Commentary: Fixing broken hearts—A supply-side proposition

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Central Message

Donor hearts with transient, reversible left ventricular dysfunction can be transplanted with acceptable outcomes.

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Currently, 3784 patients await cardiac transplantation in the United States.¹ As such, the successful journey of a patient with end-stage heart failure who is listed for cardiac transplantation relies on a donor heart's becoming available before death or irreversible end-organ failure from advanced heart failure occurs. Despite the advances in mechanical circulatory support and extracorporeal membrane oxygenation, simply stated, the supply of donor hearts is grossly insufficient to meet the demand. One wonders about strategies to improve this supply-demand imbalance.

In this month's *Journal*, Oras and colleagues² investigate this problem from the perspective of the supply of donor hearts. With data from a nationally mandated donor registry from Sweden, they evaluated the outcomes of donor hearts with and without left ventricular dysfunction that were ultimately used for cardiac transplantation. Unique strengths of this study include the use of a national protocol for treatment of donors, availability of serial echocardiographic data, and reporting of both short-term (procedural) and longer-term (5-10 years posttransplantation) outcomes. Noteworthy findings include that roughly one-quarter of donor hearts had LV dysfunction; that all the recipients of donor hearts with LV dysfunction showed normalization of LV ejection fraction on the first postoperative echocardiogram; that the perioperative use of posttransplantation mechanical circulatory support and intra-aortic balloon pumps was higher (without, however, statistical significance) in recipients with donor hearts with LV dysfunction; and that both short- and longer-term survivals did not differ between recipients who received hearts with normal LV function and recipients who received hearts with LV dysfunction.

These data add to the growing experience suggesting that carefully selected donor hearts with transient LV dysfunction can be successfully transplanted.^{3,4} A note of caution must still be emphasized. This report of Oras and

colleagues² and the previously cited reports studied donor hearts with transient, reversible LV dysfunction. Most commonly, this LV dysfunction is secondary to the catecholamine release associated with brain death. Most transplantation centers will only reluctantly consider implanting a donor heart with persistent LV dysfunction.

Despite the recent uptick in the number of cardiac transplants performed in the United States during the past 2 years, a strong imbalance between donor heart supply and demand still exists. For those who still participate in "donor call," I would encourage you to not hang up the phone and automatically pass on a heart with LV dysfunction. Rather, insist on repeating another echocardiogram within 6 to 12 hours. If the function has normalized, then your patient can receive the benefits of transplantation with a good donor heart.

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