Invited Commentary
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The article by Eichinger and colleagues [1] reports their experience with 20-year longevity of the St. Jude Biocor bioprosthesis (St. Jude Medical, Inc, St. Paul, MN) in terms of the incidence of valve deterioration, thrombogenicity, endocarditis, and related health events (ie, basic information for valve substitute assessment).

These two decades of follow-up represent an era in which biological prostheses generally won the battle against mechanical substitutes. The reason for this trend in cardiosurgery is an expectation of better quality of life and lower risk of morbidity and mortality (especially in older populations) after biological prosthesis implantation.

It should not be forgotten that trends toward the use of bioprostheses in elderly patients are based on the lack of postoperative anticoagulant treatment on the one hand and on the durability of the implants, which are resistant to structural valvular deterioration (SVD), on the other. However, the price for this benefit is the higher reoperation rate, which has to be taken into account.

In the present article, the actual freedom from SVD assessed according to published guidelines for 5, 10, 15, and 20 years was 98.4 ± 0.63%, 93.1 ± 1.73%, 88.4 ± 3.53%, and 70.3 ± 10.93%, respectively, and the data represent realistic values for the biological prosthesis for today.

The risk for reoperation within 5 years after implantation of the prosthesis was significantly (p = 0.005) higher in patients up to 65 years old, which is a well-known phenomenon. The report finds a surprisingly low percentage (76.8 ± 14.1%) of overall freedom from anticoagulant-related hemorrhage. Advanced age has to be taken into account as an explanation. Evidence-based studies to assess the pathophysiology of older patients are still lacking.

The SVD rises sharply in younger patients (<65 years), as demonstrated, after 10 years, and after 15 years freedom from SVD reached 56.5 ± 15.3%, which is critically low. It should be noted as well that younger patients had a higher risk for developing prosthetic endocarditis compared with older patients (6.1 vs 1.8%, respectively; p < 0.005).

In general, reoperation is not necessarily associated with higher mortality rate when the operation is undertaken before severe valve destruction takes place, producing hemodynamic deterioration, and in larger series...
it does not exceed 6%. However, the mortality rate in older patients and those suffering from heart failure can be much higher. In this article, the authors reported high mortality (37.5%; 6 of 16) for reoperation, but the number of patients who underwent reoperation (16) is too small to make categorical statements.

As after two decades of good marriage, we know a lot about each other, but there is still plenty of room for improvement in the decades to come. The durability of the tissue valves needs to be improved, but also the older group of patients should be studied precisely before decision-making. Expectations are also that the future will bring less invasive methods of valve substitute implantation.

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Reference

Notice From the American Board of Thoracic Surgery

The 2008 Part I (written) examination will be held on Monday, December 1, 2008. It is planned that the examination will be given at multiple sites throughout the United States using an electronic format. The closing date for registration was August 1, 2008. Those wishing to be considered for examination must apply online at www.abts.org.

To be admissible to the Part II (oral) examination, a candidate must have successfully completed the Part I (written) examination.

A candidate applying for admission to the certifying examination must fulfill all the requirements of the Board in force at the time the application is received.

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