

The authors reported no conflicts of interest.

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**REPLY: DO NOT
HESITATE TO IMPLANT
A MECHANICAL VALVE
IN TRICUSPID VALVE
POSITION FOR FEAR OF**



**LATER STROKE AND VALVE
THROMBOSIS IN YOUNG-AGED
PATIENTS**

Reply to the Editor:

We thank Drs Van den Eynde and Schuermans for the valuable comments on our article on the long-term results of tricuspid valve replacement (TVR).^{1,2} Various factors must be considered for the optimal prosthesis choice in the tricuspid valve (TV) position. When a mechanical valve is implanted into the TV, a high international normalized ratio level must be maintained to prevent valve thrombosis, and consequently, the risk of hemorrhagic stroke rises.³ In addition, patients who require TVR often have a history of valvular surgery or progressed right ventricular dysfunction. Therefore, bioprosthetic valves tend to be preferred because the life expectancy of these patients is expected not to be long.

However, a recent study using our institutional data confirmed that the 15-year survival rate after TVR was >50%,⁴ and the cumulative incidence of structural valve deterioration at 10 and 15 years after TVR was 25.6% and 56.1%, respectively.⁵ These values were greater than those of structural valve deterioration in the aortic or mitral position. Based on these results from our institutional data, we designed the present study using the National Health Insurance database to determine which prosthesis, mechanical versus biological, has a greater survival rate when considering the risk of reoperation and stroke. In this study, using a large cohort national database, we confirmed that the bioprosthetic valve in the TV position requires frequent redo-TVR (1.2 per 100 patient-years), and the mechanical valve in the TV position significantly raises the incidence of stroke. In conclusion, this study reconfirmed that although the mechanical valve increased the incidence of

stroke, its benefit for survival overwhelmed its risk for stroke in relatively young patients whose survival would be compromised due to the low durability of the bioprosthetic valve.

Retrospective studies cannot adjust all individual risks, and studies using the National Health Insurance database have the disadvantage of not being able to identify important information such as echocardiographic data, prosthesis size, and surgical methods. However, despite these drawbacks, a major strength of this study is that it analyzed large-scale, real-world survival data in almost all patients who underwent TVR in Korea during the recent 16 years. As Dr Van den Eynde pointed out, it is reasonable to consider the biological age of the patient rather than the chronological age during valve selection. Because the participants of this study were patients who needed to undergo TVR at that time, their biological age would be greater than their chronological ages, and even greater than those of the general population without TV disease. Nonetheless, it should be noted that mechanical valves are significantly beneficial for survival in patients aged from 54 to 65 years requiring TVR. Of course, since this study did not adjust all confounding factors and the biological age may be particularly high in some cases, a prosthesis choice by the heart team reflecting the findings from this study is necessary.

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<https://doi.org/10.1016/j.xjon.2023.06.001>