Outcomes of Transcatheter Aortic Valve Implantation: Does Time Matter?

In a recent issue of the American Journal of Cardiology, Finkelstein et al[1] compared the efficacy and safety of transcatheter aortic valve implantation (TAVI) in low surgical risk (LSR) versus intermediate-to-high surgical risk (I-HSR) patients. The authors concluded that procedural outcomes were comparable between LSR and I-HSR TAVI patients, whereas the rates of short- and long-term mortality, as well as the safety outcome, were lower in LSR patients.[1]

First, we would like to congratulate the authors for their study which covers an important scientific gap.[1] We would also like to highlight an essential parameter that could have also played a key role in patients' outcome after TAVI, affecting mortality too. The wait-time period until the patients undergo the procedure as previously reported,[2,3] can significantly influence patients' outcome.

In 2018, Elbaz-Greener published their study on temporal trends and clinical consequences of wait-times for TAVI in a population of Canadian patients with aortic stenosis during 2010 to 2016.[3] They found that "the cumulative probability of wait-list mortality and heart failure hospitalization at 80 days was approximately 2% and 12%, respectively, with a relatively constant increase in events with increased wait-times."[3] Furthermore it was reported that during the study period, the average wait-time (almost 3 months) was significantly associated with increased morbidity and mortality, suggesting a need for greater capacity and access.[3]

Also the functional and clinical status of some patients (especial the elder and most frail individuals) may dramatically deteriorate during the time between referral and procedure,[4] because of the rapid disease progression of severe aortic stenosis and the varying wait-times for treatment in different countries due to policy and economical restrictions.

Thus, it is very important to know what was the wait-time (i.e., time from referral to procedure) and to further co-evaluate its effect on patients' survival and clinical outcome. It could be speculated that in this study,[1] the I-HSR patients might had a shorter wait period until TAVI compared with the subgroup of very LSR or even LSR patients. Thus, those who finally undergo TAVI after a longer wait-time may have an aggravated health status versus those (i.e., higher risk) who undergo TAVI or even surgical aortic valve replacement in much shorter period of time.

Unfortunately, wait-time of patients with severe aortic stenosis until TAVI or surgical aortic valve replacement has been mostly overlooked in survival studies and also has never been explored in cost-effectiveness analyses of TAVI, probably due to lack of the relevant data. Hence, it could be recommended to report what is the wait-time (i.e., time from referral to procedure) and to further evaluate its impact on patients' outcome following aortic valve replacement.

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Usefulness of a Rounding Cardiologist in a Skilled Nursing Facility to Improve Patient Satisfaction

To the Editor—Patient satisfaction is an indicator of quality of medical care and has been associated with lower patient mortality and hospital readmissions.[1] On October 1, 2012 the Centers for Medicare and Medicaid Services began withholding hospital's Medicare reimbursement based on surveys evaluating patient satisfaction.[2] Recently, we conducted a retrospective study of 1,032 patient records at a skilled nursing facility (SNF) and examined change in hospital readmission rates 1 year before and 1 year during employment of a rounding cardiologist.[3] Total 30-day hospital readmission rates decreased 3% (11% to 8%), and hospital readmissions due to heart failure decreased 6% (14% to 8%) during the year that the cardiologist was rounding. This resulted in a 27.3% and 42.9% improvement in 30-day hospital readmission rates, respectively. The current study examined a subset of these data by comparing the satisfaction of these patients at the SNF 1 year before and 1 year during the rounding cardiologist.

