Organ donation: The inconvenient truth

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Ever since organ donation after a declaration of "cardiac death" was first practised in the Ottawa Hospital in June 2006, Canadians have been subjected to an incessant drumbeat of rhetorical manipulation in the media in favour of organ donation. The following commentary is offered in order to inform the public about the truth in regard to both the moral principles and scientific facts pertaining to both the donation and harvesting of human organs for transplantation purposes. Many physicians have serious and well-considered concerns about the morality of human organ transplantation and about the fact that the general public has not been properly informed about what **really** *happens when organs are retrieved.*

Editor: *In July 2007, Britain's Chief Medical Officer repeated an earlier proposal to make a patient's consent for donating organs a* ***presumed*** *consent, in order to overcome a backlog of requests for organs. All patients, therefore, are counted as organ donors* ***unless*** *they specifically opt out. In Ontario, three legislators recently introduced private member's bills with similar provisions. Under this regime, organ donations become mandatory - an extremely dangerous development. The following essay explains why.*

Pope John Paul II, addressing the 18th International Congress of the Transplantation Society on August 29, 2000, stated that, "**Vital organs which occur singly** in the body can be removed only after death; that is, from the body of someone who is certainly dead ... the death of a person is a single event consisting in the total disintegration of that unity and integrated whole that is the personal self ... The death of a person is an event which **no scientific technique or empirical method can identify directly** ... the 'criteria' for ascertaining death used by medicine today should not be understood as the technical scientific determination of that **exact moment** of a person's death, but as a scientifically secure means of **identifying the biological signs that a person has died.**" He further stated that "the criterion adopted in more recent times for ascertaining the fact of death - namely the **complete** and **irreversible** cessation of all brain activity - if rigorously applied, does not seem to conflict with the essential elements of a sound anthropology."[1] This was only a superficially apparent endorsement.

Alan Shewmon, vice-chair of neurology at the University of California, has stated that any attempt to define the unity of the "organism as a whole" versus multiplicity, a collection of organs and tissues, is, in theory, translatable from the philosophical to the physical domain. But he suspects that any attempt to operationally define "organism as a whole" with the goal of enabling unequivocal, non-arbitrary, dichotomous, categorization of all cases, is an exercise in futility. Shewmon also states "healthy living organisms are obviously integrated unities, that decomposing corpses are obviously not unities and that there is a fuzzy area in between that is intrinsically undecidable.[2]

Church re-opens debate

The arguments of some that complete cessation of brain activity was not equivalent to death was apparently enough to persuade Pope John Paul II to re-open the debate five years later. Just months before his death in April, 2005, he asked the Pontifical Academy for the Sciences to restudy the signs of death and get scientific verification that those signs were still valid.

Also, Pope Benedict XVI has asked that this debate be revived. On September 14, 2006, Bishop Sanchez, chancellor of the Academy, stated that the Academy had reaffirmed that brain death was equivalent to the death of a person. The debate is not over, however. Dr. Alan Shewmon, a participant in the Vatican study in 2006, has stated that brain death alone "results in a terminally ill patient, deeply comatose, but not a dead person." Bishop Sanchez said that he will have "to wait and see from the Vatican."

In his message on the World Day of the Sick, February 4, 2003, Pope John Paul II said, "It is never licit to kill one human being in order to save another." *The Catechism of the Catholic Church* states (paragraph 2296): "It is morally inadmissible directly to bring about the disabling mutilation or death of a human being, even in order to delay the death of other persons.[3]

Methods of organ retrieval

Today, organs are retrieved under four different sets of circumstances.

