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IMAGE FOCUS

Successful staged percutaneous transvalvular implantation in multivalvular heart disease

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A woman underwent two mitral valve replacements and a tricuspid bioprosthesis surgery (1977 and 1988) for rheumatic disease. At 61 years old (2012), despite diuretics, right heart failure occurred, due to a severe tricuspid bioprosthesis stenosis, with a preserved LV fraction, good mechanical mitral prosthesis function but a moderate aortic stenosis (AS). Considering re-operative risk (severe chronic obstructive pulmonary disease, atrial fibrillation, cachexia, Euroscore II 14% and STS-Score 18%), percutaneous tricuspid valve-in-valve implantation by femoral vein was performed. CT-scanner confirms that right ventricle was too small to receive the distal part of the catheter with the Edwards Sapien XT inside the tricuspid bioprosthesis. The wire has to be place in the pulmonary artery to lead the device distally. Despite an unfavourable angulation between the catheter axis and the surgical annulus, the valve was deployed with an acceptable position (Figure 1). Mean gradient was 4mmHg at echocardiography, without leak. In 2016, due to severe and symptomatic AS, a left transcarotidian TAVI was realised (femoral access denied). The short distance between the right coronary ostia and mechanical mitral valve frame to insert an Edwards Sapien 3 was challenging: the height of expanded Sapien 3 was 20 mm while the distance on CT-scanner was a little bit more than 21 mm (Figure 2).

Finally, six years follow-up for the tricuspid Sapien XT is excellent without change in gradients compared in 2012. Management of multivalvular heart disease remain challenging; evidenced-based recommendations do not exist nowadays [1]. Transcatheter valve therapy provides a staged approach to treat the predominant valvulopathy first and offers new treatment options for high-risk patients [2].

Disclosure statement

No potential conflict of interest was reported by the authors.

References

[1] Baumgartner H, Falk V, Bax JJ, et al. 2017 ESC/EACTS Guidelines for the management of valvular heart disease. Eur Heart J. 2017;38:2739–2791.

[2] Unger P, Pibarot P, Tribouilloy C, et al. European society of cardiology council on valvular heart disease. Multiple and mixed valvular heart diseases. Circ Cardiovasc Imaging. 2018;11:e007862.

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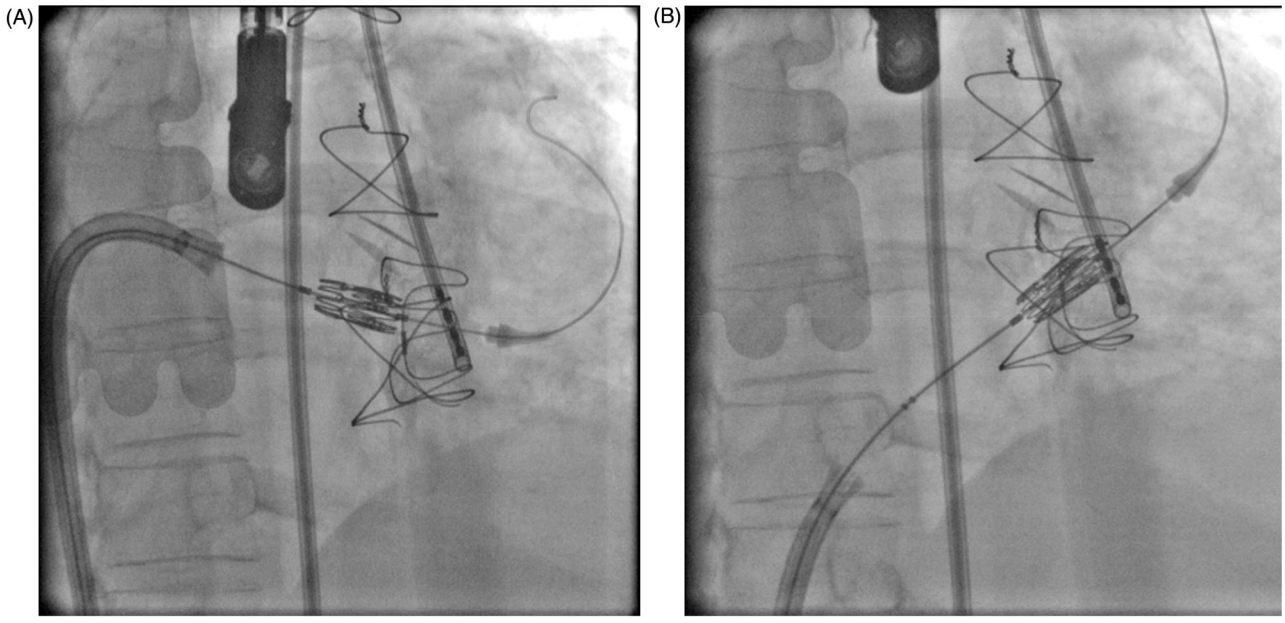

