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REVIEW ARTICLE

Do not resuscitate, brain death, and organ transplantation: Islamic perspective

Hassan Chamsi-Pasha, Mohammed Ali Albar[1]

Department of Cardiology, King Fahd Armed Forces Hospital, [1]Department of Medical Ethics, International Medical Center, Jeddah, Saudi Arabia

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ABSTRACT

Muslim patients and families are often reluctant to discuss and accept fatal diagnoses and prognoses. In many instances, aggressive therapy is requested by a patient's family, prolonging the life of the patient at all costs. Islamic law permits the withdrawal of futile treatment, including life support, from terminally ill patients allowing death to take its natural course. "Do not resuscitate" is permitted in Islamic law in certain situations. Debate continues about the certainty of brain death criteria within Islamic scholars. Although brain death is accepted as true death by the majority of Muslim scholars and medical organizations, the consensus in the Muslim world is not unanimous, and some scholars still accept death only by cardiopulmonary criteria. Organ transplantation has been accepted in Islamic countries (with some resistance from some jurists). Many fatwas (decrees) of Islamic Jurisprudence Councils have been issued and allowed organs to be donated from living competent adult donor; and from deceased (cadavers), provided that they have agreed to donate or their families have agreed to donate after their death (usually these are brain-dead cases). A clear and well-defined policy from the ministry of health regarding do not resuscitate, brain death, and other end-of-life issues is urgently needed for all hospitals and health providers in most (if not all) Muslim and Arab countries.

Key words: Brain death, do not resuscitate, ethics, Islam, organ transplantation

INTRODUCTION

Islam considers disease as a natural phenomenon and a type of hardship that expiates sins. Not only the patient who suffers will be rewarded in the hereafter, but also his/her family who bears with him/her the agony.[1] Muslims believe that all healing comes from God and that no cure is possible without his will. Many Muslims believe in God's miraculous cures even if the treating physicians believe that the case is futile or hopeless.[2]

Seeking remedy in Islam may be obligatory (mandatory) in certain lifesaving situations or may be encouraged or preferred (Mandoob) in other situations. It may be optional, or it may be Makrooh, i.e., not preferred. In certain situations or types of prohibited treatment, it may be Haram, i.e., not be allowed.[1]

Address for correspondence: Dr. Hassan Chamsi-Pasha, Department of Cardiology, King Fahd Armed Forces Hospital, P.O. Box. 9862, Jeddah 21159, Saudi Arabia.
E-mail: drhcpasha@hotmail.com

Muslims believe that death is the departure of the soul from the body by divine decree and marks the beginning of the journey in the life, hereafter that is perpetual and infinite. Some Muslim patients spend their last days or weeks in the Intensive Care Units which can provide an excellent care for the patients who could be revived. However, terminally ill patients may suffer a miserable life and consume significant resources.

Despite the growing numbers of Muslims who live in non-Muslim countries, there is limited information available

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about Islamic beliefs and laws regarding ethical issues in patients at the end of life.

DO NOT RESUSCITATE

Cardiopulmonary resuscitation (CPR) is routinely performed on any hospitalized patient suffering cardiac or respiratory arrest. Advanced invasive procedures and treatments that may sustain life may not confer any predictable benefit and may cause further suffering to the patient and his/her family.[3]

The frequent performance of CPR on terminally ill patients raised concerns that these resuscitations were often utilized inappropriately. This leads to the emergence of "do not resuscitate" (DNR) policy identifying patients who will not benefit from CPR. DNR is a medical order to provide no resuscitation to patients, for whom resuscitation is not warranted.

Concerns were also raised that many patients were kept alive with futile medical therapy. This leads to further worries about the financial and emotional burdens inflicted on the patients and their families. These invasive measures may sustain life for a while but ultimately may not confer any genuine benefits to the patient.[3] The futility of the end-of-life treatment can be difficult to define due to several factors such as chances of success, effect on the quality of life, and emotional and financial costs.[4] The American Thoracic Society states that treatment should be considered futile if it is highly unlikely that it will result in "meaningful survival" for the patient.

