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CRITICAL COMMENTARY

Re-Examining the Origin and Application of Determination of Death by Neurological Criteria (DDNC)

A Commentary on "The Case for Reasonable Accommodation of Conscientious Objections to Declarations of Brain Death" by L. Syd M. Johnson

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I read Dr. Johnson's article on "Reasonable Accommodation of Conscientious Objections to Declarations of Brain Death" (Johnson 2016), and her argument in favour of this seemed initially quite acceptable. But on further thought, not unsurprisingly, difficulties with this acceptance arose when the question was how much accommodation. It seems that Dr. Johnson bases some of her argument on a literature that criticizes the concept of the determination of death by neurological criteria (DDNC). This determination has only a few critics who make the argument that there is no justification for the doctrine and the reasoning on which it is based is incoherent. As in many bioethical arguments, the criticism concentrates on the use and meaning of words such as death, brain death, whole brain death, total brain failure, personhood, and so on, and it is alleged that there is inadequate reasoning to support the arguments justifying the concept. It is easy to get lost in the mire of this debate, and to avoid this one needs to step back and remember the origin of DDNC. This came about because artificial ventilation and intensive care allowed the continuing function of major organ systems after the brain has suffered an insult such that there is irreversible loss of consciousness and brain stem function, including spontaneous respiration. This was a condition that was described as beyond coma (Machado et al. 2007). The validity of this condition rests on its irreversibility. Although there are many reports of artificial support of the biological functioning of non-brain systems continuing for prolonged periods, there has never been a case in in which there is any recovery of consciousness or spontaneous respiration, provided DDNC was carried out in an appropriate manner.

It should also be made clear that there are not two forms of death. Rather, there are two means of determining death. DDNC is widely accepted and practised and enshrined in law by all fifty states in the United States and all industrialized nations except China (Yang et al. 2015). There is also broad acceptance within the three major religions. Only a minority disputes or argues against the concept (and this includes a small section of Orthodox Judaism) (Yang and Miller 2015). I am not trying to deduce what ought to be from what is in a Humean sense, but rather that DDNC is a valid condition that is justifiable. Still, there are those who disagree, and it is clear that relying just on cardiorespiratory criteria for death does satisfy their religious or moral beliefs, or even "just the evidence of their eyes." Because of this, Dr. Johnson recommends the universal

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adoption of reasonable accommodation policies found in New York, California, and New Jersey. In the first two states, the policies do not allow for a denial of DDNC and a family cannot choose how death is determined.[1] This occurs only in New Jersey. It is clearly reasonable to allow a limited time for an acceptance of DDNC for compassionate reasons, and there should be recognition of plurality and diversity. But there are limits to this. I do not view this as a matter of reasonable pluralism in which we cannot see a boundary that could be agreed upon by most within our culture and social system. Pluralism is necessary in a modern democratic society, but it has its limits, and we define those limits usually by cultural, political, and social consensus. It is clearly in the public interest to have a uniform standard for the determination of death. This is recognized as either a cardiorespiratory standard or a neurological standard that is based on irreversibility given a specific and certain set of circumstances (Olick and Braun 2009).

Reasonable accommodation should not mean that a widely accepted determination of death can be denied. The declaration of death can be put on hold for compassionate reasons to allow time for acceptance and time for the family to gather, and in my experience this is not an uncommon experience in intensive care units. However, the family can create a climate that might convince the health professionals involved to continue support, as in the Jahi McMath case (Johnson 2016). It is not clear that this continued support should include full intensive care with pharmacological support, and some may argue that nutrition and hydration are not mandatory, although they are unlikely to be withdrawn (Smith and Flamm 2011). If an impasse is reached, it should not be the responsibility of the hospital or an insurance company to cover the costs. This may sound coercive, but if DDNC is to stand, as most appear to want, then the continuing sustenance of organ systems once death has been declared is not mandatory. This is an artificially and technologically supported biological life. Perhaps some prearranged payment to insurance companies to cover such circumstances might be a possibility, but it is unlikely. Dr. Johnson argues that continuing this artificially maintained biological life would entail minimal cost and disruption. However, the website of the U.S. Government Information on Organ and Tissue Donation and Transplantation states that 1 per cent to 2 per cent of all deaths are brain deaths (U.S. Department of Health and Human Services n.d.). The total deaths for the year 2013, in the United States, from the latest Centers for Disease Control and Prevention figures were 2,596,993 (CDC 2015). Of course, it is difficult to know what the number of demands would be to maintain an artificially supported biological life, but if the option is freely available and particularly if publicity threatened the very necessary faith and trust in the medical profession, then the cost and disruption would not be minimal. It would be inappropriate and unjust to fill intensive care beds for these cases.

