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TAILORED APPROACH FOR SEVERE AORTIC STENOSIS Reply to the Editor:

We thank Dr Santarpino and colleagues for their insightful comments on our article.¹ Today, transcatheter aortic valve implantation (TAVI) has evolved as the standard treatment for severe aortic stenosis in patients with high surgical risk. Decision-making for TAVI or surgical aortic valve replacement (SAVR) should be performed by a heart team consisting of cardiologists, cardiac surgeons, and anesthesiologists. The European guideline recommends that in the patients with intermediate surgical risk (Society of Thoracic Surgeons or European System for Cardiac Operative Risk Evaluation II >4% or logistic European System for Cardiac Operative Risk Evaluation I >10%), the decision between SAVR and TAVI should be made by the heart team.² Other risk factors not included in these scores, such as frailty, calcified aorta, sequelae of chest radiation, hostile chest, and chest deformity, should be also taken into consideration.

In their letter, Santarpino and colleagues state that patients undergoing transapical (TA) TAVI are generally at greater risk than those who are treated with transfemoral (TF) TAVI, and that patients undergoing SAVR are less frail than patients undergoing TAVI. We agree with the authors of the letter and that is the one of the reasons that the TA group had a greater mortality than the minimally invasive aortic valve replacement (MIC-AVR) and TF groups in our study, although the difference did not reach statistical significance. Although each group had comparable perioperative risks after propensity score matching with 23 perioperative factors, we did not analyze other factors, such as

porcelain aorta, frailty, the history of thorax radiation therapy, or chest deformity. These factors also have an impact on mortality and morbidities.

Considering the use of cardiopulmonary bypass for SAVR and comparing it with the invasiveness of each approach, it could be expected that bleeding complications occur more in the MIC-AVR and the TA groups than the TF group. In our study, there was no significant difference in the incidence of bleeding complications.

As recommended by the authors, we analyzed the costs in the propensity score-adjusted groups. The median costs for the patients undergoing TAVI, at 36,889 € TA and 33,884 € TF, are nearly twice as high as in the MIC group, at 17,350 €. This was also found by Osnabrugge and colleagues,³ and they pointed out that the difference was mainly caused by the greater costs of prostheses and devices.

Although the clinical outcomes of TAVI have improved and devices are steadily evolving, uncertain clinical issues still exist, such as the durability of valves. The long-term influence of silent stroke and hemodynamic influence of conduction abnormalities after TAVI are also still unclear. In addition, TAVI is significantly more expensive than MIC-AVR. These issues should be clarified and resolved before expanding the TAVI indication to low-risk patients with longer life expectancy.

We agree completely with the authors' concept of "different patients = different procedures," and cardiac surgeons should be able to offer SAVR, TA-, and TF-TAVI procedures and tailor the approach to the individual patient.

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