



Original Article

Death: Ethical, Medical and Theological Interconnectedness

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Abstract: Death is a biological phenomenon, define as the permanent and irreversible cessation of all biological functions of a being. Many people are afraid of discussing, thinking, or planning their own deaths because of we do not know about death and why death occur. If we know what is death we can think for planning our life, preparing a will, or deciding whether we will remain home or seek help before death. Moreover, after death, we transfer to another world passing out along with funeral according to religious. People seek help to religious cleric, as there is vast information regarding death in religion. As the death is the inevitable system and part and percale of life, therefore we must aware of what death is. We need do good deed in term of one day we will die and after death we will be nowhere but our benevolent works remain and may make us eternal or we will be rewarded heaven or hell or transmigrate to a new body according to our conduct.

Key word: Death, philosophy of death, death in medicine, religious perspective of death, good death,

Definition of death in medical, law, philosophy and religion: Death define physiologically as the absent of vital sign e.g. no breathing (respiratory arrest), no pulse (cardiac arrest), no neuronal activity (brain death)¹. But, in 1995, the American Academy of Neurology (AAN), define death as irreversible cessation of brain. Brain death (coma, cessation of breathing, and

lack of brainstem reflexes) is the criteria for clinical death though heart and lungs are still working². Legally, death is the jurisdiction of declaration by the doctors, that a person is no longer alive under the national law. In legal means, death is an only certificate¹. However, religiously death is inevitable, sure moment of life and metaphysical event.



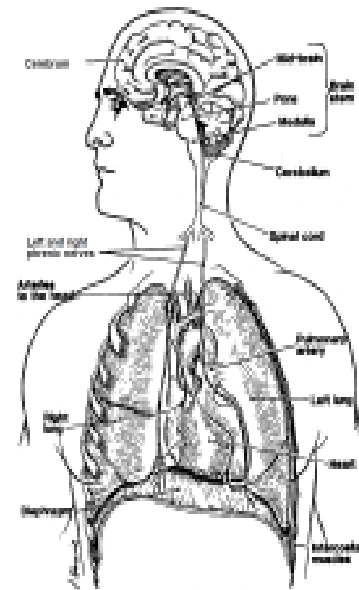
Death is seen as the separation of the soul from the body and its transfer from this temporary world to the permanent afterlife. All the living creature must testify death³. Phenomenologically, life is considering as perception, voluntary movement, nutrition, growth and reproduction. Intelligence, contemplation and speech are additional signs of life. Loses these signs is called dead⁴.

Death in Medicine: Traditional medical definition of death is cessation of all vital function of the body¹. With the advent of mechanical ventilator, defibrillator, life support technology death can be reversible beyond the presence or absence of vital signs. Organ transplant medicine (harvest organ) can be continued with cardiopulmonary function⁵ or cardiopulmonary function can be stop for prolonged periods where brain function is sustained in cardiac bypass surgery⁶. It is really a dilemma if such a patient alive or dead? What is personhood?

Before going to discussion about death, few aspect of anatomy should brainstorm for general people. Brain has cerebrum, cerebellum, midbrain, pons, medulla oblongata and spinal cord. Midbrain, pons and medulla oblongata together are called brain stem. The cerebrum is responsible for conscious awareness, cerebellum act for coordination and control of voluntary muscle movements and medulla oblongata is the center for cardiorespiratory, alertness (reticular system) and pupillary, cough, swallow, and gage reflex; and spinal cord is responsible for sensorimotor reflect⁷ (Picture 1).

For the benefited of organ transplantation, the approaches of the brain death differ

from country to country. Case of Jahi McMath with continue ventilator therapy, had recovered certain brain functions after



Picture 1 Parts of brain⁸

declaration of brain dead raise dilemma in brain death criteria⁹. Many demonstrated the serious flaws inherent in the brain death paradigm raise medico–legal–political concern. The determination of death is an important practical and serious issue for funeral procedures, organ donation and understanding the life and death¹⁰. Therefore, understanding of contemporary brain death models to prevent the ethical, cultural and religious dilemma for a good death.