- From a living donor; for example, a single kidney or part of a liver. This presents no moral problem, provided there is properly informed consent and there is no major risk to the life or health of the donor
- From a person who is declared dead using the older criteria of loss of respiration and cardiac function along with *rigor mortis*. Tissues such as bone marrow, corneas, heart valves and skin may be removed. This procedure is morally acceptable
- After the patient has been declared "brain dead"
- After the patient has been declared to have suffered "cardiac death." The moral status of both "brain death" and "cardiac death" is questionable

Theory and practice

Organs are obtained from an unconscious patient after he or she has been called "brain dead" using clinical and technologically acquired information, regarded as diagnostic. The public in general is not aware of the following serious criticisms of this kind of organ harvesting. The theory of brain death is highly controversial and can be used for utilitarian purposes.[4] The Pontifical Academy of Sciences declared brain death to be "the true criterion for death" in 1985 and again in 1989. However, in February of 2005, Pope John Paul II called for more precise means of establishing that the donor is dead before vital organs are removed. Organ transplants, he continued, are acceptable only when they are conducted in a manner "so as to guarantee respect for life and for the human person."[5]

The concept that whole brain death (irreversible loss of function of the cerebrum, cerebellum and brain stem) means the loss of integrated organic unity in a human being has been subjected to a powerful critique by neurologist Alan Shewmon.[6] Some physicians question whether we can be sure the entire brain is really dead in patients declared dead in the U.S. by "whole brain," or in the U.K. by "brain stem," criteria.[7] Neurological criteria are not sufficient for declaration of death when an intact cardio-respiratory system is functioning. These criteria test for the absence of some specific brain reflexes. Functions of the brain that are not considered are temperature control, blood pressure, cardiac rate and salt and water balance. When a patient is declared brain dead, these functions are not only still present, but also frequently active.

There is no consensus on diagnostic criteria for brain death. They are the subject of intense international debate. Various sets of neurological criteria for the diagnosis of brain death are used. A person could be diagnosed as brain dead if one set is used and not be diagnosed as brain dead if another is used.[8,9,10,11]

A diagnosis of death by neurological criteria is theory, not scientific fact. Also, irreversibility of neurological function is a prognosis, not a medically observable fact. There is also evidence of poor compliance with accepted guidelines of brain death.[12]

Utilitarian rationale

Brain death can be used for purely utilitarian purposes. In 2005, Dr. Robert Spaemann, a former philosopher at the University of Munich, told the Pontifical Academy of Sciences that the brain death approach to defining death reflects a new set of priorities. It was no longer the interest of the dying to avoid being declared "dead" prematurely, but the community's interest in declaring a dying person dead as soon as possible.

Two reasons are given: 1) guaranteeing legal immunity for discontinuing life-prolonging measures that would constitute a financial and personal burden for family members and society alike, and 2) collecting vital organs for the purpose of saving the lives of other human beings by transplantation.[13]

The goal is to move to a society where people see organ donation as **a social responsibility** and where donating organs would be accepted as a normal part of dying. In cases where a person chose to withhold

recording a specific choice about donating his or her organs, the surviving family members would agree to donation.[14] In the U.S., federal regulations require institutions to contact local organ procurement organizations concerning death, or impending death, to insure that the family will be approached at the appropriate time by a professional skilled in presenting the proposal of organ donation.

Vatican Debate

Bishop Fabian Bruskewitz of Lincoln, Nebraska told the Pontifical Academy at its 2005 meeting that "no respectable, learned and accepted moral Catholic theologian has said that the words of Jesus regarding laying down one's life for one's friends (*John* 15:13) is a command or even a licence for suicidal consent for the benefit of another's continuation of earthly life." The bishop then observed that current technology enables doctors to monitor brain activity "in the outer one or two centimetres of the brain." He asked, "Do we have, then, moral certitude in any way that can be called apodictic, regarding even the existence, much less the cessation, of brain activity?"[15]

In 2006, the Pontifical Academy published a statement titled*, "Why the concept of brain death is valid as a definition of death*." Breaking protocol, several participants in a 2005 Vatican-sponsored conference on the ethics of declaring someone brain dead have published the papers they delivered at the debate. The publication of those papers, which the Vatican had decided not to publish, is evidence of strong feelings about brain death by a minority of members of the Pontifical Academy for Life. Roberto De Mattei, vice-president of the National Research Council of Italy, told *Catholic News Service* on April 20, 2007 that, "The concern of many is that the Vatican has not taken the appropriate position when doubts exist about the end of human life ... The moment of separation of the soul from the body is shrouded in mystery, just as the moment when a soul enters a person is.