Arguments concerning DDNC (Yang et al. 2015) include whether this is a real pathophysiological state or an artificial construct; the role of the brain in defining life biologically and philosophically; whether it is true that brain death is equivalent to the end of life; the justice of failing to provide appropriate care or avoiding inappropriate medical care; and the social utility of providing organs for transplant. It is true that ventilated individuals who are determined to have irreversible brain failure, such that death may be declared according to agreed-upon rigorous criteria (Wijdicks et al. 2010), do not appear dead to the typical person, who sees a warm body that is (mechanically) breathing and has a beating heart. But these individuals have suffered an irreversible philosophical and social death that is beyond coma, and the biological life that is maintained would rapidly cease if artificial ventilation was removed. This state is not the same as a persistent vegetative state (PVS), in which individuals are awake but not aware and who demonstrate brain stem function. In these individuals, a social and philosophical death also has occurred, but there is sometimes difficulty recognizing whether there is a minimal conscious state (Fins 2015). This has never been seen or reliably reported in those determined to be dead by neurological criteria but who have continued to be ventilated. Although PVS may be viewed as a higher brain death, it would be unacceptable culturally to bury such individuals with beating hearts and spontaneous respiration. Some similarly argue strongly against the concept of DDNC, calling it a socio-medical-legal contrivance (Nair-Collins 2010, 2015). But the general view is that DDNC is

[1] New York and California have in their statutes that hospitals should allow for a reasonable accommodation if there are difficulties surrounding the declaration of death following a determination of death by neurological criteria and that the accommodation would be to continue organ support to allow time for acceptance and the gathering of families. The details and limits of this accommodation are left to the hospitals to determine.

ethically justifiable, operationally useful, and not intuitively offensive (Gardiner et al. 2012).

The technological support of an individual who has had death determined by neurological criteria is not life support for a living person. Irreversible brain failure has occurred such that no matter what time is expended on artificial organ support, consciousness and spontaneous ventilation will never return, although there may be some remnant of cellular brain function such as ineffectual cellular electrical activity and perhaps hypothalamic function. This biological functioning does not alter the fact that what most of us recognize as life is absent and will not return. Dr. Johnson argues that the individual in a PVS who is quadriplegic from a high cervical lesion, and thus does not have spontaneous respiration or consciousness, also fulfils the criteria for death. This is incorrect, as brain stem function is present. For this individual to be declared dead, the criteria for DDNC would need to be changed.

The goods that follow a DDNC include that medically ineffective treatment can be removed; families and the state can set in motion those processes that occur following death; the social arrangements surrounding death may start and grieving and acceptance can occur; families can return to their lives and to their occupations that may have been interrupted; and there is an opportunity for organ donation. The harms that occur if DDNC is denied include an affront to the dignity and respect for the dead, given that the dead do have this quasi-right; the infliction of moral distress on others, and in particular health professionals, who find continuing support morally offensive in this situation; an obstruction to a return to normality for family and friends and an interference with the grieving process; a continuing financial and emotional burden; and the possible denial of resources to others. Until it can be shown via correctly ascertained findings that determination of death by neurological criteria is not irreversible, then DDNC means that the self has gone and will never return.

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