also size-matched donors. This can potentially shorten the wait times for heart transplant and hopefully reduce the mortality rates for patients on the wait list.

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See Article page 422.

Commentary: One size fits all, maybe

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In this issue of *Journal*, Clark and colleagues¹ examine the association between donor–recipient size matching and post-heart transplant survival among recipients with a history of congenital heart disease (CHD). Overall, the heart transplantation literature has demonstrated poorer outcomes associated with undersizing of donor allografts.² As such, there has been a trend to empirically oversize donor allografts for recipients with CHD, despite a paucity of published data examining the sequelae of donor–recipient size matching in this population. Through a retrospective analysis of the 2000–2015 United Network for Organ Sharing (UNOS) heart transplant registry, Clark and colleagues examined the association between 5 different metrics of size matching and recipient survival among 825 adult patients with CHD. Multivariable Cox proportional hazards modeling adjusted for sex mismatch, candidate pulmonary hypertension, and other factors demonstrated no significant independent association between any of the 5 metrics and recipient survival,

CENTRAL MESSAGE

Donor–recipient size matching may be less important for CHD patients undergoing heart transplant, although there are a number of important limitations to consider before modifying clinical practice.

suggesting that perhaps donor–recipient size matching is less important when transplanting patients with CHD.

When considering new evidence to potentially modify clinical practice, it is vital that we closely examine the limitations of that evidence as well as its generalizability to our patient population. As the authors point out in several locations throughout their manuscript, conclusions drawn from retrospective reviews of registry data can be significantly impacted by selection bias. In the case of this analysis, selection bias is likely multifactorial, related to both the recipients who were deemed suitable for transplant as well as the degree to which size matching influenced decisions regarding allograft acceptance. Indeed, less than 6% of all recipients studied were categorized as “undersized,” and these recipients likely

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represent a unique, highly selected cohort. It is entirely conceivable that the lack of an association observed between undersized transplants and recipient survival is a result of type II error.

A second but perhaps more important limitation of this study is the lack of granularity in the UNOS dataset specifically pertaining to patients with CHD. While the authors were able to analyze certain measures of pulmonary hypertension, including pulmonary vascular resistance, pulmonary arterial pressure, and diastolic pulmonary gradient, the cardiopulmonary anatomy of these patients can be incredibly complex, heterogeneous, and therefore not well captured by these commonly used measures. Specifically, anomalies in pulmonary arterial and venous connections as well as the burden of systemic-to-pulmonary collaterals may have important implications for donor–recipient sizing that simply cannot be elucidated in a transplant registry analysis.^{3,4}

Ultimately, Clark and colleagues performed a well-conceived UNOS registry analysis with impressive statistical rigor, focusing on an important topic that has historically not been the subject of high-quality research. While the analysis is certainly an important contribution, the extent to which it will influence clinical practice is likely limited by a mismatch between CHD patient complexity and available data granularity.

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