

Image in cardiology

Chimney Stent Technique in a Valve-in-valve Procedure

Stent en chimenea en un procedimiento de *valve-in-valve*

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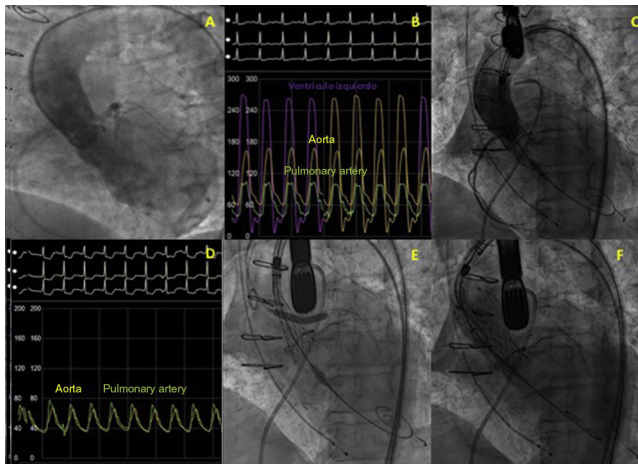


Figure 1.

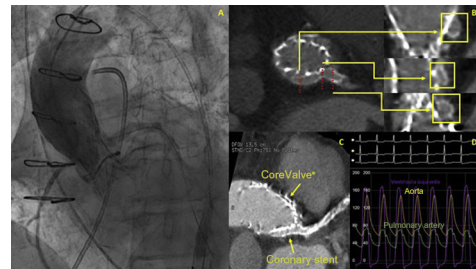


Figure 2.

An 80-year-old patient underwent implantation of a 19-mm Mitroflow biological prosthesis in 2010. Currently, he has shown evidence of severe symptomatic degeneration (Figure 1A and B). A surgical reoperation was rejected, and the patient was scheduled for percutaneous CoreValve implantation. As the left common trunk (LCT) arose from a very low position, we decided to protect it by passing a coronary guidewire. At the moment the distal two-thirds of the valve was released, we observed complete closure of the LCT, associated with a marked ST segment decrease and equalization of the pulmonary and systemic pressures (Figure 1C and D). We then recaptured the device and used the “chimney stent technique” to place a 4×23 -mm drug-eluting stent (Figure 1E). Once coronary flow had been secured, we proceeded to release the valve. Posterior aortography confirmed LCT patency and adequate performance of the prosthesis, with a significant reduction in the hemodynamic gradient (Figure 1F and Figure 2A-D). Finally, we performed coronary stent postdilatation with a 5-mm balloon. Before the patient was discharged, computed tomography study was carried out to verify that the outcome and anatomic relationship between the 2 devices were adequate (Figure 2B and C).

To our knowledge, this is the first time the chimney stent technique has been used in Spain on an ultra-small Mitroflow prosthesis after noting complete LCT closure at provisional release of the valve.

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