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Cardiology 2018 : Trans-catheter Aortic Valve Implantation in Patients with Previous Mitral Valve Replacement: A Case Series- Mojca Skafars -University Medical Centre

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Aortic stenosis is the most common heart valve disease besides mitral valve regurgitation in the developed world. The only definite treatment for severe symptomatic aortic stenosis is aortic valve replacement. Open-heart surgery is still gold standard for the treatment of low risk patients with aortic stenosis. In the last 15 years trans-catheter aortic valve implantation (TAVI) has been proved to be superior or at least non-inferior in cases of moderate or high operative risk patients. Older patients with previous mechanical mitral valve replacement (MVR) are, however, considered high surgical risk due to a hostile thorax. The procedural risk can be considerably reduced using a percutaneous approach. Randomised-controlled trials of TAVI stipulated the presence of mitral valve prosthesis as an exclusion criterion for enrolment in the trial. Functional interference between the non-compliant mechanical mitral prosthesis and trans-catheter aortic valve is possible and might have clinical consequences. Therefore in patients with MVR, TAVI should be considered with caution. There might be at least three main concerns: 1.possible aortic valve under-expansion in the presence of a noncompliant mechanical mitral prosthesis and postoperative scar; 2. the risk of aortic device embolization; the risk of post-procedural dysfunction of the mitral prosthesis as a consequence of its damage during percutaneous manipulation or due to functional interference with aortic bioprosthesis. Nevertheless, a number of authors have published successful cases of TAVI in the presence of mechanical valve prostheses. In this paper we present four patients who underwent successful TAVI aier previous mitral valve surgery

Methods and results: We report 4 patients with severe symptomatic aortic stenosis who had prior mitral valve replacement that successfully underwent trans-catheter aortic valve implantation with Sapien XT (Edwards Lifesiences, Irvine, USA) and CoreValve (Medtronic, Irvine, USA) aortic prosthesis. Multi-slice computed tomographic angiography was used for the assessment of the distance between both aortic and mitral prosthesis annuli. Trans-esophageal echocardiography was introduced for precise positioning of trans-catheter aortic valve. There were no special technical tips besides precise positioning and slow opening of the valve prosthesis. In case of Core Valve the goal was the positioning close to “zero point” and in case of Edwards Sapiens valve higher as a “halfon-half” position according to natural aortic valve. We observed no deformation or dysfunction of aortic and mitral prosthesis in any of the patients. Balloon aortic valvuloplasty prior to implantation is not mandatory; however it helps to observe the mutual effect of the new aortic valve and pre-existent mitral prosthesis.

Conclusions: We conclude that trans-catheter aortic valve implantation can be safely and successfully performed in patients with mechanical mitral prosthesis. It is important to carefully evaluate the anatomical conditions with trans-esophageal echocardiography and computed tomographic angiography. Skillfulness and experience of the operators should not be neglected.

Biography:

Mojca Skafars has completed his PhD at the age of 25 years from University Medical Centre and postdoctoral studies from Stanford University School of Medicine. He has published more than 25 papers in reputed journals and has been serving as an editorial board member of repute

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