Transcatheter aortic valve implantation in young patients: Why, for what?

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We have read the article by Sternalski et al. [1] titled "Symptomatic aortic regurgitation treated by transcatheter aortic valve implantation in young patients with congenital aortic stenosis" with great interest. First, we congratulate the authors for their contribution to the literature. However, we would like to discuss some issues about transcatheter aortic valve implantation (TAVI) in young patients.

The authors shared successful TAVI applications in two young patients in their current study. The first patient was 24 years old and had only one previous open-heart surgery. His transthoracic echocardiography showed severe tricuspid regurgitation and moderate mitral regurgitation (MR) with aortic valve disease [1]. Organic MR in patients undergoing TAVI may negatively affect clinical outcomes. A recent study has shown that having MR ≥2 before the procedure negatively affects 3-year mortality [2]. In addition, this patient has severe tricuspid regurgitation. Considering these transthoracic echocardiography findings, what is your clinical prediction for the 24-year-old patient at 30 years old?

The second patient is also 24 years old but has more complex heart problems. The most important problem in terms of cardiac surgery seems to be high mean pulmonary arterial pressure (mPAP 85 mm Hg). However, these values can be reduced by using preoperative endothelin receptor antagonists. In addition, inhaled nitric oxide can be used in the perioperative period [3]. Also, because these patients have congenital aortic stenosis, possible calcium metabolism disorders should be considered. In some cases, bioprosthetic valve degeneration may be faster. Were there any other systemic syndromes other than heart disease in these patients?

The first patient declined consent for surgical aortic valve replacement (SAVR) due to the associated surgical risk. One of the important problems in our country is that of preoperative patient information. Sometimes a surgeon and sometimes a cardiologist will talk to the patient and direct the patient to the treatment he/she believes in. As a result, a patient without medical training cannot know exactly what he/she wants. We would like to obtain information about how these patients are informed in the authors' clinic. In addition, we calculated the patients' EuroSCORE II values as low (<3%) with the clinical information provided. We believe that clearly sharing the exact values of the patients' risk scores will contribute to the literature.

Also, the authors stated that 'Additional reasons TAVI can be preferred by patients in this age group are low invasiveness and avoidance of open-heart surgery'. Avoidance of open-heart surgery? Why? The long-term clinical results of metallic aortic valve surgery are well known when the appropriate patients are selected. In a recent study including 1477 patients, the 15-year survival rate after SAVR was 90.6 ± 3.9%, freedom from major bleeding 96.4 ± 1.6%, and freedom from valve-related reoperation 97.8 ± 1.7% [4]. The authors also mentioned the adverse effects of warfarin use after metallic SAVR. However, the patients in the study had rhythm problems such as atrial fibrillation. Would warfarin use not do more good than harm in these patients? In addition, current metallic aortic valves can be followed with lower international normalized ratio values [5].

Despite all this, science should be open to innovation. However, it should not be forgotten that the TAVI procedure, although less

invasive than surgery, also involves significant problems [6]. We are awaiting long-term clinical results for these patients with great curiosity.

Article information

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