According to whole-brain approach, brain death involves the destruction of the entire brain (both cerebrum, and cerebellum and the brainstem. In this condition human death is the irreversible cessation of function of the entire brain including cessation of circulatory and respiratory functions¹. Uniform Determination of Death Act (UDDA) has adopted the whole brain approach⁸. However, modern life-supports permitted cardiopulmonary

function without brain function¹¹. Organ transplantation is done from whole-brain death criteria by keeping a declaration of death on the basis of the cardiac arrest and then with mechanical assistance respiration and circulation continue for retrieval of still-viable fresh organs from brain-dead body is called donation after cardiac death (DCD). Critics on whole brain death addressed that DCD patient cannot be dead two minutes after cardiac arrest as loss of cardiopulmonary functioning can be restored Cardio Pulmonary Resuscitation (CPR)¹. CPR is sometimes possible more than five minutes even for 3 ½ hour CPR after a heart attack¹². It implied that physicians kill the patients for sack of organ donation before donor really died¹³.

In addition, in whole brain death, tracheostomy positive pressure ventilation (TPPV) could possible by ventilation in apnoea¹. Hypothalamo-pituitary axis secretes antidiuretic hormone (ADH) that maintain the body in hemodynamic stability¹⁴, persistent EEG activity following the diagnosis of brain death as neurons of other part of brain are significantly active and perform integrated function of the brain¹⁵. Organ donors showed dramatic increases in blood pressure and heart rate at the time of surgery for organ removal¹⁶, sweating and laceration¹⁷ contraction of abdominal muscles upon incision of the parietal peritoneum¹⁸, wide range of reflexes and spontaneous movements including twitching of facial muscles, periodic leg movements similar to those occurring during sleep, respiratory like movements, plantar withdrawal reflex, triple flexion reflex by noxious stimuli, bilateral arm flexion, shoulder adduction, and hand raising cross to the chest/neck (Lazarus

sign)¹⁹ which are in approximately 80% cases from spinal cord origin²⁰.

According to higher brain death approach death is considered of destruction of cerebrum and cerebellum. They consider the permanent irreversible cessation of consciousness. So, patients are in a permanent irreversible vegetative state (PVS) or deep coma state with intact maintain breathing and heartbeat and certain primitive reflexes without mechanical assistance. In higher brain standard a patient is alive as the heartbeat and breathing normally indicate life, but they do not constitute life²¹.

Advantage of higher brain death, organ transplantation is better prognosis to safe other patient's life with long durability of life as the organ is as fresh as life. Critics of higher brain death by removing vital organs of living patients would cause their deaths, violating the laws of homicide and the widely accepted moral principle of prohibiting the intentional killing of innocent human beings No country adopted the higher brain death approach. The lower brain or brainstem death approach considered the destruction of medulla oblongata, where stop of cardio respiratory system, halt body temperature and hormonal regulation, and various other functions including consciousness and awakens and reflexes and all vital signs¹³. Conscious awareness is largely a cerebral hemispheric function; it is impossible to pass inputs from the ascending reticular activating system in the brain stem. It is a predictive of death without death of the other organism. In United Kingdom brain death advocate brainstem death²².

According to brain as a whole approach, death is considered of functional destruction of cerebrum, cerebellum, brainstem and spinal cord. It has been argued that all the part of the brain work as interactively to an existing functional²³. Brain as a whole approach is need to be consider for the brain death declaration, for the removal of confusion of patient's family members, minimize the legal, ethical questions, and all the above justify to the donor.