Patient satisfaction data were assessed for 190 patients (48 men, 142 women) aged 85.2 ± 9.4 years using My InnerView, a quality measurement and satisfaction survey created by the National Research Corporation that is commonly used in nursing and assisted living homes.[4] Survey data were retrospectively examined for patients receiving long term care 1 year before (May 2013 to April 2014; n = 98) and during the Cardiologist's first year (May 2014 to April 2015; n = 92). The Cardiologist rounded approximately 7 hours a week (over 2 to 3 days). The survey asked 2 questions and provided a section for comments. Question 1 asked patients to rate their "overall satisfaction" during their experience at the SNF. Question 2 asked the patients to select a "level of recommendation" that they would provide to others regarding the SNF. For questions 1 and 2, patients selected either "excellent," "good," "fair," or "poor." The comment section consisted of the patient's

Table 1
Patient satisfaction year before and year of cardiology service

Variables	One year before rounding cardiologist (n = 92)	One year during rounding cardiologist (n = 98)	Change	p
Overall patient satisfaction				0.016
Excellent	75%	86%	+11%	
Good	14%	11%	−3%	
Fair	2%	0%	−2%	
Poor	9%	0%	−9%	
Did not answer	0%	3%	+3%	
Level of recommendation				<0.001
Excellent	77%	84%	+7%	
Good	8%	11%	+3%	
Fair	4%	0%	−4%	
Poor	11%	0%	−11%	
Did not answer	0%	5%	+5%	
Comments				0.053
Positive	59%	74%	+15%	
Negative	25%	18%	−7%	
Neutral	4%	5%	+1%	
No comment	12%	3%	−9%	

Note: Positive change indicates an increase in the year during the rounding cardiologist.

comments regarding their stay at the SNF. All patient comments were coded by researchers as "positive" (e.g., "genuine care/interest in resident's well-being"), "negative" (e.g., "lack of empathy towards patients"), or "neutral" (e.g., "consider an online menu system"). A chi-square analysis was performed to compare patient satisfaction 1 year before versus during the Cardiologist's first year.

Overall patient satisfaction and level of recommendation increased with access to the cardiologist (Table 1), with a marginally significant increase in the number of positive comments. Increases in "excellent" ratings for patient satisfaction and "level of recommendation" were 11% and 7%, respectively.

These findings suggest that a rounding cardiologist treating patients in a SNF may be an effective strategy to increase patient satisfaction, which indicates a potential increase in quality of care and a decrease in Medicare-issued financial penalties. A large prospective study examining the effect of a rounding cardiologist on patient satisfaction at a SNF using a physician-specific measure of patient satisfaction is needed to confirm the findings of this retrospective pilot study.

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Strut Thickness and Patient's Outcomes in Different End Points After Stent Implantation

We have read the meta-analysis written by Iantorno et al[1] about the impact of strut thickness on outcomes in patients with drug-eluting stents. The investigators through a well-performed analysis of 80,885 patients have clearly demonstrated that strut thickness plays a major role in stent thrombosis and myocardial infarction. However, although we fully agree with the investigator's conclusions, we would like to point out a comment about the message that might be derived from this study, because it could be easily understood that the lower the strut thickness will be, the best result will be obtained after percutaneous intervention.

Interventional Cardiology has experimented an impressive progress since the initial era of balloon angioplasty going through the first, second, and third generations of drug-eluting stents and finally the revolutionary concept of the reabsorbable scaffolds, although the latter is the best example that innovation may not always drive to better results. In this way, and despite the optimal performance of the stents with thinner struts in terms of thrombosis and myocardial infarction, we should take into account that with other end points, the thinnest strut may not lead to the best outcome. In the comparison between the Orsiro, a ultrathin-strut sirolimus-eluting stent with biodegradable polymer and Xience, a thin-strut everolimus eluting stent with durable polymer in 330 patients with chronic total occlusions with a length over 50 mm, the primary noninferiority end point, in-segment late lumen loss, was not met for the Orsiro and the binary restenosis was significantly higher (8.0% vs 2.1%; $p = 0.028$).[2] Probably the excellent performance of the Orsiro in studies as the Bioflow V,[3] mainly derived of the lower rate of periprocedural myocardial infarction, comes from its lower profile and a more flexible platform which allow less vessel trauma and also from its