Futile treatment may be requested by relatives. This is a subject of great debate even among Muslim scholars. Many scholars do not advocate treatment if it merely prolongs the final stages of life. Delaying death with futile or hopeless treatment is unacceptable by many Islamic scholars. Miracles can rarely occur, and Islamic jurists do not make their rules and fatwas upon such very rare occurrence.[5]

Futile treatments must be carefully observed in light of patients' outcome and resource utilization in end-stage patients. Treatment can be withheld in patients with a terminal illness such as widespread metastatic cancer. However, reversible illnesses (e.g., pneumonia) should normally be treated.[1]

The Permanent Committee for Islamic Research and Issuing Fatwa in Saudi Arabia issued Fatwa (decree) No. 12086 on 28/3/1409 (1989) based on questions raised using resuscitative measures:

- If a person arrives at the hospital is already dead, there is no need to use any resuscitative measures in such a case
- If the medical file of the patient is already stamped "Do not resuscitate," according to the patient's or his/her proxy's will and the patient is unsuitable for resuscitation, as agreed by three competent specialized physicians, then there is no need to do any resuscitative measures
- If three physicians have decided that it is inappropriate to resuscitate a patient who is suffering from a serious irremediable disease and that his/her death is almost certain, there is no need to use resuscitative measures
- If the patient is mentally or physically incapacitated and is also suffering from stroke or late-stage cancer or having the severe cardiopulmonary disease and already had several cardiac arrests, and the decision not to resuscitate has been reached by three competent specialist physicians, then it is permissible not to resuscitate
- If the patient had irremediable brain damage after a cardiac arrest and the condition is authenticated by three competent specialist physicians, then there is no need for the resuscitative measures as they will be useless
- If resuscitative measures are deemed useless and inappropriate for a certain patient in the opinion of three competent specialist physicians, then there is no need for resuscitative measures to be carried out. The opinion of the patient or his/her relatives should not be considered, both in withholding and withdrawing resuscitative measures and machines, as it is a medical decision and it is not in their capacity to reach such a decision.[6] However, the whole situation should be explained to the family and the Fatwa given to them. Usually, Muslim patients and their relatives abide by the Fatwa, as it was issued by highly respected Ulama (Muslim Scholars).

Hydration and feeding should continue until the end of life. If the patient is competent enough, DNR should be discussed with him/her. He/she should be ensured of being given all necessary care and medication to alleviate pain and distressing symptoms. If the patient is not competent enough, DNR should be discussed with the family members, especially the most appreciative and comprehending person. It should be clarified to the patient or his/her guardian that this does not mean abandoning the treatment in the meantime, it does not deprive the patient of receiving suitable health care, and it respects his/her dignity at all times.[7]

The Islamic Medical Association of North America (IMANA) believes that when death becomes inevitable as determined

by physicians taking care of terminally ill patients, the patient should "be permitted to die naturally with only the provision of appropriate nutrition and hydration" and any medications and procedures that are necessary to provide comfort and alleviate pain. IMANA does not believe in prolonging misery on mechanical life support in a patient in a vegetative state, when a team of physicians, including critical care specialists, has determined that no further attempt should be made to sustain artificial support. Even in this state, the patient should be treated with full respect, comfort measures, and pain control. No attempt should be made to enhance the dying process in patients on life support.[8]

Physicians' religiosity may affect their approach to end-of-life care beliefs. Saeed *et al*. studied the religious aspects of end-of-life care among 461 Muslim physicians in the US and other countries. Only 66.8% of the respondents believed that DNR is allowed in Islam.[9] The need for education of the public is an essential part of DNR practice. Poor explanation to the family has often led to family dissatisfaction in many cases.

BRAIN DEATH

Medical background

The complexity of defining death is in part due to the confluence of spiritual, medical, legal, ethical, and other factors.[10] Death is defined by almost all cultures and religions as the departure of the soul out of the body.[11] Human death involves the irreversible loss of the capacity for consciousness, combined with the irreversible loss of the capacity to breathe.[12]

After discovering the circulation, death has been defined as the irreversible cessation of cardiac and respiratory activity.

Although it is more than 40 years since the concept of brain death was first introduced to clinical practice, many of the controversies surrounding the issue have not settled yet. These include relationship between brain death and death of the whole person, criteria for determination of brain death, and inseparable links between brain death and organ donation.[13]

The development of organ transplantation and the need to determine death before organ retrieval led to the publication of the widely accepted standard for the confirmation of brain death by an *Ad Hoc* Committee of the Harvard Medical School in 1968.[13] Although this link might give the impression that brain death was a construct designed only to facilitate donation, this is incorrect. More importantly, the confirmation of brain death facilitates the withdrawal of therapies that can no longer conceivably benefit a patient who has died.

