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Commentary: The potential durability of aortic valve repair in children

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Central Message: Many patients undergoing aortic valve repair during childhood may have a durable repair into adulthood.

Central Picture Legend: Richard W. Kim MD, Cedars Sinai Guerin Children’s and Smidt Heart Institute

If you were to ask me about the expected longevity of an aortic valve repair in a young child, in general, I would be fairly pessimistic about the long-term durability of the valve. Outside of the results at some excellent specialized centers, I would imagine that this operation would be a prelude to an eventual childhood Ross procedure.

While the report substantiates the substantial morbidity and over 20% mortality associated with rare neonatal repairs, Kulshrestha et al.\(^1\) challenges the assumption that this is the case for all childhood repairs. They raise the provocative question of whether valve repair in most children is better than we think it is. Understanding that there are limits to administrative data, this study suggests that with the exception of infants less than 1 year of age, the readmission rate following surgical aortic valve repair for the duration of this study (as verified by communication with the authors) was just 33-36%. For the 2303 patients who underwent aortic valve repair early in the study, a significant majority did not require an additional aortic valve intervention for at least the next 15-20 years. While there is no data on the particular techniques involved, at least 1/3 of these operations were performed for either insufficiency or a mixed lesion which argues against a simple valvotomy. Indeed, in the study overall, there was no difference in readmission regardless of age between patients with insufficiency, stenosis, or a mixed lesion. Furthermore, unlike most reports that detail the results of a single surgeon or
single institution, the authors describe the combined experience of over 5000 patients at almost 50 different institutions.

While the number of patients that would be candidates for valve repair in the neonatal time period is likely to continue to be quite low, with mortality on par with neonatal Ross procedures, staging through a Norwood type procedure may be a consideration in patients amenable to this approach despite underlying biventricular anatomy.

References
