



Dialysis-Dependent Renal Failure and the Treatment of Aortic Stenosis



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Vindhyal and colleagues have given us a systematic review and meta-analysis of transcatheter aortic valve replacement (TAVR) and surgical aortic valve replacement (SAVR) outcomes in patients with dialysis-dependent renal failure [1]. The combination of symptomatic severe aortic stenosis and dialysis has long vexed surgeons. Dialysis-dependent renal failure adds substantially to the mortality and morbidity of SAVR, and this increases rapidly with age. Dialysis is associated with an increased risk of calcification of the native valve and of biologic surgical valves. Early in my career, I was taught that this should lead to the use of mechanical valves for SAVR in dialysis patients. The increasing realization of the limitation of life span in dialysis patients led to an increased use of biologic surgical valves with the thought that the patient would likely expire before the valve failed. The choice between tissue versus mechanical valves for SAVR in dialysis patients, however, is not settled, with some groups pointing to a survival advantage to mechanical valves albeit with a tradeoff of increased bleeding episodes [2].

With the recent presentation and publication of two low-risk randomized trials showing an advantage to TAVR over SAVR [3,4], the question of when to consider SAVR in the age of TAVR is of eminent importance. Studies such as this will help us form the basis for reasonable choices for our patients.

As a young surgeon, I was taught that every time I operated on a patient, three things were possible: I could make them live longer, I could make them live better, or I could hurt them. These same three outcomes apply to TAVR and must be considered in light of patient expectations. When I discuss expectations with my patients, I commonly hear that they would like to be alive, out of the hospital, and with a good quality of life. If questioned further, they will generally tell me they would like to reach this state as quickly as possible with as little pain as possible. They also want a durable outcome, but this is often something that comes up after getting better quickly and my asking about longer-term outcomes. So how does this meta-analysis play into all of this?

If the two low-risk randomized trials previously mentioned are examined closely, one will see that the advantage to TAVR is largely in

the first month and related to the safety of the procedure. After one month in both trials, the curves for mortality, stroke, and hospitalization begin to track between SAVR and TAVR. I believe this is likely to apply in dialysis-dependent patients also. In every randomized trial, quality of life for TAVR has improved substantially faster than for SAVR, and dialysis is not likely to change this. The current meta-analysis appears to support this also and gives support for considering TAVR in appropriate patients. The questions that vex me are the ends of the patient spectrum. When is a patient not likely to benefit from AVR of any kind and should be considered as cohort C? At the other end, when is a patient young enough and with enough life span, even with dialysis, that a mechanical valve should be considered? Both of these questions are difficult, and I do not have an easy answer for either. I do know that my dialysis patients are unique in that they not only have symptoms associated with their aortic stenosis, but they also have an ongoing need for a treatment, dialysis, that can intensify their distress. I salute the authors for bringing us these important data to help us make the best decisions for our patients.

References

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