In 1980, the Uniform Determination of Death Act (UDDA) defined "brain death" and that definition was approved by the National Conference of Commissioners on Uniform State Laws (1981). According to the UDDA, death is:

- Irreversible cessation of circulatory and respiratory functions
- Irreversible cessation of all functions of the entire brain, including the brainstem.

Unlike whole-brain death, the diagnosis of brainstem death, such as that used in the UK, does not require confirmation that all brain functions have ceased.[14]

The determination of brainstem death requires the confirmation of the "irreversible loss of the capacity for consciousness combined with irreversible loss of the capacity to breathe" and is based on the fact that the key components of consciousness and respiratory control, the reticular activating system and nuclei for cardiorespiratory regulation, are located in the brainstem.[15]

Initially, it was argued that brain death equates to the death of the individual, because after brain death, the body ceases to be a whole integrated organism and will rapidly become a disintegrating collection of organs that permanently lost the capacity to work as a coordinated whole.[16] However, it is now clear that brain-dead patients can show levels of somatic integration that may persist for some time.[17]

The US President's Council on Bioethics proposed a new unifying concept of death in 2008. The Council reiterated its support for a whole brain formulation and rejected the reliance on brainstem death, arguing that the inner state of a person with residual cortical activity in the complete absence of brainstem activity is unknown.

Despite the overall consensus on the concept of brain death, there are differences in its diagnosis. The majority of countries have followed the lead of the US and the UK in specifying that the clinical diagnosis of brain death is sufficient for the determination of death in adults.[15]

Confirmatory tests are optional in most countries (required in Saudi Arabia and some other countries) and include electroencephalography (EEG) of 30 min duration which should be silent or absence of blood flow to the brain proved by Doppler or cerebral angiograms or computed

tomography (CT) angiography or magnetic resonance imaging (MRI) angiography.

These are usually reserved for circumstances where some doubt exists about the clinical diagnosis of brain death (e.g., after infusion of long-acting sedative drugs such as thiopental) or because the patient might be too unstable to undergo an apnea test.[15] The High Committee on brain death in Saudi Arabia insists on performing an EEG before establishing the diagnosis of brain death. Other ancillary tests are optional.

We think that confirming the absence of intracerebral brain flow, for example, by transcranial Doppler, is feasible, inexpensive and will reduce the resistance against accepting brain death as a true death.[11]

Islamic view of brain death

The Islamic faith values any means to save a human life and condemns the termination of a human life without just cause: "And kill not anyone whom God has forbidden, except for a just cause (according to Islamic law)."[18] Muslim scholars who advocate organ donation commonly cite the verse: "If anyone killed a person—not in retaliation of murder, or (and) to spread mischief in the land—it would be as if he killed all mankind, and if anyone saved a life, it would be as if he saved the life of all mankind"[19] and emphasizing the latter, i.e., the saving of a human life equals the saving of whole humankind.[20]

The Quran mentioned Jacob, "peace be upon him (PBUH)" when he was approaching death: "Or were you witnesses when death approached Ya'qub (Jacob)?" When he said unto his sons, "What will you worship after me?" They said, "We shall worship your Ilah (God-Allah), the Ilah (God) of your fathers, Ibrahim (Abraham), Isma'il (Ishmael), Ishaque (Isaac), One Ilah (God), and to Him we submit (in Islam)."[21]

It is also mentioned in the Quran that sleep is similar in a way to death. Body is a home for the soul. The soul departs at sleep and returns when it is time to get up. People move from one state, with its governing laws, to a different state, with completely different laws each day without knowing or thinking about it. God says, "It is Allah Who takes away the souls at the time of their death, and those that die not during their sleep. He keeps those (souls) for which He has ordained death and sends the rest for a term appointed. Verily, in this are signs for a people who think deeply."[22]

Furthermore, the newborn will not be considered alive by jurist even if he/she breathe or pass urine, but only when he/she raises his/her voice and cries. It was narrated from Jabir bin "Abdullah that the Messenger of Allah PBUH) said, No child inherits until he cries."[23]

It is noteworthy that the jurists consider a person who is seriously wounded and left with only the "slaughtered movements," a dead person, despite the continuation of heart beating and breathing.[24]