Harvard's oxymoron

The 1968 Harvard Ad Hoc Committee for Irreversible Coma published criteria that held that any organ that no longer functions, or has the possibility of functioning again, is, for all practical purposes, *if not in reality,* dead. They then described the criteria for the diagnosis of irreversible coma and its concomitantly permanent non-functioning brain. They equated the state of coma with brain death and then declared the patient brain-dead. They implied that brain death should be regarded as death, because it inevitably leads to death and that the person in irreversible coma is, for all practical purposes*, if not in reality*, dead. Untold semantic confusion has followed this oxymoronic notion.[16]

The deadly apnea test

Every set of criteria for "brain death" includes an apnea test, considered the most important step in the diagnosis of brain death. The ventilator is discontinued. "Apnea" is the absence of breathing. The only purpose of this test is to determine if the patient is unable to breathe on his or her own, in order to declare "brain death." It aggravates the patient's condition and is commonly done without the knowledge or consent of family members. The ventilator is turned off for up to 10 minutes, carbon dioxide increases in the blood and the blood pressure may drop, indicating that cardiac arrest has occurred. The test significantly impairs the possibility of recovery and can lead to the death of the patient through a heart attack or irreversible brain damage. Dr. Yoshio Watenabe, a cardiologist from Natoya, Japan, stated that if patients were not subjected to the apnea test, they could have a 60 per cent chance of recovery to normal life if treated with timely therapeutic hypothermia (cooling). Note the similarity to cardiac death, later described.[17]

Some form of anesthesia is needed to prevent the donor from moving during removal of the organs. The donor's blood pressure may rise during surgical removal. Similar changes take place during ordinary surgical procedures only if the depth of anesthesia is inadequate. Body movement and a rise in blood pressure are due to the skin incision and surgical procedure if the donor is not anesthetized. Is it not reasonable to consider that the donor may feel pain? In some cases, drugs to paralyze muscle contraction are given to prevent the donor from moving during removal of the organs. Yet, sometimes no anesthesia is administered to the donor. Movement by the donor is distressing to doctors and nurses. Perhaps this is another reason why anesthesia and drugs to paralyze the muscles are usually given.

Organ harvesting after 'cardiac death'

Brain death has been used as a means for the moral validation of the retrieval of human organs for transplant since the late 1960s, and "brain dead" patients have been the main source of organs over the years ever since. However, demand for organs has increasingly exceeded supply. In 1993, a new way for categorizing patients as "dead" was conceived. According to a protocol developed at the University of Pittsburgh, a patient could be declared dead, even though not "brain dead," if he or she was declared to have suffered "irreversible loss of circulatory and respiratory function." The Institute of Medicine found that in so-called "controlled non-heartbeating donation," a typical patient would be five to 55 years old, would have suffered a severe head injury, would not be brain dead, would not be a drug user or HIV-positive and would be free from cancer or sepsis. This patient would frequently be unconscious as a result of a car crash.

Typically, the patient would be in an emergency department, in coma, and on a ventilator. If the physician decided that treatment was futile, he asked the relatives' permission to withdraw ventilation and then for their permission to remove organs, if the patient's heart had stopped beating. Ventilation was then withdrawn. If the heart stopped beating within an hour, the surgeon waited two to five minutes before taking out the organs. If the heart had not stopped beating within an hour, the patient would be returned to a hospital bed to die without any further treatment. Note that the patient's physician has a conflict of interest. The longer he waits, the less suitable the organs are for transplant due to damage from lack of oxygenation. The sooner the doctor declares treatment futile, the less chance the patient has of spontaneous recovery.[18]

These procedures are performed despite animal studies and clinical experience that shows even complete recovery of consciousness is possible several minutes after the heart stops, if resuscitative efforts succeed. This kind of resuscitation has been reported after more than 10 minutes of cardiac electric asystole in humans.[19] The fact that the heart stops beating due to ventricular fibrillation, as occurs in a heart attack, does not indicate irreversible cessation of cardiac activity.[20] The application of criteria for organ donation after cardiac death becomes questionable since artificial circulatory and ventilatory support is sometimes resumed after death in order to maintain the viability of abdominal and thoracic organs in potential donors.[21] Extracorporeal circulatory support can lead to return of neurological function in people who were neurologically intact before cardiac death.[22,23]

