The Dead Donor Rule - Should It Be Abandoned?
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Disclosures:
• No relationships with commercial interests
• No financial conflict of interests

In the interest of full disclosure:
• Practicing anesthesiologist - Involved in transplant surgery throughout career including: Kidney, Pancreas, Heart, Liver, and Organ harvests
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Objectives:
At the conclusion of this educational activity the participants will be able to:
1. Identify what is meant by the term “Dead Donor Rule” in respect to solid organ transplantation.
2. Identify the historical perspective of need for this rule.
3. Discuss the controversies engendered, and the ethical ramifications and ambiguities posed by the current understanding of death, donation, and end of life care.
4. Utilize this information as a basis for forming opinions about the continued relevance of this rule

Dead Donor Rule:
• Other than live donor transplants, organs for transplantation can not be removed from the donor prior to declaration of death
• Removal of organs cannot be the mechanism of death for the organ donor.

Basis of the Dead Donor Rule
1. Medical Tradition
   a. Physicians avoid doing harm
   b. Physicians may not cause death
2. Law
   a. Intentionally causing death is homicide
   b. Uniform anatomical gift act definitions – an anatomical gift takes place after a donor is declared dead
3. Professional Ethics and tort Law
   a. Patient’s best interest is paramount concern
   b. All other concerns (potential organ recipients) are secondary

Common Pitfalls to avoid:
• Fallacious arguments – cherry picking, straw man, circular reasoning, etc.
• Mixing medical arguments with legal definitions and ideas
• Confusing the signs of a condition or a prognosis with the diagnosis of the condition

Methods of diagnosing death:
1. Somatic
   a. Obvious
   b. First responders and pathologists / coroners
2. Neurologic
   a. Harvard criteria for irreversible coma
   b. “Physiologic decapitation” - Tendler
   c. Widely accepted but has some critics
   d. For purpose of this discussion will be accepted a priori
3. Cardio-respiratory
   a. Traditional method of determining death
   b. Controversy arises in donation after cardiac death (DCD)

Definition of Death – Time Line
Dawn of Time – Death noted no language to describe it
~ 1780 – 1770 BC - Code of Hammurabi
? 16th Century BC - Old Testament
5th Century BC – Hippocrates
1135 – 1204 – Maimonides
16th Century AD – Harvey, et al Describe circulation
~1600 – Shakespeare writes Hamlet
1740 – Jean-Jacques Winslow states putrefaction only reliable sign of death
1754 – Benjamin Pugh’s Air Pipe
1799 – George Washington dies
1816 – Rene Laennec invents the stethoscope
1847 – Primum Non Nocere appears in print
1857 – Egbert Guernsey advocates Rigor Mortis as diagnostic of death
1893 – The safe coffin is invented
1893 – Einthoven coins phrase electrocardiogram
1896 – Tebb and Vollum write Premature Burial
20th century – embalming becomes common in western countries
1926 – Brukhonenko invents heart lung machine
1929 – Iron Lung invented
Post WWII – Positive pressure Ventilators
1950 – first Kidney transplant (cadaveric donor)
1951 – First cardiotomy with Cardiopulmonary Bypass (CPB)
1952 – Dodrill GMR artificial heart
1953 – First successful Surgery with CPB
1954 – First Kidney transplant (live donor)
1957 – Pope Pius XII addresses world congress of anesthesiologists
1965 – Extra Corporeal Membrane Oxygenator (ECMO)
1967 – First heart transplant
1968 – Harvard criteria for irreversible coma
1968 – Uniform Anatomical Gift Act (UAGA)
1969 – First artificial heart implanted in chest
1981 – Presidents commission on defining Death
1982 – Barney Clark lives 112 days with Jarvik artificial heart
1990s – Resurgence of donation after cardiac death
1993 – Pittsburg protocol
2006 – latest revision of UAGA

Definition of Death
The medical definition of death must be consistent with death as commonly understood
1. Credibility of physicians
2. Communication – informed consent, etc.
3. Places limits on medical definition
The common understanding of death is that of a singular, irreversible, and terminal event.
For medical definition of death to be commonly understood:
1. Death must be singular
   a. Only one to a customer
   b. Death determined by one criteria can not be followed by a second death determined by other means
c. Therefore all methods of determining death must be consistent

2. Death must be irreversible and terminal
   a. No one returns from death
   b. Revival after diagnosis of death indicative of a misdiagnosis, not resurrection
   c. Consciousness must not continue after death

3. Death must be an event
   a. Death is a qualitative change not a process
   b. No degrees of death – either dead or alive
   c. Occurs at a discrete time - legal implications
   d. Diagnosis of death may be uncertain except in retrospect

Consistency of Neurologic and cardio-respiratory death:
Death by neurologic criteria can be determined in the presence of continuing cardiac function and circulation. Cardiac function and circulation is absent during deep hypothermic circulatory arrest but not indicative of death. Therefore absence of circulation and cardiac function are (in the appropriate circumstances) signs of, but not necessary or universal diagnostic criteria for death. If both neurologic and cardio-respiratory methods of diagnosing death are to be consistent, irreversible coma must be required in both instances. Absence of circulation can only be a useful diagnostic sign if it continues long enough to guarantee irreversible coma. In the usual instance of determining death, since the instant at which irreversible loss of neurologic function cannot be accurately, easily, and readily measured, the time listed for death is the time at which restoration of circulation and respiration is no longer possible or contemplated. The eventual irreversible coma is taken as a fait accompli. The same cannot be stated if restoration of circulation is contemplated.

DCD and Death:
Present DCD protocols do not allow enough time after cardiac standstill to guarantee irreversible coma if circulation is restored. Some protocols even institute CPR or CPB to restore the circulation - the loss of which was used as criteria to determine death. These protocols may include provisions to exclude the cerebral circulation before reinstating circulation. This is deemed necessary because of the possible reappearance of neurologic function. The consequences of ineffective exclusion of the cerebral circulation can easily be imagined. The donors in these instances cannot unequivocally be said to meet the common idea of death. For that reason, neither should they be considered to meet the medical definition.

Applicable but inappropriate questions:
- Should we abandon the dead donor rule?
- Have we abandoned the dead donor rule?
- Should we have abandoned the dead donor rule?

Why are the questions inappropriate?
While any patient still lives a physician’s concern must be solely for the needs of that patient, not the needs of potential recipients of that patient’s organs. The concern is for the patient’s end of life care, not for his potential as an organ donor.

The appropriate question:
Are euthanasia and/or assisted suicide by terminal organ donation acceptable options for end of life care?
- Discussion is beyond the scope of this lecture
- If answered in the affirmative a multitude of other questions arise including:
  - Is it ethical for physicians to allow minor bureaucratic functionaries at the Bureau of Motor Vehicles to obtain consent for end of life care?
  - Is it ethical for a physician to support legal action to override the wishes of the next of kin if a checked box on a license application is the only evidence of the desire to donate?
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