Several questions are raised about brain death: Is brain death equal to cardiopulmonary (traditional) death or is brain death just an intermediate state between life and death? Which formulation, whole-brain or brainstem death, is consonant with Islamic bioethics? Finally, what are the clinical responsibilities of physicians to patients in these states?[25]

The Islamic consensus on brain death is lacking. Some equate brain death with cardiopulmonary arrest, both being death proper in Islamic law. Others hold brain death to be an in-between state between life and death, where life support needs not be continued, while some have rejected the concept in toto.[25]

The idea that brain death represents true death in Islam remains a subject of debate.[26] Brain death has been acknowledged as representing true death by many Muslim scholars and medical organizations, including the Islamic Fiqh Academies (IFAs) of the Organization of the Islamic Countries (OICs), the Islamic Medical Association of North America, and other Islamic medical organizations, and considered as legal rulings by multiple Islamic nations. However, consensus in the Muslim world is not unanimous, and an appreciable minority accepts death by cardiopulmonary criteria only.[26]

At the Third International Conference of Islamic Jurists (October 11–16, 1986) in Amman, Jordan, the IFA of the OICs on resuscitation apparatus (October 1986) incorporated the concept of brain death into the legal definition of death in Islam:

A person is pronounced legally dead, and consequently, all dispositions of the Islamic law in case of death apply if one of the two following conditions has been established: (1) There is total cessation of cardiac and respiratory functions, and doctors have ruled that such cessation is irreversible; (2) there is total cessation of all brain functions, and experienced specialized competent doctors have ruled that such cessation is irreversible, and the brain has started to disintegrate.[27,28] Under these circumstances, it is justified to disconnect life-supporting systems even though some organs continue to function automatically (e.g., the heart) under the effect of the supporting devices.

The Islamic Fiqh Majma (Council) of the Muslim World League (MWL; Kingdom of Saudi Arabia) issued its ruling in 1987. However, the MWL made some distinctions and decisions that are not found in the IFA-OIC's decision.[29] Notably, the MWL stated that brain death criterion could only be applied if three competent specialist physicians agree that brain death has occurred and is irreversible. In such case, the life support could be stopped despite the fact that the heart is still pumping and respiration is still going on by the machine.

Furthermore, any legal consequences linked to the determination of death can come into effect only after circulation and respiration have finally stopped. In other words, cardiac death and brain death are clearly not equated. The determination of death remains important not only for burial rights of the deceased and conformity with Sharīah but also for critically important reasons, including inheritance, marriage law, and criminal law.[29]

Many Muslim countries adopted the death definition of the IFA-OIC. In 2003, the IMANA Ethics Committee developed a primer titled, "Medical Ethics: The IMANA Perspective."[28] The statement reiterates the accepted criteria for the diagnosis of death and the issue of diagnostic uncertainty is implied in more detail.[10]

Despite the IFA-OIC, MWL decisions (Qararat) recognizing brain death criteria, these decisions are nonbinding resolutions. Although these decisions represent majority opinions, concerns have limited the widespread acceptance of this concept.[30,31] Furthermore, contemporary Muslim scholars have conflicting notions regarding the irreversibility of patients maintained on resuscitation devices. Some claim that absolute death cannot become manifest without cardiac death.[28,30]

The Islamic Organization for Medical Sciences (IOMS) revisited the issue in 1996 after they sent three members to participate in an international bioethics conference. These members reported back to the IOMS, this time with some eminent Islamic scholars attending the meeting. The meeting was called for because an Egyptian professor of Anesthesia (Dr. Safwat H. Lutfi) campaigned against brain death both in the medical circles and media (newspaper, television, and public meetings) in Egypt and stirred antagonism against the physicians who wanted to take organs from poor people and give them to wealthy persons for money! The issue was then discussed by Al-Azhar and the parliament which was about to accept brain death. However, he succeeded in stopping this approval.[11] In 2010, the Egyptian Parliament approved organ transplantation from a patient whose brain and heart completely ceased functioning.

Controversies in brain death

Thirteen countries (16 legal decisions) in the Near- and Middle-East and South Asia were surveyed regarding brain death. Twelve had legislation in support of the use of brain death criteria.[10]

Even within medical circles, the notion that brain death represents complete death has been met with some resistance.[30,32] The Muslim opponents of brain death concept criticize it in several points.

