The St. Jude Medical (SJM) mechanical valve is a bileaflet valve that is constructed using pyloric carbon to achieve the concept of “one valve in one life.” Since its development in 1977, the SJM valve has become the most used mechanical valve in Japan and throughout the world. Because of its excellent durability, the SJM valve is typically used for relatively young patients, and its high performance and low event rate during long follow-ups have been reported previously (Table). The long-term outcomes are of specific interest, and cardiac surgeons are especially interested in the rates of thromboembolism, bleeding, reoperation, valve-related deaths, and valve-related complications (pannus formation, paravalvular leakage with hemolysis, valve thrombosis, and prosthetic valve endocarditis). According to the Society of Thoracic Surgeons/American Association for Thoracic Surgery (STS/AATS) guidelines for reporting mortality and morbidity after cardiac valve interventions, these complications should be evaluated using standardized valve-specific criteria. In particular, thromboembolism and bleeding, which have rates of development that are constant over time, should be evaluated by not only the actual rates but also the linearized rates.

### Table. Long-Term Outcomes of Aortic Valve Replacement With St. Jude Medical Valve Reported in Japan

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>Structural valve deterioration (%/pt-year)</td>
<td>0.16</td>
<td>0.4</td>
<td>0.02 (%)*</td>
</tr>
<tr>
<td>Nonstructural dysfunction (%/pt-year)</td>
<td>0.16</td>
<td>0.14</td>
<td>0</td>
</tr>
<tr>
<td>Valve thrombosis (%/pt-year)</td>
<td>0.05</td>
<td>0.85</td>
<td>1.1</td>
</tr>
<tr>
<td>Thromboembolism (%/pt-year)</td>
<td>1.35</td>
<td>0.4</td>
<td>1.0</td>
</tr>
<tr>
<td>Bleeding (%/pt-year)</td>
<td>0.21</td>
<td>0.4</td>
<td>0.5 (%)*</td>
</tr>
<tr>
<td>Operated valve endocarditis (%/pt-year)</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

*Actual rate.
valve has a pivot guard that protrudes into the left ventricle outflow tract, which might cause pannus formation (Figure). Although the frequency of pannus formation in patients with SJM aortic valves is only 0.7–1.4%, the protruding pivot guard has the potential for pannus formation, especially when it is near the mitral valve or septal wall. In this study, the most common reason for aortic valve reoperation was pannus formation (1.5%), and the deaths from unknown causes might have been related to pannus formation. Therefore, additional data collection might be warranted.

The follow-up rate in their report is slightly lower (84.1%) than in previous reports. However, given the recent enforcement of the Personal Information Protection Law, it might be difficult to analyze and collect information from patients over a long follow-up. Therefore, given the multicenter design, high-volume analysis, the data collection methods (data may have been collected from family doctors), and long follow-up period, this follow-up rate could be acceptable.

References