Theoretical biologists placed body parts in hierarchically ordered as cell organelles < cells < tissues < organs < organ systems < beings. The components at each level are alive, collectively they work as whole to sustain life²⁴. Again collection of cells is called tissue where tissues possess emergent functions but not present in the cells and collection of tissue formed organ where organs possess emergent functions but not present in tissues etc. Conscious awareness is a complex emergent function arising from multiple structural-functional hierarchies in the brain. Ontologically, status of a whole organism derived from its parts. Therefore, parts of organism may continue live and grow despite the absence of the whole (death of the organism), e.g. vitro cell cultures and tissue and organ transplantation that continue to grow after the donor's death. The parts of an organism instrumentally serve the whole organism as its final end and benefactor²⁵. Loeb'(1916) proposed that organism is ultimately the result of component physical and chemical processes²⁶. The part can persist in extra-physic without reducing its physicochemical properties. e.g. amputated limb or severe a malignant kidney reduces the organism 's function but has no impact on the organism as a

whole²⁶. Unity and interrelatedness of organs and their function serve as a whole for health and wellbeing²⁶. Merologically (relation between parts) in the lower level, life is features of self-organization and self-regulation. In the upper level they work as a whole. DNA or RNA is the unit of life, have capacity to autocatalyze and self-replicate, a spore and a virus as alive, though they require interacting with another for life⁴.

The human brain is the final emergent neurobiological structure responsible for managing and controlling the organism to with its environment as a wholeness of the organism. Therefore, the permanent loss of brain functions is the unitary criterion of death²⁷.

Death in Religious: In Buddhist doctrine and practice, death plays an important role. According to Hindu, when soul (*jiva-atma*)/conscious self (life) is no longer sustain in the temporary material body due to finish of one's material desires (*kama*) is called death. The soul transmigrates to a compatible new body based on the basis of one's *karma* (good/bad work) and the state of one's mind (impressions or last thoughts) at the time of death^{28, 29,30}. Transmigration (Reincarnation) of soul forget all memories of one's previous life. They believe nothing really dies and the temporary material body is always changing. Death simply means forgetfulness of one's previous experiences / identity³¹. In Jews rabbinic theory death is the irreversible cessation of breathing, whereas Talmud tradition see the death is the irreversible cessation of the heartbeat³². The modern Christian accept that loss of all brain function is sufficient evidence for death³³.

Death in Islamic point of view: In Islam, death is inevitable, sure moment of life and

metaphysical event. Death is seen as the separation of the soul from the body and its transfer from this temporary world to the permanent afterlife. All the living creature must testify death in a predetermined period and cannot escape death staying in fortified house. Some scientist attempted to bring back dead to life scientifically but with no success³⁴.

*“No soul can die except by God’s leave, at a predetermined time”*³⁵.

And

*“The daze of death has come in truth: (Quran ; Sura kaf 50:2)”*³⁶.

And

*“Wherever you may be, death will catch up with you, even if you were in fortified towers”*³⁷.

But Allah did not tell us about of the time of our death. Allah created life and death because of testify who are good and who are bad. We do not know what will have happened tomorrow and where we will die even. So that we can do good deed in the world in fear of one day we will die and we will be rewarded heaven or hell according to our conduct.

*“Indeed, Allah [alone] has knowledge of the Hour and sends down the rain and knows what is in the wombs. And no soul perceives what it will earn tomorrow, and no soul perceives in what land it will die. Indeed, Allah is Knowing and Acquainted”*³⁸.

*“who created death and life—to test you—as to which of you is better in conduct. He is the Almighty, the Forgiving”*³⁹.

Allah does not give us immortality. though some people forget about Allah and behave like tyrant and torture the

oppressor. They with think proudly that they will live forever in the world. And claim himself as Allah. Allah challenge them if they are greater than Allah try to keep the death off.

*“We did not grant immortality to any human being before you. Should you die, are they then the immortal? 35. Every soul will taste death. We burden you with adversity and prosperity—a test. And to Us you will be returned”*⁴⁰.

And

*“Those who said of their brethren, while they themselves sat back: ‘Had they obeyed us, they would not have been killed.’ Say, ‘Then keep death off from yourselves, should you be truthful”*⁴¹.