They claim that the 2010 update of the American Academy of Neurology guidelines for determining brain death fails to meet the three essential requirements stated in the Islamic definition of death: (1) Total cessation of all brain functions, (2) irreversibility of cessation, and (3) onset of disintegration of the brain.[20]

The opponents argue that organ procurement is performed in the operating room with no general anesthesia because donors are presumed dead.[33] In fact, most surgeons require general anesthesia to procure organs from brain-dead individuals to avoid spinal reflexes.

Others have rejected the diagnosis of brain death over potential conflicts of interest with the issue of organ donation.[34,35] For example, Egypt experienced an intense ethical reaction against deceased donor transplantation and the notion of brain death, following the procurement of organs from executed prisoners under controversial conditions.[34] Similar outrage regarding organ donation and its linkage to declaration (or not) of death has fueled debate, following the allegedly government-sponsored forced organ removal from Muslim political demonstrators in China.[35]

Padela *et al.*[28] have pointed out the serious gaps in contemporary medical understanding and clinical diagnosis of brain death and its endorsement as human death in the Islamic faith. These gaps pertained to (1) the retention of residual brain functions, (2) the recovery of some previously ceased brain functions, (3) the absence of whole brain degeneration and necrosis, and (4) the uncertainty of medical tests and bedside examination in determining this condition with reasonable accuracy.[28]

Rady and Verheijde[36] argue that the residual functions of the central nervous system, homeostasis, and somatic integration of the whole body persist in brain death. They[36]

claim that death is biologically defined in the Quran by disintegration as emphasized in several Quranic verses: "And he puts forth for us a parable, and forgets his own creation. He says: "Who will give life to these bones after they are rotten and have become dust?"[37] "When we are dead and have become dust and bones, shall we (then) verily be resurrected?[38]

This definition is incorrect since there is a prolonged period elapsing between the moment of death; i.e., departure of soul from the body, and the disintegration of a corpse into dust and bones and nobody would wait until the bones of the dead become dust!

The American evidence-based guideline update published in 2010 stated that "in adults, there are no published reports of recovery of neurologic function after a diagnosis of brain death using the criteria reviewed in the 1995 American Academy of Neurology practice parameter." All "recovered" adult cases reported in the literature and those in the media are suspected due to the presence of confounders, no detailed description of testing, or no mention of the apnea test.[17,39]

Dr. Martin Smith from Queen Square, London, confirms that "The criteria for the determination of brain death are robust."[12] He also states that the recent reports describing the apparent "reversibility" of brain death have been refuted because of failure to adhere to such standard guidelines.[40]

In summary, although guidelines are available in many countries to standardize national processes for the diagnosis of brain death, the current variation and inconsistency in practice make it imperative that an international consensus is developed. This should clarify the criteria for the determination of brain death and provide specific instructions about the clinical examination necessary and the conduct of the apnea test. It should also stipulate the role and type of confirmatory investigations and detail the required level of documentation. An international consensus on the determination of brain death is desirable, essential, and long overdue.[12]

Following the established guidelines scrupulously can maintain the foundation of a transplantation system that saves thousands of lives a year.[41] A confirmatory test is mandatory to establish the absence of blood flow to the brain by cerebral angiography or CT angiogram or MRI angiogram or Doppler. If strict adherence to the principle of "total cessation of cerebral functions is the criteria" is the rule, in many patients, the diagnosis of brain death cannot be made.[42]

Finally, Islamic juridical deliberations around brain death largely took place 30 years ago in response to medical developments and ethical controversies in the Western world. The IOMS studied the subject in December 1996 and ended with a publication of a large volume on this issue in 2000 and agreeing to the concept of brain death. However, the debates within Muslim bioethics need updating and deepening concerning the early rulings on brain death.[11,25]

ORGAN DONATION

Organ donation is the donation of biological tissue or an organ of the human body, from a living or dead person to a living recipient in need of transplantation. Organ transplantation has become one of the most effective ways to save lives and improve the quality of life for patients with end-stage organ failure in developing and developed countries.[43]

Nowadays, many diseased organs are being replaced by healthy organs from living donors, cadavers, and from an animal source. Successful bone marrow, kidney, liver, cornea, pancreas, heart, and nerve cell transplantations have been taken place. The incidence is limited only by cost and availability of the organs. The discovery of effective immunosuppressive drugs in the late 1970s was an important step toward increasing the success rate of organ transplants and thus paved the way for organ transplantation to become a medical routine affair in the 21st century.[44]

The increasing incidence of vital organ failure and the inadequate supply of organs, especially from cadavers, have created a wide gap between organ supply and organ demand, which has resulted in very long waiting time to receive an organ as well as an increasing number of deaths while waiting.[43] These events have raised many ethical, moral, and societal issues regarding supply, methods of organ allocation, and use of living donors including minors. It has also led to the practice of organ sale by entrepreneurs for financial gains in some parts of the world through the exploitation of the poor, for the benefit of the wealthy.

