

First Valve-in-Valve Direct Transaortic CoreValve Implantation in an Insufficient Sapien Valve

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In patients with severe aortic valve stenosis and high risk for surgery, transcatheter aortic valve implantation is emerging as a true alternative for open replacement (1).

We report the first case of direct transaortic valve-in-valve implantation of a CoreValve in an insufficient Sapien valve (Edwards Lifesciences, Inc., Irvine, California).

An 87-year-old patient with a history of carcinoma and severe peripheral vascular disease received a 26-mm Edwards Sapien bioprosthesis by uncomplicated transapical procedure. Echocardiography 1 week after implantation showed no significant aortic valve insufficiency.

During follow-up, however, symptoms persisted. Echocardiography 10 months after implantation showed good position of the Sapien valve but now moderate-to-severe central insufficiency and moderate ventricular function. Because the apex was already used and both subclavian arteries were too small, we decided to perform a redo transcatheter aortic valve implantation with a CoreValve prosthesis by direct aortic access.

After partial upper sternotomy, the aorta was adequately exposed. Double purse-string sutures were placed on the anterior aspect of the distal ascending aorta before introducing the 18-F sheath directly. After introducing the stiff guidewire, a 26-mm CoreValve prosthesis was positioned and

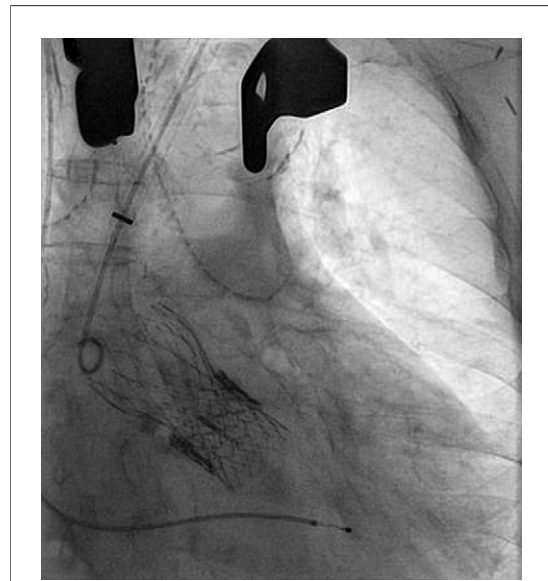


Figure 1. CoreValve in Sapien Valve

Coronary angiography at the end of the procedure showing the 26-mm CoreValve prosthesis (Edwards Lifesciences, Inc., Irvine, California) deployed at the intended position inside the Sapien valve, with direct aortic access.

deployed at the intended position without pacing (Fig. 1). Control angiography and echocardiography showed only minor paravalvular leakage. Recovery was uneventful.

The mechanism of Sapien valve failure in our patient remains unclear. Al-Attar et al. (2) have suggested irregular deployment of the stent as a possible explanation of regurgitation. Leaflet injury due to balloon dilation after stent deployment has also been suggested as a cause for failure (3). Both seem unlikely in our patient, because initially the valve functioned adequately without leakage after a successful implant.

Direct aortic access might be a useful alternative to transfemoral, -subclavian, and -apical approach.

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Due to the short distance to the valve, positioning of the valve is much easier.

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