Examining the future in retrospect

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Central Message

We speculate that cardiac surgery will only survive as standard treatment for patients with an interventional alternative if we can show and reliably predict the benefits for these groups of patients.

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In many ways, the article in this issue of the *Journal* by Kuo and coauthors¹ is a glimpse back for the surgical community at the “good old days,” before the advent of transcatheter aortic valve interventions. Kuo and coauthors¹ show how the results of surgical valve replacement in octogenarians have improved with time and that—at least for men—the survival after surgical aortic valve replacement is not different from that of the general population in Manitoba, where the study was done. The complete team caring for these patients is to be congratulated for achieving these results.

In the current era, however, with some cardiologists claiming that transfemoral transcatheter aortic valve intervention should be first-line therapy for all patients with Society of Thoracic Surgeons score of at least 4 and for all patients at least 85 years old,² our view on that topic needs to be more critical. It can be argued that the initial drop in the survival curve (caused by perioperative mortality) would be less with a transcatheter aortic valve interventional approach. As surgeons, of course, one of our goals is to minimize perioperative mortality. It is our personal impression that minimal access aortic valve replacement is one factor to achieve this goal³⁻⁵ and that some of the drawbacks of this access can be blunted by newer prosthetic valves⁶; however, data on this topic so far are not good enough for final conclusions.⁷

In their study, Kuo and coauthors¹ also studied “functional survival,” defined with the end point of either death or admission to a personal care home. In our opinion, this is the most interesting point of their study, because it tries to give a measure of quality of life after surgery. In deciding whether to take the risk of undergoing cardiac surgery (or of undergoing a cardiac valve intervention), patients want to know not only their chances of surviving but also what their level of activity and quality of life will be. “Functional survival,” as defined in the study by Kuo and coauthors,¹ can of course only be a rough estimate of that, but it is a starting point. Their analysis clearly shows that the variables that we commonly use when assessing patients are not suitable for predicting “functional survival,” because the predictors

of survival and of “functional survival” from the available data were almost the same. We thus need to know more about our patients than the data that are usually saved in our databanks. In that regard, the concept of frailty has gained widespread interest in recent years. There is no universally accepted definition of frailty, resulting in multiple ways of trying to measure it, but recent evidence suggests that doing so would be helpful for risk stratification in cardiac surgery.⁸

In addition, we will probably need to explore not only survival, New York Heart Association functional class, valve function, and freedom from reoperation, but more details of the “postoperative life” of our patients, such as level of activity, residual complaints, and quality of life. Most likely, interventional procedures will continue to grow in absolute number and also in the number of indications for which they are available. Given the growing life expectancy in the industrialized populations, we will be faced more and more frequently with the decision of whom to treat and how. The cardiac surgery profession must be prepared for this discussion, and we speculate that cardiac surgery will only survive as a standard treatment if we can show and reliably predict the benefit for groups of patients. Knowing more about the postoperative life of our patients will be an essential part of that discussion, and “functional survival” can only be a starting point.

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