Finally, it is now widely known that a patient whose heart has stopped beating for 15 minutes after a heart attack can recover if he is treated by cooling the body to 33C, cardio-pulmonary bypass, cardioplegia (stopping the heart beat chemically) and a slow increase in oxygenation for 24 hours. Up to 80 per cent of these patients can be discharged from hospital, 55 per cent having a good neurological outcome. Clearly, the assumption made by physicians that a patient is dead five minutes after the heart has stopped beating is incorrect.[24]

An ominous and disturbing development is a recent widespread move to involve *palliative caregivers* in the organ donation process. Those care givers are said to provide "skills and principles applicable to donation after cardiac death." In effect, they are to be the agents of a soft-sell program to make the family "feel comfortable and supported during this extremely difficult time." This movement is in keeping with the Institute of Medicine Report Brief, 2006, on Organ Donation: Opportunities for Action. The IOM goal is "to move toward a society where people see organ donation as a social responsibility" and where "donating organs would be accepted as a normal part of dying and, in cases where a patient died without recording a specific choice about donation of his or her organs, the surviving family members would be comfortable giving permission.[25]

Comment: *Organ donation can be a moral good if the means used to obtain the organs is itself morally good. The circumstances under which this holds true have been described. The critical question is whether a person is truly dead when declared "brain dead" or to have suffered "cardiac death." The answer, in light of the scientific evidence, is that it has not been established cardiac or brain death criteria indicate the real death of a patient with certainty. Mauro Cozzoli, writing about the status of the embryo, has stated, "The uncertainty with regard to whether we are dealing with a human individual is not an abstract doubt, regarding a theory, principle, or doctrinal position (*dubium uris*). As such, it is a doubt about a fact concerning the life of a human being, his existence here and now (*dubium facti*)." As such, "it creates the same obligations as certainty."*[26]

*The object of the will is determined by both the agent's motive (*finis operantis*) and by the physical character, the integral nature of the external act (*finis operis*). The physical and clinical realities of an action,*

whether actual or potential, must not be ignored or denied.[27] Those caregivers in Catholic hospitals who administer levonorgestrel, an abortifacient, to a woman who has been raped, ignore or deny the fact that it is impossible to exclude the possibility that she has ovulated and may be pregnant. Those who harvest organs after brain death or cardiac death similarly ignore or deny the possibility that the "donor" may be alive. Professor Joseph Seifert, from the International Academy of Philosophy in Lichtenstein, states that medical ethicists should invoke the traditional moral teaching of the Catholic Church that "even if a small, reasonable doubt exists that our acts kill a living human person, we must abstain from them."[28]

The declaration of brain death or cardiac death is not sufficient to arrive at moral certitude. The recovery of organs based on that declaration is, therefore, immoral.

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Addendum

The case for considering "brain death" as equivalent to true death has undergone further trenchant scientific and philosophical critique.[1,2,3]

The notion of irreversible loss of circulatory and respiratory function as a criterion for determining death has also been seriously challenged. This notion means either that the heart cannot be restarted spontaneously (a weaker definition) or that the heart cannot be started despite standard cardio-pulmonary resuscitation (a stronger definition.) The stronger definition of irreversibility as meaning "can never be done" implies that *at no time* can organ procurement be permissible, because future possibilities of resuscitation can never be ruled out. The weaker definition, in practice, considers the patient dead based on the patient's moral choice to forego resuscitative interventions. The problem is that, first, the issue is not whether to resuscitate a person, but is the person truly dead? And secondly, that resuscitative interventions *are performed* during the procurement process to keep organs viable for transplantation after cessation of vital functions; for example, the use of cardio bypass machines, etc. This can result in a return of heart and brain function and even a return to consciousness.[4]

The application of criteria for irreversible cessation of neurologic, circulatory and respiratory functions requires a waiting time well in excess of 10 minutes to give more precision to the determination of death or organ procurement.[5,6,7,8,9,10]

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