Commentary: Normothermic regional perfusion: Ethical issues in thoracic organ donation: An important discussion, but stop the press!

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In this edition of the Journal, Entwistle and colleagues\(^1\) discuss the ethical issues involved in using normothermic regional perfusion (NRP) for thoracic organ donation. This manuscript represents the position of the Cardiothoracic Ethics Forum. It presents a timely and comprehensive overview of the relevant ethical issues. In this report, the authors provide sufficient background to understand why this ethical discussion is so relevant. They review the significance of access to organs via controlled donation after circulatory death (cDCD) protocols and discuss the technical aspects of the 2 most common approaches for procuring cDCD hearts for transplantation in the United States: direct procurement and perfusion and thoracoabdominal (TA)-NRP. The authors also discuss the dead donor rule and its distinction from the legal definitions of death. Interestingly, they have chosen to make 8 recommendations at the end of this review. In our opinion, most would agree with the first 6 recommendations, as they represent relatively well-established standards that should be followed. The seventh and eighth recommendations warrant further discussion. We will begin with the latter.

The eighth recommendation requires an assessment of perfusion to the brain stem while using TA-NRP and a determination of its effect on brain function. The premise of this recommendation is centered on the concept of the “unifying concept of death,” stating that if there is no blood perfusion to the entire brain, then there will be complete loss of neurologic function, regardless of the circulation to the rest of the body. Based on this premise, the recommendation is that NRP efforts have to be directed to prove that all blood flow to the brain is absent, specifically collateral flow that is occurring at different levels of the thoracic aorta. For the sake of discussion, assume that after the standard techniques are deployed and ligation of the cerebral vasculature has been performed that there is some residual collateral perfusion that can reach the brain stem. How, in that donor, would one determine the effect of that flow on brain function? Moreover, what would be the purported significance? In fact, one can effectively argue that even in brain-dead donors, all neuronal activity or rather all brain function has not necessarily ceased, which is conflict with one of the legal definitions of death.\(^2\)

Our position, also articulated previously, is based on 2 fundamental principles.\(^3\) The first is related to the definition of circulatory death itself. The patient’s family has made the decision to donate organs and that patient, according to local guidelines and standards, has life support withdrawn to allow for circulatory death. Acceptance of the finality and permanence of that death is the goal of withdrawal of life support. Futility of ongoing care or resuscitative efforts have already been established before any discussions related to organ donation. Physicians make the decision that a patient is dead by accepting the permanence clause every day; otherwise, one could argue that no death is

CENTRAL MESSAGE

Heart procurement by normothermic regional perfusion is ethically acceptable and does not require a research protocol that includes assessment of perfusion to the brain stem.
irreversible and we should never stop resuscitation. Contrary to the author’s presumption, ligation of the major cerebral vessels is not intended to replace circulatory death with brain death. As argued previously, the patient is already legally dead and any process thereafter is irrelevant, as death has already occurred. Thus, one may argue that the purpose of interrupting the re-establishment of major blood flow to the brain is exactly in line with the author’s view of the principle of double effect. The purpose is to respect patient’s autonomy, relieve any potential suffering, and follow the guiding principles of nonmaleficence as the process of brain death that has already started continues.

Finally, as concerning as the eighth recommendation is, the seventh may be even more unusual. The Ethics Forum appears to have taken the position that direct procurement and perfusion is the preferred method of heart procurement in cDCD. To take this position without at least noting the potential advantages that are inherent in TA-NRP (lower primary graft dysfunction rate, fewer organ discards, ability to procure lungs, improved preservation of abdominal organs) is concerning to us and should be to others. A discussion about the ethics of TA-NRP is incredibly important, and we need to have it. Hopefully that can happen before it’s too late to stop the presses.

The fundamental problem with this view is that it forces an outdated definition of death to make the practice of NRP appear “ethically acceptable,” whereas in our view, the current practice of NRP is already ethically acceptable. We do not support these recommendations and sincerely hope they will be revisited before they are accepted or adopted by our society leadership. A discussion about the ethics of TA-NRP is incredibly important, and we need to have it. Hopefully that can happen before it’s too late to stop the presses.

References

Commentary

Commentary: At least we still have taxes

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The traditional certainty of death was first upended in the 1970s with the concept of brain death. While organ donation was predicated on the certainty of donor demise and the hope of using the otherwise-viable organs, the reality of what that actually looks like has been and may always be difficult. The first heart donors were patients who died: hearts stopped and then a rapid recovery of organs performed—sometimes with cardiopulmonary bypass. By the 1980s, brain-dead donors could have their organs recovered despite a beating heart. In this century, a potential pool of donation after circulatory death (DCD) donors resurfaced to meet the relentless