

Benchmark to avoid judgment under uncertainty in the choice



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Central Message

Updated surgical valve replacement data are needed as benchmarks to weigh the choice and avoid making judgment under uncertainty.

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The advent of transcatheter valve implantation has changed our perception of structural valve disease and its perioperative risk because it has added a treatment choice and obliged surgeons to weigh the pros and cons of 2 techniques, although doing so is sometimes unclear. Until now, reoperation for structural valve deterioration of bioprostheses has not had alternatives and the lower invasiveness of transcatheter valve-in-valve implantation (VIV-TAVI) has changed not only patients' expectations, but also physicians' subjective assessment, considering that repeat conventional surgery holds intrinsic risks and has a higher likelihood of comorbidities in situations of frailty and old age. However, this perception of risks is misleading because it does not consider all factors that can influence perioperative and long-term outcomes. Consequently, judgment under uncertainty can lead to a biased choice.¹

There are few data on outcomes of repeat surgery that can serve as reference points of key performance indicators for benchmarking. The study by Stulak and colleagues,² despite all of the limitations related to its retrospective nature, gives an inside look at the standard of care, mainly showing that perioperative risk can be grossly divided into 2 different profiles and redo does not hold an intrinsically high risk. Patients with associated previous coronary artery bypass grafting and New York Heart Association functional class III or IV hold a significantly increased perioperative risk and could likely benefit from a less invasive approach. No other factors that are commonly associated with poor perioperative outcomes were associated with early death and age was the main missing factor. Indeed, the lack of association between age and early death clashes with recent guidelines that hinge the cutoff the indication of TAVI on age and needs to be confirmed.

Reading the same data from a different perspective also brings out another message. Patients with no previous coronary artery bypass grafting or symptoms showed good perioperative outcomes despite age and other

comorbidities. The 8% early death does not differ from mortality reported in studies on VIV-TAVI, which varies between 7% and 17%, and no benefit of VIV-TAVI on surgery was highlighted in 1-year mortality.³⁻⁵ Also, early perioperative morbidities favorably compare with VIV-TAVI reports and neurologic events appear even lower than those reported in randomized studies of transcatheter aortic valve replacement versus surgical aortic valve replacement in intermediate risk populations. Hence, the less-invasive nature of VIV-TAVI should not lead to the perception of risk related to repeat surgery as high or to underestimate the risks related to VIV-TAVI procedures, such as device malpositioning and postprocedure high gradients. Moreover, treatment choice should also consider durability of the devices and physicians risk choosing in the fog as a result of unclear data.

In the transcatheter era, updated surgical valve replacement data are needed as benchmarks for transcatheter procedures to weigh the choice of the appropriate procedure on real risks and benefits and avoid judgment under uncertainty.

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