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See Article page 368.

Commentary: This looks like a great hammer…which nails should we pound?

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CENTRAL MESSAGE

Tricuspidization appears to be a durable technique for repair of quadricuspid truncal valves in truncus arteriosus.

Naimo and colleagues from the Royal Children's Hospital in Melbourne, Australia,[1] revisit their series of truncus arteriosus patients dating back to 1979.[2,3] In this third installment, they focus on the management of patients with a quadricuspid truncal valve (TV) with particular attention to the technique of tricuspidization of the valve in the setting of significant TV regurgitation. The study population included 56 patients with quadricuspid valves who underwent repair between 1979 and 2018, 14 of whom underwent concomitant TV repair or replacement at the time of the initial truncus arteriosus repair.

The overall survival rate for the group was comparable to the Society of Thoracic Surgeons database review of truncus arteriosus patients published in 2012,[4] with operative mortality in the 10% range for those who did not require TV repair or replacement at the initial procedure. However, the patients presented in the current review had considerably better outcomes if they underwent concomitant TV repair, with 14% early mortality (2 out of 14) as opposed to a reported 30% mortality in the Society of Thoracic Surgeons database review.

The strengths of this report include the excellent illustrations showing the various repair techniques, with particular attention to the tricuspidization options, and the relatively complete follow-up of the patient population. However, the long time period required to accrue this many patients at a single institution makes it difficult to accept the statement that there were no era effects. This is clearly a problem for any long-term retrospective study, but it is particularly difficult for complex neonatal repairs given the rapid changes that have taken place over the past decades. For example, in this report the age of the patients at the time of surgery changed dramatically over the study period (age 70 days in the 1980s vs age 8 days in the most recent decade) and the fact that there were no tricuspidizations during the earliest decade makes it very difficult to determine just how important the era effects really were.

Despite these questions, it is clear that the authors' outcomes were excellent using tricuspidization in the selected patients in whom they utilized the technique. Unfortunately, the relatively small number of patients and the clear era

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effects leave some questions relatively unanswered, particularly whether TV repair should be done at the initial procedure or not, and if so, in which patients. This report certainly provides support for the inclusion of the tricuspidization technique in the armamentarium of any surgeon who does this type of surgery. For the patients at the extremes (eg, those with trivial TV regurgitation and those with severe regurgitation), there is little question as to what should be done, but for the intermediary patients ranging between mild-plus and moderate regurgitation, the answers remain less clear.

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