Commentary: Getting it right

Aaron Bettenhausen, MD, and Dawn S. Hui, MD

In this edition of The Journal, Fukuhara and colleagues describe the outcomes of aortic valve reintervention following transcatheter aortic valve replacement (TAVR). By analyzing patients from the Michigan Statewide quality collaborative, they found that 87 of 9694 (0.90%) patients received reintervention following TAVR. The median time to reintervention was relatively short (9.6 months), and those who underwent surgical re-intervention faced a high mortality rate of 15%. The authors are congratulated for their reporting on this important issue. As TAVR indications have expanded and the absolute number of patients risen, this study makes clear that the prospect of reintervention should bear on initial decision-making. Annual TAVR procedures exceeded 70,000 in 2019 alone; thus, a not-insignificant number of patients will be affected by this issue. In the intermediate-risk clinical trials, aortic valve reintervention rates at 2 years were slightly greater than in Fukuhara and colleagues, at 1.4% for PARTNER II (Placement of AoRTic TraNscaThetE rValves II) and 2.8% for SUR-TAVI (Surgical Replacement and Transcatheter Aortic Valve Implantation), compared with 0.6% and 0.7% in the respective surgical arms. The study by Fukuhara and colleagues lends insight into the complexity and risk of cases when TAVR explant is required. More than two-thirds of explant surgeries required major concurrent procedures, 29% had multiple combined procedures, and more than one-third of aortic repairs were unplanned. With odds-to-expected ratio for mortality being 1.8, this suggests that the explant itself adds significant complexity and risk.

As technology continues to develop, cardiac surgeons find themselves at a crossroads. Initial TAVR trials focused on immediate safety and efficacy, but the rapid expansion of indications has outpaced considerations of implications for low- and intermediate-risk patients who are expected to have longer life expectancy. What hasn’t changed for our discipline is providing longitudinal care for our patients. Balancing short-term results with long-term outcomes becomes even more challenging, as TAVR techniques have changed to mitigate TAVR complications. As the authors discuss, increasing use of self-expanding valves and higher implant position may be behind the rapid increase in TAVR explant volumes observed in their study. While these trends might result in better immediate TAVR results (lower pacemaker and paravalvular leak rates), there has been little attention to their impact on longer-term outcomes, including repeat TAVR implantability. The statewide findings of Fukuhara and colleagues, which mirror the national experience, suggest that the Heart Team should strongly weigh TAVR repeatability in its calculation of index therapy modality. This is another reason that Heart Teams everywhere must maintain a strong surgeon presence involved in all aspects of the preprocedural, intraprocedural, and postprocedural care of such patients. Data such as these contribute to our fund of knowledge and the pursuit of “getting it right,” not just for “right now” but for the expected lifetime of the patient.

From the Department of Cardiothoracic Surgery, Joe R. and Teresa Lozano Long School of Medicine, University of Texas Health Science Center at San Antonio, San Antonio, Tex.

Disclosures: The authors reported no conflicts of interest.

The Journal policy requires editors and reviewers to disclose conflicts of interest and to decline handling or reviewing manuscripts for which they may have a conflict of interest. The editors and reviewers of this article have no conflicts of interest.

Received for publication Oct 5, 2021; revisions received Oct 5, 2021; accepted for publication Oct 7, 2021; available ahead of print Oct 12, 2021.

Address for reprints: Dawn S. Hui, MD, 7703 Floyd Curl Dr, Suite 211L, San Antonio, TX 78229 (E-mail: dawn.hui@gmail.com).

J Thorac Cardiovasc Surg. 2023;165:2023-4
0022-5223/536.00
Copyright © 2023 Published by Elsevier Inc. on behalf of The American Association for Thoracic Surgery
https://doi.org/10.1016/j.jtcvs.2021.10.012
Commentary: Surgical aortic valve replacement after transcatheter aortic valve replacement: Is it time to reconsider the lifelong management?

Ko Bando, MD, PhD, and Takayuki Ogawa, MD, PhD

On the basis of clinical evidence of multiple clinical randomized trials, the number of transcatheter aortic valve replacement (TAVR) procedures performed in North America has surpassed the number of isolated surgical aortic valve replacement (SAVR) procedures according to the Society of Thoracic Surgeons Adult Cardiac Surgery Database.1-5 Because TAVR is used in younger patients, valve reintervention is inevitable because of structural valve deterioration, significant paravalvular leak (PVL), severe prostheses-patient mismatch, endocarditis, or the need for additional procedures.6-8

In this issue of the Journal, Fukuhara and colleagues7 report on trends, indications, and outcomes of repeat TAVRs and TAVR explants on the basis of Michigan state data and provide several important takeaways. Although the overall frequency of aortic valve reintervention after TAVR was only 0.9%,9 the percentage of reinterventions is trending significantly upward, and the proportion of TAVR explant rose from 13% to 65% between 2014 and 2019.9 The reintervention rate after TAVR was higher in self-expanding valves compared with balloon-expanding valves, likely because of the higher rate of surgical TAVR explants among self-expanding valves. Repeat TAVR was performed for aortic stenosis (AS), aortic insufficiency, PVL, or mixed AS/aortic insufficiency, whereas TAVR explant was performed for conditions such as severe PVL, unfavorable coronary anatomy, concomitant surgical procedure, endocarditis, and TAVR-related structural issues, which are contraindications for repeat TAVR.9,10

Comparison of early mortality and observed-to-expected (O/E) mortality ratios for TAVR explant, repeat TAVR, and redo SAVR are other crucial topics. The current study9 and that of Kaneko and colleagues11 (on the basis of Society of Thoracic Surgeons) reported that TAVR explant had a higher early mortality compared with repeat TAVR and redo SAVR.11,12 The current study focused on Michigan state data, and the data from the Society of Thoracic Surgeons database may differ in terms of early mortality and O/E mortality ratio.11,12

From the "Department of Cardiac Surgery, and "Division of Cardiology, Department of Medicine, The Jikei University School of Medicine, Tokyo, Japan.

Disclosures: The authors reported no conflicts of interest.

The Journal policy requires editors and reviewers to disclose conflicts of interest and to decline handling or reviewing manuscripts for which they may have a conflict of interest. The editors and reviewers of this article have no conflicts of interest.

Received for publication Oct 18, 2021; revisions received Oct 18, 2021; accepted for publication Oct 18, 2021; available ahead of print Oct 29, 2021.

Address for reprints: Ko Bando, MD, PhD, Department of Cardiac Surgery, The Jikei University School of Medicine, 3-25-8, Nishi-Shimbashi, Minato-ku, Tokyo 105-8461, Japan (E-mail: kobando@jikei.ac.jp).

J Thorac Cardiovasc Surg 2023;165:2024-5
0022-5223/$36.00
Copyright © 2021 by The American Association for Thoracic Surgery https://doi.org/10.1016/j.jtcvs.2021.10.035

CENTRAL MESSAGE

Surgical risks of TAVR explant are formidable compared with repeat TAVR or redo surgical AVR. Thus, the lifelong management of patients with aortic stenosis should be taken into consideration.