Despite the fact that transplantation programs are dependent on brain-dead patients as a supply of organs, these two questions should be separated. Accepting the concept of brain death is one thing, and allowing organs to be procured from a dead loved one is a different question, with additional difficulties and concerns for the family.[42]

Islamic rules on organ transplantation

Muslim jurists sanctioned transplantation of teeth and bones, which had been practiced by Muslim surgeons for over a

thousand years. Imam Nawawi (631-671H/AD1233-1272) fully discussed the subject of bone and teeth transplantation in his voluminous reference textbook Al Majmu.[45] Al Imam Al-Shirbini commented on the same subject in his book Mughni Al Muhtaj.[46] The bone to be implanted could be from the same person (autograft) or the corpse of another person (allograft) or an animal (xenograft). The latter could be from a slaughtered (Halal) animal or a Najas, i.e., a dead (Carcass) or of porcine origin, both of which will not be allowed unless there is any other alternative and is deemed necessary. However, Zakariya al-Qazwini, a grand Qadhi (judge) in Iraq (600-682H/1203-1283AD), noticed that porcine bone grafts function more efficiently than other xenografts and reported this fact in his book "Wonders of Creatures."[47] Ibn Sina (Avicenna 607-687H/1210-1288AD) (the greatest Muslim physician) in his voluminous textbook "Canon" regarded bone transplantation as a hazardous operation that he would never attempt to perform!

The human being should always maintain his/her dignity even in disease and misfortune. The human body, living or dead, should be venerated likewise. Mutilation of humans or animals is not allowed.[48] However, performing postmortems or donating organs from a cadaver is not tantamount to the mutilation of the corpse or an act of disrespect.[49] The harm done, if any, by removing an organ from a corpse should be weighed against the benefit obtained and the new life given to the recipient. The principle of saving human life takes precedence over whatever assumed harm would befall the corpse.[50] Nevertheless, Sheikh Shaarawi, a renowned commentator on the Holy Qur'an, but not a Mufti (Jurisconsult), rejected all types of organ donation.

In the case of a living donor, the principle of doing no harm is invoked. The donation of an organ whose loss would usually cause no harm or a minimal increased risk to the health or life of the donor is acceptable if the benefit to the recipient is much greater than the harm. It invokes the principle of accepting the lesser harm when faced with two evils. The harm done by the disease, which can kill a human life, is not to be compared with the harm incurred by donation.[51]

Organ transplantation can save many human lives and improve the quality of life for many others. Islam encourages a search for a cure and invokes Muslims not to despair, for there is certainly a cure for every ailment, although we may not know it at present. The donation of organs is an act of charity, benevolence, altruism, and love for humankind. God loves those who love fellow humans and try to mitigate the agony and sorrow of others and relieve their misfortunes. Any action carried out with good intentions and which aims at helping others is respected and encouraged, provided no harm is inflicted. The human body is the property of God; however, man/woman is entrusted with the body as well as other things. He/she should use it in the way prescribed by God as revealed by his/her messengers. Any misuse will be judged by God on the day of judgment, and transgressors will be punished.[11]

Donation of organs should not be considered as acts of transgression against the body. Human organs are not a commodity, and they should be donated freely in response to an altruistic feeling of brotherhood and love for one's fellow beings. Encouraging donation by the government is allowed by Islamic jurists and is practiced in Saudi Arabia, Gulf Countries, and Iran.

