

## **Transcatheter Aortic Valve Replacement Could Not be the Best Therapeutic Option for Patients with Severe Aortic Stenosis and Mitral Regurgitation**

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### **Background:**

The association of severe aortic stenosis and mitral regurgitation is not uncommon in old patients for whom transcatheter aortic valve implantation (TAVI) is preferentially proposed as the best therapeutic option. It is generally expected that the successful treatment of aortic stenosis would result in annulation or at least improvement of mitral regurgitation (MR).

### **Objective:**

We aimed to assess the change of mitral regurgitation after successful implantation of Core Valve Revalving System TM. The success of implantation was defined as no residual aortic stenosis and no significant paravalvular aortic regurgitation.

### **Methods:**

Hundred and five patients who underwent TAVI at our center from 9.2008 to 5.2012 were studied retrospectively. Echocardiography before and after the procedure were reviewed. Mitral regurgitation was assessed using semi quantitative methods. The pulmonary systolic arterial pressure and the left ventricular function and dimensions were determined for each patient before and after TAVI.

### **Results:**

Among hundred and five patients who underwent TAVI, nineteen patients had preexisting MR, no significant paravalvular leak and no residual aortic stenosis after TAVI. Mitral regurgitation pretreatment was mild, moderate and severe in 53 %, 36% and 1 % respectively. The degree of MR was remained unchanged in 58 %, improved in 21 % and worsened in 21 %. Among the four patients whose MR worsened after TAVI, three had mild MR before TAVI. The four patients whose MR improved had moderate MR before TAVI. So, fifteen patients among nineteen has no improvement of MR after successful TAVI. There was no significant change of left ventricular function which can explain the change of MR. The variation of systolic pulmonary artery pressure followed the change of MR.

### **Conclusions:**

The concept that successful treatment of severe aortic stenosis would alleviate the severity of mitral regurgitation whether MR is present before the treatment is not confirmed by our study. The probably negative impact of mitral regurgitation at least moderate on the outcome of the patient post successful TAVI should be assessed only by prospective study. For a minority of patients with severe aortic stenosis and even mild MR, the best therapeutic option could be reconsidered.