Consequences of the Dead Donor Rule

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A discussion of the Dead Donor Rule (DDR) was presented at the 49th Annual Meeting of the Society of Thoracic Surgeons in 2013. Before Dr Franklin Miller’s paper [1], the following case was presented.

The Case of the Rejected Heart Donor
Terry Sklavin is 49 years old and was a successful investment banker before he sustained a severe head injury in an automobile accident. A week after the accident, the patient is ventilator dependent in the intensive care unit. Dr P.V. Staat, the consulting neurologist, determines that only minimal brainstem function is present and estimates that Mr Sklavin’s chance of recovery is negligible. The patient’s wife has produced her husband’s living will and durable power of attorney for health care; she is his health care agent. Both documents specify that if he were ever in an incapacitated condition from which he is unlikely to recover substantially, he does not want to be kept alive but wants to donate any organs that are medically suitable for transplantation. His handwritten instruction emphasizes that his heart especially should be used if at all possible.

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The patient and his wife have had several conversations about end-of-life preferences, and she says that he felt very strongly about his clearly documented wishes. Dr Staat informed her that organ donation might be feasible under the hospital’s donation after cardiac death (DCD) protocol, but even if DCD were successful, it is highly unlikely that the heart could be used. Mrs Sklavin says that her husband is as good as dead, will die soon, and cannot understand why all of his medically suitable organs will not be used, particularly why his heart will most likely be buried with him. She wants his heart and other organs to be recovered while they are still in good condition for transplantation.

Dr Staat explains that the DDR does not permit recovery of organs until the patient has been declared dead after withdrawal of life support. He is aware of recent challenges to the current concepts of death and organ donation and wonders whether it is time to replace the dead donor rule with one that permits donation by persons who are not dead but are facing inevitable imminent death.

Commentary
A person who has irreversibly lost function of the entire brain, including the brain stem, is dead. The concept of brain death seems simple enough, but there is a great deal of confusion about it. For example, 2 of 3 persons think that someone who is brain dead is not legally dead, and more than half think that a patient in a coma is brain dead [2]. Both beliefs are wrong. Because of such misunderstandings, controversy has been ongoing for many years about the relation between declaration of death and organ donation.

As the field of organ transplantation grew, demand mounted for increasing numbers of organs, especially from the recently deceased, producing a paradox: “the need for both a living body and a dead donor”[3]. To resolve this paradox, the Uniform Determination of Death Act (UDDA) was promulgated in 1981 and was subsequently adopted by all the states:

An individual who has sustained either (1) irreversible cessation of circulatory and respiratory functions or (2) irreversible cessation of all functions of the entire brain, including the brain stem, is dead. A determination of death must be made in accordance with accepted medical standards.

Although death is unitary, the law allows its determination in 2 different ways. Legally, an individual who is brain dead and is warm and pink with intact circulation and ventilation is just as dead as a cadaver that has turned cold and stiff after permanent circulatory arrest.

The DDR lies at the heart of current organ procurement policy [4]. It is not a legal statute; rather, it reflects the widely held belief that it is wrong to kill one person to save the life of another. On those grounds, an organ donor must already be dead before vital organs are removed. The DDR is therefore an ethical norm: Vital organs may be removed only after the organ donor is dead. The UDDA assures patients, families, physicians, and other health professionals that a patient who is brain dead is in fact dead, so the combination with the DDR makes removal of organs for lifesaving transplantation legally and ethically acceptable.

Brain death under the UDDA undoubtedly increased the supply of organs for transplantation, but the demand has grown much faster than the supply. Because of the growing waiting list and annual deaths, there has been increasing emphasis on donation after cardiac death
(DCD) over the past 20 years. A protocol for DCD allows organ donation by patients who are near death and are ventilator dependent but will not progress to brain death [5]. After a valid decision is made to discontinue life support, the option of organ donation may be offered. If the patient expressed a wish to be a donor or if the family agrees to donation, DCD may be carried out. The patient is brought to the operating room, the ventilator is removed so that ventilation stops, circulation stops within 60 minutes, and when there has been no circulation for 2 to 5 minutes, the patient is pronounced dead and organs are rapidly removed. Kidneys and liver can often be used for transplantation, but because of the ischemic time, the heart is seldom transplanted. If circulation does not stop within 60 minutes, the organs are deemed to be too damaged for transplantation, and the patient dies without donating organs.

A problem that arises from the DDR is that it may frustrate the express wishes of an individual to be an organ donor. An example is Terry Sklavin, the patient in our scenario. He wants to donate his heart as well as other organs, but he cannot because of the DDR. He is near death and will certainly be dead very soon. The DCD protocol requires up to 60 minutes of diminishing circulation, several minutes of no circulation, and the additional time it takes to open the body cavities, administer tissue preservation fluids, and remove the organs. This extended period of ischemia means that his heart will almost certainly not be used for transplantation, although his kidneys and liver probably will be used because they are less sensitive to ischemic damage than is the heart. In cases in which the time requirements are not met, all organs are lost.

Although the DDR is well established in transplantation policy and practice, it has been challenged in recent years as an unnecessary fiction that results in lost lives [6–8]. According to this position, without the DDR, Mr Sklavin’s heart as well as other organs could have been donated without violating basic ethical and legal principles, as Dr Miller explains in the accompanying article [1].

References