Safety of next-day discharge (NDD) after transfemoral transcatheter aortic valve replacement with a self-expandable vs. balloon-expandable valve prosthesis: ACURATE neo vs. SAPIEN 3

Study Design
A total of 249 consecutive patients who underwent elective transfemoral-TAVI (146 ACURATE neo, 103 SAPIEN 3) using minimalist approach (local anesthesia, transthoracic echocardiogram, transfemoral access, and complete percutaneous vascular closing) between January 2017 and July 2018 at Helsinki University Central Hospital were reviewed. The objectives of the study were (1) to assess the success rate of NDD with ACURATE neo and (2) to evaluate the safety of NDD after ACURATE neo implantation compared with SAPIEN 3 after 90 days and after 1 year.

Clinical Highlights
Rates of device success and NDD with ACURATE neo are comparable to SAPIEN 3. Additionally, ACURATE neo patients show similar in-hospital complication rates with no significant differences.

<table>
<thead>
<tr>
<th>Device and NDD Success</th>
<th>In-Hospital Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ACURATE neo (n = 146)</strong></td>
<td><strong>SAPIEN 3 (n = 103)</strong></td>
</tr>
<tr>
<td>Device success</td>
<td>NDD success</td>
</tr>
<tr>
<td>90</td>
<td>92</td>
</tr>
<tr>
<td>Length of hospital stay after procedure, days</td>
<td>In-hospital mortality</td>
</tr>
<tr>
<td>2.6</td>
<td>3.3</td>
</tr>
</tbody>
</table>
NDD with ACURATE neo is safe

ACURATE neo shows low 90-day complication rates in patients discharged next day after TAVR with no significant differences vs. SAPIEN 3. Moreover, the 1-year safety of NDD after ACURATE neo implantation is equivalent to that after SAPIEN 3 implantation.

**90-Day Outcomes After NDD**

<table>
<thead>
<tr>
<th></th>
<th>ACURATE neo (n = 87)</th>
<th>SAPIEN 3 (n = 57)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mortality</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Readmission</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>New PPI after discharge</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Stroke</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>PVL ≥ moderate</td>
<td>0</td>
<td>3</td>
</tr>
</tbody>
</table>

**All-Cause Mortality After NDD in Patients Receiving ACURATE neo or SAPIEN 3**

Log rank: \( P > 0.80 \)

<table>
<thead>
<tr>
<th>Follow-Up Month After TAVR</th>
<th>ACURATE neo</th>
<th>SAPIEN 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>87</td>
<td>57</td>
</tr>
<tr>
<td>4</td>
<td>84</td>
<td>54</td>
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<tr>
<td>5</td>
<td>80</td>
<td>51</td>
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<tr>
<td>6</td>
<td>69</td>
<td>46</td>
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<tr>
<td>7</td>
<td>65</td>
<td>45</td>
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<tr>
<td>8</td>
<td>60</td>
<td>42</td>
</tr>
<tr>
<td>9</td>
<td>55</td>
<td>40</td>
</tr>
<tr>
<td>10</td>
<td>45</td>
<td>34</td>
</tr>
<tr>
<td>11</td>
<td>39</td>
<td>30</td>
</tr>
<tr>
<td>12</td>
<td>32</td>
<td>23</td>
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</tbody>
</table>