Hitting Two Birds With One Stone — Pre-Existing Paravalvular Leak Closed by Valve-in-Valve Implantation —

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A 62-year-old woman presented with degenerated mitral bioprosthetic valve. Transesophageal echocardiogram (TEE) showed transvalvular leak with a diastolic mean gradient of 14 mmHg and paravalvular leak with moderate eccentric mitral regurgitation (**Figure A,B**). Her aortic valve prosthesis was fully functional. She was deemed an unsuitable candidate for redo sternotomy and was planned for transapical valve-in-valve (ViV) procedure in mitral position.¹ A 29-mm SAPIEN 3 transcatheter heart valve (THV) was selected to fit the inner diameter of the surgical prosthesis and was oversized by 1 mm. Flaring the skirt of the THV, the paravalvular leak was sealed (**Figure C,D**).

A 44-year-old man was admitted with heart failure after bioprosthetic mitral valve replacement. Preoperative TEE confirmed the bioprosthesis to be degenerated and showed paravalvular leak. After ViV implantation¹ of a 29-mm SAPIEN 3 THV, TEE showed paravalvular regurgitation to be disappeared. Sealing was achieved due to obliteration of the atrial entry to the leak by the skirt of the THV.

These are, to our knowledge, the first reported incidences in which ViV deployment of a SAPIEN 3 THV designed to avoid paravalvular leaks around the THV² also treated and obliterated a pre-existing paravalvular leak outside the sewing ring of surgical bioprostheses.

Disclosures

The authors declare no conflicts of interest.

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Received July 4, 2019; revised manuscript received August 20, 2019; accepted August 29, 2019; J-STAGE Advance Publication released online October 10, 2019 Time for primary review: 26 days

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Figure. (**A,B**) Preoperative and (**C,D**) postoperative (**A,C**) 2-D and (**B,D**) 3-D echocardiography in a 62-year-old woman with degenerated mitral bioprosthetic valve, showing closure of leak by valve-in-valve implantation. LA, left atrium; LV, left ventricle; PL, paravalvular leak; S, skirt; THV, transcatheter heart valve; TL, transvalvular leak.