

References

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INVITED COMMENTARY

The decision to implant a bioprosthetic in patients older than 65 to 70 years of age is based on the premise that the risk of anticoagulation-related complications exceeds the risk of future valve deterioration. Improvements in valve design, a more sedentary lifestyle, and limited life expectancy after surgery suggest that the risk of needing a reoperation for valve deterioration is low in the elderly.

The excellent outcomes for patients older than 70 years of age, given mechanical valves as demonstrated by Vicchio and colleagues [1], challenge this standard of care. Greater than 70% of their patients were alive at 15 years, which would have placed them at risk for reoperative valve surgery, not a trivial undertaking for patients in their late eighties. More importantly, the authors report surprisingly low rates of anticoagulation-related morbidity and suggest that this outcome is due to low variability in the international normalized ratio (INR) resulting from aggressive follow-up in an anticoagulation clinic. These data corroborate the concept that INR variability is a major determinant of outcomes after mechanical valve replacement.

Attendance at an anticoagulation clinic may provide benefits beyond just more rigorous assessment of the INR. Clinic nurses and not study coordinators were responsible for documenting adverse events related to anticoagulation, highlighting that the primary purpose of these visits was clinical and not for research. Each adverse event likely prompted interventions designed to avert more serious events (eg, discontinuing aspirin and lowering target INR in response to a minor bleeding episode). Given that patient perception of a poor quality of life is often a surrogate for noncompliance, a declining score on the SF-36 test likely triggered efforts to provide education and improve perceptions. Such intervention is likely to improve compliance with complex medical regimens such as the need to take lifelong Coumadin, thereby lowering INR variability.

Generalization of these findings to other centers is limited by unique differences in this cohort compared with other centers. Mitral valve repair is the best option for avoiding the risks of reoperation and anticoagulation, but this rate was only 40%, considerably less than other

centers. However, a disproportionate number of patients in this cohort had mitral stenosis. In addition, mortality due to myocardial infarction and low cardiac output was high and might have been improved by alternative methods of cardioprotection other than antegrade crystalloid cardioplegia as described for this cohort. The lack of a bioprosthetic valve control group is another important limitation.

Despite these caveats, it is clear that improvements in anticoagulation management will alter the age limit for when a mechanical valve is most appropriate. The rigorous follow-up of patients using the series of assessments described in this report may represent one such improvement. Antithrombotic regimens that do not require such close laboratory follow-up (eg, the combination of aspirin and clopidogrel) may further change the equation used for this decision. In light of the recent aggressive marketing from manufacturers of biological valves that emphasize the “toxicity” of Cou-

madin, it is clear that the debate regarding the ideal choice of valvular prosthesis for the elderly is likely to be ongoing for awhile.

Robert Poston, MD

*Department of Surgery
Division of Cardiac Surgery
University of Maryland
N4W94 22 S Greene St
Baltimore, MD 21201
e-mail: rposton@smail.umaryland.edu*

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