Figure 1. Technical difficulty in tricuspid valve-in-valve implantation. Panel A: inadequacy between the small right ventricle (length: 6 cm) and the distal part of Novaflex Catheter (length: 9 cm) with the Sapien XT in tricuspid bioprosthesis. Panel B: to deploy the Sapien XT, an extrastiff wire was placed in the pulmonary artery to push the 26-mm Edwards Sapien XT more distally, despite particular angulation between the catheter axis and the surgical annulus.

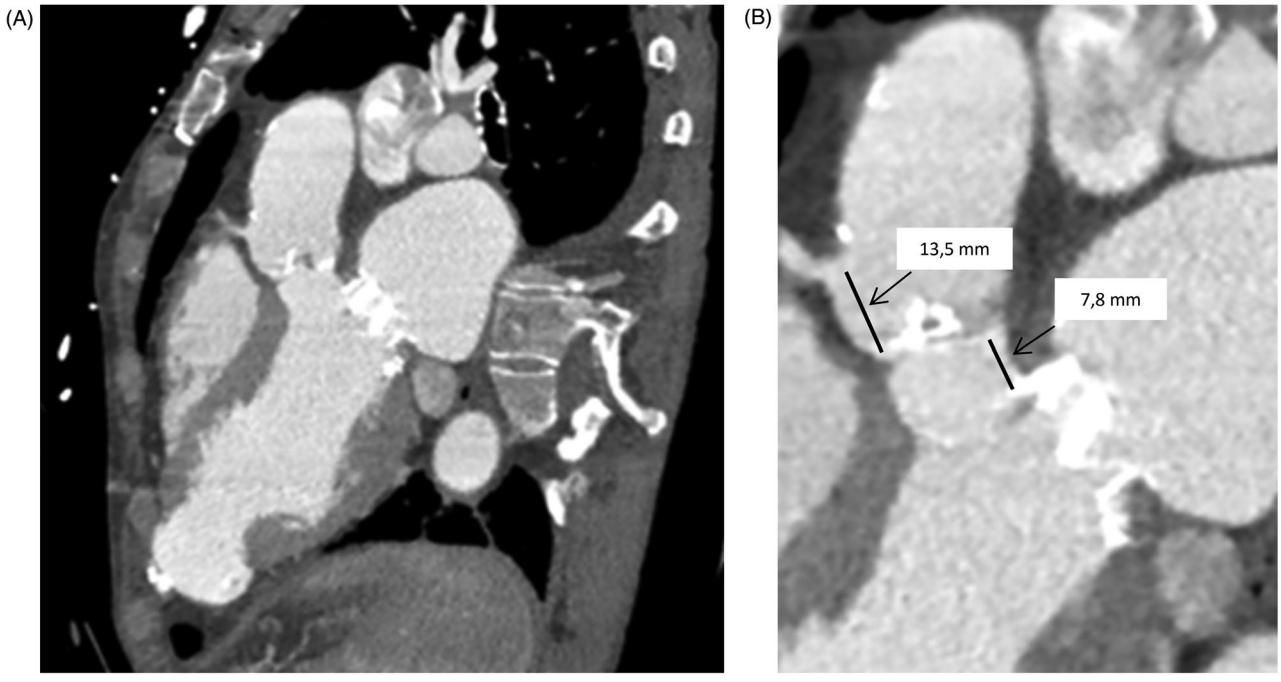

Figure 2. Procedural challenge in TAVI. Panel A: Besides the cicatricial apical aneurysm of the LV, CT showed a short distance between right coronary ostium and prosthetic mechanical mitral valve frame, measured at ±21mm, while the height of fully expanded 26-mm Edwards Sapien 3 is 20 mm. Panel B: zoom of the aortic valve apparatus.