

Transcatheter treatment of failed mitral bioprosthesis and tricuspid annuloplasty – a case report

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Introduction: Reoperation after mitral valve surgery comes at a high risk to the patient, especially when there are significant comorbidities involved. Current practice is a standard median re sternotomy approach. Transcatheter approach to mitral and tricuspid valves is being investigated as an optional treatment modality.

Case description: 69-year-old male underwent mitral valve replacement and tricuspid valve annuloplasty 13 years ago. He presented with symptoms of global cardiac decompensation. Current comorbidities include: atrial fibrillation, diabetes, chronic renal insufficiency and hepatic cirrhosis with esophageal varices of ethylic/cardiac etiology. Echocardiography revealed structural valve deterioration of previously implanted mitral prosthesis resulting in stenosis due to pannus overgrowth. Severe tricuspid regurgitation was also present with dilated and impaired right ventricle. Severe pulmonary hypertension was measured on cardiac catheterization. High risk of reoperative surgical treatment, made us consider transcatheter approach. In a first step, a balloon expandable aortic valve was placed in a degenerated mitral bioprosthesis (valve-in-valve) transseptally. Since we observed no change in severity of tricuspid regurgitation, nor in the function of the right ventricle despite medical therapy over the next 2 months, a balloon expandable transcatheter valve was placed inside the tricuspid annuloplasty ring as a second step of the procedure. Moderate to severe eccentric tricuspid regurgitation was present on first postprocedural echo. On follow up, with optimized medical therapy, mitral bioprosthesis is performing well, tricuspid regurgitation is moderate, with an improvement in right ventricular function and decrease in pulmonary hypertension with patient in New York Heart Association (NYHA) status I-II.

Conclusion: Transcatheter valve-in-valve and valve-in-ring implantation maybe a viable option for treating patients with multiple comorbidities yielding high risk for surgical reoperation. Long term benefits of this approach need to be evaluated¹.

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LITERATURE

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