56

TREATMENT OF DEGENERATED TRANCATHETER HEART VALVE IN PREVIOUS SURGICAL AORTIC VALVE

Federico Arturi, Tommaso Fabris, Chiara Fraccaro, Massimo Napodano, Luca Nai Fovino, Giulia Masiero, Francesco Cardaioli, Vittorio Zuccarelli, Tommaso Simone, Sabino Iliceto, Giuseppe Tarantini

Dipartimento di Scienze Cardio-Toraco-Vascolari e Sanità Pubblica, Azienda Ospedale Università Padova

Rational: Little is known about safety and effectiveness of transcatheter treatment of degenerated transcatheter heart valves (THVs) implanted in previous surgical aortic valves (SAVs). A 68 y.o. man was admitted for CCS 4. His past medical history was characterized by a Bental-Debono surgery (with Sorin Pericarbon More 27 mm and 32 mm vascular prosthesis) fourteen year ago and by a transapical THV (with a ballon expandable -BEV- 26 mm valve) seven years later for degenerated SAV. A coronary angiogram was performed; no relevant coronary stenosis was found. A transthoracic echocardiogram showed high intraprosthesis gradient (Gmed 48 mmHg), with Doppler velocity index 0,11 and effective orifice area 0,65 cmq. Diagnosis of severe hemodynamic valve deterioration according to VARC-3 criteria was made. The patient was then evaluated by the heart team that decided for a new THV.

Technical resolution: A pre-operative Angio-CT scan was performed. A very high coronary implant height (20 mm for both right and left coronary arteries) in addition to large aorta's diameters were found. Bearing this in mind, coronary obstruction wasn't a major concern whereas obtaining best hemodynamic performance became the main goal of our strategy. For this reason, a self expanding valve (SEV) with supraanular design (Medtronic Evolut) was chosen. Peripheral accesses were permissive for THV ranging from size 23 mm to 29 mm. Considering perimeter (61.2 mm) and perimeter-derived diameter (19.5 mm) size 23 mm it would have been the size of choice. However, keeping in mind the relatively young age of patient, we felt size 26 mm could have helped us to achieve better hemodynamic results. In view of eventual suboptimal result, size 26 mm would have also been a better choice in case of post dilation (SAV remodeling and index THV expansion). The patient underwent transfemoral Evolut PRO+ 26 mm implantation without any complication.

Clinical implications: After the valve release at left heart catheterization no significant gradient was noted. In addition, selective cannulation of both coronary arteries was possible. At echocardiogram no signs of relevant prosthesis-patient mismatch were found. The patient was then discharged free from any symptoms. With this strategy we achieved an immediate optimal result while having a chance (even though data regarding remodeling of Sorin Pericarbon are still missing) of further treat the patient in case new structural valve degeneration occurs.

Perspectives: Bioprosthesis, both surgical and THV, have become the gold standard for treatment of severe aortic stenosis. However, in younger patients, the life expectancy will likely exceed the valve's durability. Even though randomized clinical are still missing, THV in failed SAV is becoming the treatment of choice. However, little is known about transcatheter treatment in case of degeneration of the last implanted THV. Reassuring data regarding THV in THV are arising from literature; they must be interpreted with caution since they

carry an important selection bias. Furthermore, the presence of a previous SAV, eventually in combination with ascending aorta replacement, adds a new level of complexity that must be taken into account. In this context carefully pre-procedural planning is mandatory. The implantation of the firsts prosthesis significantly influences every intervention that comes after. The potential implantation of further THV should be included in the planning of the first and then of every bioprosthesis.