

## IMAGES IN INTERVENTION

# Transfemoral Transcatheter Aortic Valve Implantation in the Presence of Mitral and Tricuspid Prostheses

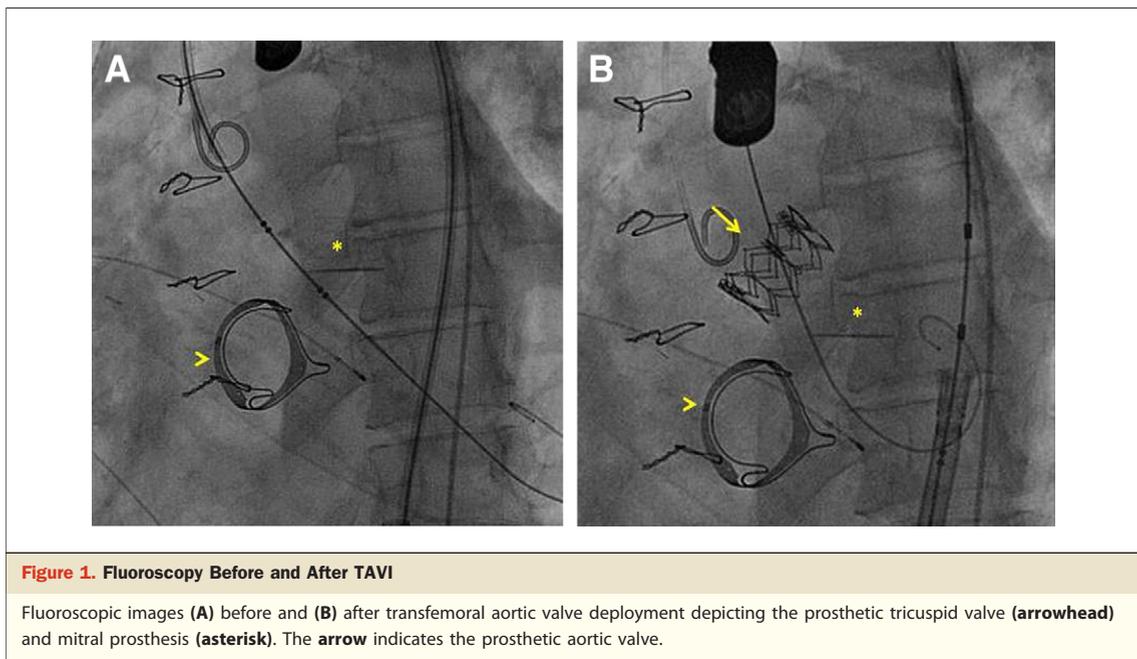
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A 53-year-old woman presented to our center with progressive fatigue and dyspnea on exertion (New York Heart Association functional class III). The patient's medical history was significant for multiple cardiac interventions: open mitral commissurotomy for the treatment of rheumatic mitral stenosis 30 years earlier, mitral valve replacement for the treatment of severe mitral regurgitation at age 25 years, and tricuspid valve implantation for the treatment of rheumatic tricuspid valve regurgitation and stenosis 5 years earlier. She had also

undergone several noncardiac surgeries: trauma-related splenectomy 30 years earlier, partial meniscectomy 27 years ago, tibial external fixation 10 years ago, and Billroth II procedure for the treatment of peptic ulcer 5 years ago. At the time of presentation, she was also under medical treatment for hypothyroidism and depression.

Transesophageal echocardiographic (TEE) assessment revealed severe aortic stenosis (mean systolic gradient: 47 mm Hg; peak gradient: 98 mm Hg; aortic valve area: 0.7 cm<sup>2</sup>; valve annulus:



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20 mm), moderate aortic regurgitation, functionally normal mitral and tricuspid prosthetic valves, severe pulmonary hypertension (mean pulmonary artery pressure: 68 mm Hg), and moderately reduced left ventricular function (ejection fraction: 35%). Selective coronary angiogram revealed normal coronaries.

Due to excessive surgical risk with conventional aortic valve replacement (logistic EuroSCORE of 15.23%), the patient was scheduled for transfemoral transcatheter aortic valve implantation. The procedure was performed under general anesthesia and as previously described (1). Briefly, after aortography, balloon valvuloplasty of the native aortic valve was performed under rapid ventricular pacing, and subsequently, a 23-mm Edwards SAPIEN aortic valve (Edwards Lifesciences, Irvine, California) was implanted at the aortic annulus (Fig. 1). The procedure was performed without any complications, and post-procedure and pre-discharge TEE revealed normal aortic prosthetic valve function (peak gradient: 12 mm Hg; aortic valve area: 2.2 cm<sup>2</sup>) with no residual aortic

paravalvular leaks. The patient was discharged on post-procedural day 5; her in-hospital stay had been uneventful.

At 6-month and 1-year follow-up, echocardiographic evaluation revealed normal left ventricular function (ejection fraction: 55%) and the appropriate position and normal function of all 3 prosthetic valves. At these times, she was symptom free and was in New York Heart Association functional class I.

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#### REFERENCE

1. Cribier A, Eltchaninoff H, Bash A, et al. Percutaneous transcatheter implantation of an aortic valve prosthesis for calcific aortic stenosis: first human case description. *Circulation* 2002;106:3006-8.