Islamic jurists' fatwas (juridical resolutions) regarding organ transplantation

The majority of the Muslim scholars and jurists belonging to various schools of Islamic law invoked the principle of priority of saving human life and hence gave it precedence over any other argument. Sheikh Hassan Mamoun (the Grand Mufti of Egypt) sanctioned corneal transplants from cadavers of unidentified persons and from those who agree to donate upon their death (Fatwa No. 1084 dated April 14, 1959). His successor, Sheikh Hureidi, extended the fatwa to other organs in 1966 (Fatwa No. 993). In 1973, the Grand Mufti, Sheikh Khater, issued a fatwa allowing harvesting of skin from an unidentified corpse. The Grand Mufti Gad Al Haq sanctioned donation of organs from the living provided no harm was done and provided it was donated freely in good faith and for the love of God and the human fraternity. He also sanctioned cadaveric donors provided there was a will, testament, or the consent of the relatives of the deceased. In the case of unidentified corpses, an order from the magistrate should be obtained before harvesting organs (Fatwa No. 1323 dated December 3, 1979).[27]

The Saudi Grand Ulama sanctioned corneal transplant in 1978 (Decree No. 66 H1398/1978). In Algiers, the Supreme Islamic Council sanctioned organ transplantation in 1972, while in Malaysia, the International Islamic Conference sanctioned organ transplantation in April 1969.

The Saudi Grand Ulama Fatwa No. 99, 1982, addressed the subject of autografts, which was unanimously sanctioned. It also sanctioned (by a majority) the donation of organs both by the living and by the dead, who made a will or testament, or by the consent of the relatives (who constitute the Islamic next of kin).The Kuwaiti Fatwa of the Ministry of Charitable

Endowments No. 132/79, 1979 sanctioned live and cadaveric organ donation. The Kuwaiti law No. 7, 1983 reiterated the previous Fatwa and pointed out that living donors should be over the age of 21 years to give their consent.[27]

The subject of the brain death was not addressed in any of these fatwas. It was discussed for the first time in the Second International Conference of Islamic Jurists held in Jeddah in 1985. No decree was passed at that time until further studies and consultations were obtained. In the Third International Conference of Islamic Jurists (Amman 1986), the historic resolution (No. 5) was passed with a majority of votes, which equated brain death to cardiac and respiratory death.[52] Death in the true Islamic teaching is the departure of the soul, but as this cannot be identified, the signs of death are accepted. This decree paved the way for an extension of organ transplantation projects, which were limited to living donors. Campaigns for organ donation from brain-dead persons were launched in Saudi Arabia, Kuwait, and many Arab and Muslim countries.

The unfortunate high incidence of road accidents in the Gulf area provides many cases of brain death. It is a pity to waste such candidate cadavers without trying to save the life of many others who need their organs.

The Islamic Fiqh Council of Islamic World League held in Makkah Al Mukarramah (December 1987), which passed Decree No. 2 (10th session), did not equate cardiac death with brain death. Although it did not recognize brain death as death, it did sanction all the previous fatwas on organ transplantation. This decree received little publicity in the media, and cardiac and kidney transplants from brain-dead individuals continued without any hindrance from the jurists.

The most detailed fatwa on organ transplantation was that of the Fourth International Conference of Islamic Jurists held in Jeddah in February 1988 (Resolution No. 1). It endorsed all previous fatwas on organ transplantation, clearly rejected any trading or trafficking of organs, and stressed the principle of altruism.[53]

Later, the Islamic jurists started to discuss new subjects related to organ transplantation, namely, transplantation of the nerve tissue as a method for treating Parkinsonism or other ailments; transplantation from anencephalic; transplantation of tissues from embryos aborted spontaneously, medically, or electively; and leftover preembryos *in vitro* fertilization projects.

The Sixth International Conference of Islamic Jurists, held in Jeddah in March 1990, addressed all these issues fully.[54] It sanctioned transplantation of nerve tissues to treat ailments such as Parkinsonism if this method of treatment proved superior to other well-established methods of treatment. The source of the nerve tissues could be:

- The suprarenal medulla of the patient himself (autograft)
- The nerve tissues from an animal embryo (xenograft)
- Cultured human nerve cells obtained from spontaneous abortion or medically indicated abortions.

