Expanding the pool of cardiac donors: Is it really possible after cardiac arrest?

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The article in this issue of the *Journal*, Galeone and colleagues¹ from Paris reports the results of heart transplants with 117 donors who had sustained resuscitated cardiac arrest. These donors had high-risk characteristics for successful transplantation, such as anoxic cause of death and elevated peak troponin T levels, although they were younger (44 years) at procurement than were the usual non-arrested donors and had a normal left ventricular ejection fraction. Immediate results after transplant, 30-day mortality, and the incidence of primary graft failure were similar between recipients of donors who had sustained resuscitated cardiac arrest and those who had not. A possible conclusion from this experience could be to expand criteria for donor selection and increase the pool of cardiac donors.

Before doing so, we should first look more closely at the clinical results. Extracorporeal membrane oxygenation for primary graft dysfunction was used in 30% of overall recipients in both groups, dialysis for acute renal failure was used in 29%, and the 30-day overall mortality after transplant was 16%. These results could be acceptable only for high-risk recipients. Moreover, Galeone and colleagues¹ reported better 5- and 10-year survivals for transplant recipients with a resuscitated arrested donor heart. This finding is difficult to explain other than that resuscitated arrested heart donors were younger at procurement than were other donors and had a preserved left ventricular ejection fraction.

If a short period of cardiac arrest does not negatively affect recipients' outcomes, at least for high-risk candidates, the next step to expand the pool of organ donors could be to perform heart transplants from non-heart beating donors or from donors who died of cardiocirculatory causes (donation after cardiac death) as opposed to only those with the usual declaration of brain death. Although the use of hearts from donors who died of cardiocirculatory causes has already been reported,² the practice has not

Cold preservation and transportation of a human donor heart.

Central Message

The pool of cardiac donors can be expanded by using resuscitated arrested hearts.

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been generalized, nor is it commonly performed in most countries.³

Galeone and colleagues¹ have clearly shown that young donors with a history of resuscitated cardiac arrest of short duration, from anoxia at the initial event, and with normal left ventricular ejection fraction at the time of procurement could be used with caution for high-risk recipients. In the current era of donor organ shortage, especially for heart transplants, the transplant community will have to reflect on expanding the donor pool in reassessing the potential use of hearts from patients donating through the donation after cardiac death process. Technical, ethical, and legal aspects will need to be resolved. This may take years, but the legislation regarding the rights related to end of life care and to organ donation is rapidly evolving in many countries.

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