR.

Case 4 is a 65-year-old male to whom surgical AVR was performed in 2017 due to endocarditis. In 8/2022 due to prosthesis degeneration and HF, he underwent valve-in-valve TAVI. Re-do surgery at that time was denied due to comorbidities (end-stage renal disease- on hemodialysis, COPD, toxic liver lesion), even though severe degenerative MR was also known. Clinical improvement after TAVI was significant, but he was hospitalized due to HF, and MR did not improve, so he was referred for TMVR. After TMVR, mean PG was 6-7mmHg with trace of paravalvular MR (**Figure 1**).

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