However, the conference deplored the performance of abortion for the sake of procuring organs. It reiterated the Islamic views against elective abortion, which is only allowed to save the life or health of the expectant mother. If, however, the fetus is not viable, organs can be procured if the parents donate and only when the fetus is declared dead. The aborted fetus is not a commodity and commercialism is not allowed.[54]

Anencephalics cannot be used as organ donors until declared brain or cardiac dead. The fully informed consent of the parents should be obtained in every case. Of note, a few cases of kidney transplantations from anencephalic were performed, where kidneys were transplanted to children with end-stage renal failure. The jurists also discussed transplantation of genital organs. They did not allow the transplantation of gonads as they carry all the genetic inheritance from the donor. However, they sanctioned the transplantation of the other internal sex organs.[54]

In 2003, the Islamic Fiqh Council of Islamic World League, Makkah Al Mukarramah, in its 17th session passed a Fatwa No. 3, which allowed using leftover preembryos for stem cell research and treatment of serious ailments.[55]

Organ donation among Muslims in Europe

In his article, "Religio-ethical discussions on organ donation among Muslims in Europe," Dr. Ghaly sheds light on the discussions among Muslim religious scholars on organ donation particularly related to Muslims living in Europe. The article examines three main religious guidelines (fatwas) issued, respectively, by the UK Muslim Law (Shari'ah) Council in 1995 in the UK, the European Council for Fatwa and Research (ECFR) in 2000 in Ireland, and the Moroccan religious scholar Mustafa Ben Hamza during a conference on "Islam and Organ Donation" held in March 2006 in the Netherlands. The three fatwas examined in this article shared one main purport; organ donation is in principle permitted in Islam.[56]

The fatwa issued by the ECFR in 2000 stated that if the deceased did not make up his/her mind before death about organ donation, then the deceased's family has the

right to decide. The ECFR went even further by giving the same right to "the authority concerned with the Muslims' interests in non-Muslim countries" if the deceased's family was missing.

The second fatwa was issued by the UK Muslim Law (Shari'ah) Council in 1995. Different to the ECFR fatwa, this fatwa was much less dependent on the religio-ethical discourse in the Muslim world. The UK fatwa also dedicated much more space to the concept of brain death and argued that this death criterion is accepted from the Islamic perspective. The fatwa also clearly stated that Muslims might carry donor cards. Like the ECFR fatwa, the UK fatwa expressed no objection to the idea that the deceased's family can decide if the deceased did not have a donor card nor expressed his/her wish before death. Finally, the fatwa stressed that organ donation should be done freely without reward and that trading in organs is prohibited.[56]

The third fatwa was issued by a Moroccan scholar, Mustapha Ben Hamza, during a conference on "Islam and organ donation" held in 2006 in the Netherlands. This fatwa approved for a Muslim to donate his/her organs to a non-Muslim. A similar fatwa was issued by Mufti of Singapore Sheikh Bin Sumait in the early 1990s.

Contemporary English Sunni e-fatwas on organ donation

Van den Branden and Broeckaert analyzed seventy English Sunni e-fatwas and subjected them to an in-depth text analysis to reveal the key concepts in the Islamic ethical framework regarding organ donation and blood transfusion.[57]

They found all seventy fatwas allow for organ donation and blood transfusion. Autotransplantation is no problem at all if done for medical reasons. Allotransplantation, both from a living and a dead donor, appears to be possible though only in quite restricted ways. Xenotransplantation is less often mentioned but can be allowed in case of necessity. Transplantation, in general, is seen as an ongoing form of charity.

They state that their findings are very much in line with the international literature on the subject. They also found that debates on the definition of the moment of death are hardly mentioned in the English Sunni.[57] Given the worldwide shortage of organs for donation, the importance of these English Sunni e-fatwas must not be underestimated.[58]

To change the views of religious people about accepting the diagnosis of brain death and donating organs, there must be an education process which involves religious and spiritual leaders from the local community. Hafzalah *et al*.[59] described the effect of an educational intervention of the attitudes of Muslim Americans regarding organ donation.

CONCLUSION

Islam considers disease as a natural phenomenon and a type of tribulation that expiates sin. Unfortunately, many elder patients with chronic illness spend their last few weeks or months in hospitals. Life support is not required if it prolongs the agony and suffering associated with final stages of a terminal illness. Islamic law permits withdrawal of futile treatment on the basis of a clear medical decision by at least three physicians.

Although the IFA-OIC resolution and IMANA perspective are widely cited within the medical community as an acceptance of brain death within Islamic law, there are still some uncertainties about the concept of brain death among some Muslim scholars.

Organ transplantation has been accepted as a modality of treatment that improves the patient's suffering from end-stage organ failure. Islam has given permission for organ and tissue transplantation to save human lives or vital organs.

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