We are created by Allah from extract of clay. Then keep our ovum and sperm in the worm. Then, develop blood, bone, flesh and human. Then we will die on day. It is very true event for human and them resurrect on the day for judgement.

*“We created man from an extract of clay. Then We made him a seed, in a secure repository. Then We developed the seed into a clot. Then We developed the clot into a lump. Then We developed the lump into bones. Then We clothed the bones with flesh. Then We produced it into another creature. Most Blessed is God, the Best of Creators. Then, after that, you will die. Then, on the Day of judgement day, you will be resurrected”*⁴².

Islamic Organization of Medical Sciences (IOMS) analogize brain death is an intermediate state between life and death⁴³. The Islamic legal verdict from

Organization of Islamic Conferences' Fiqh Academy (OIC-IFA) define death as when cardiorespiratory function stop and all vital functions cease irreversibly⁴⁴. In Islamic point of view death is seen as brain as a whole approach, death is considered of functional destruction of cerebrum, cerebellum, brainstem and spinal cord.

Only Allah is the authority to take our life. No man cannot kill life as he cannot produce a life. If a man kills other they should know they kill all the mankind. If man save a life, he saves all humankind. In Islam, it is sin to taking life rather saving life. Do no harm is the maxim of Islamic medical ethics. Therefore, it is mandatory to learn the physicians in Islamic point of view of death. Refreshing the definition of brain death for the purpose of organ procurement to understand donor relatives that physicians can not kill the patients or transplantation of organ from death patients they are actually helping the other patients in need.

*"Because of that We ordained for the Children of Israel: that whoever kills a person—unless it is for murder or corruption on earth—it is as if he killed the whole of mankind; and whoever saves it, it is as if he saved the whole of mankind"*⁴⁵. And

*"Lost are those who kill their children foolishly, with no basis in knowledge, and forbid what God has provided for them—innovations about God. They have gone astray. They are not guided"*⁴⁶.

However, Mohammad (S) said that death is the last stage of worldly life but the first stage of **afterlife**⁴⁷. The soul need material

body to continue its life and to reach to its perfection. Soul can live without material body and journey to another world that is very much opposite to previous life.

*"Death is the first stage in the stages of the hereafter and the last stage from the stages of the world"*⁴⁷

Peace vs hardship death: Quran said that death is accompanied with great pain. Those who struggled for property, wealth, children and other worldly things by committing unlawful, they experience death as severe difficulty. Prophet (*hadiths*) said that during death some people feel as if their body is being cut asunder by scissors, or are being grinded in a mill, or peeling off the entire skin from a living man's body. Below verses interprets the hardships of death. The hardships of death are not physical pains and discomfort; rather it is spiritual and internal as well as much severe than physical tortures. Quran says:

*and if you had seen when the unjust shall be in the agonies of death and the angels shall spread forth their hands: Give up your souls; today shall you be recompensed with an ignominious chastisement"*⁴⁸.

However, sometime, man commit numerous small and big sins and after sometime forgets most of them in such a way that as if he had never committed them. But all acts are recorded in the scroll of book. At the time of death, the curtain over eyes will be removed and he what act committed by him during his lifespan. The Holy Quran says:

"On the day that every soul shall find present what it has done of good and what it has done of evil, it shall wish that between it and

that (evil) there were a long duration of time; and Allah makes you to be cautious of (retribution from) Himself; and Allah is Compassionate to the servants”⁴⁹.

On the other hand, men who are good, the righteous believers, soul will be removed with ease and feel as if they are smelling the fragrance of a rose. The Holy Quran says:

“O soul that are at rest! Return to your Lord, well-pleased (with him), well-pleasing (Him), so enter among My servants, And enter into My garden”⁵⁰.

Imam Ja'far Sadiq (as) the sixth descendant of the prophet also said about death

“For the believer, it is like a nice fragrance, which comforts him and cures all his pains. But death for a disbeliever would be like the sting of a snake or scorpion; on the contrary it would be much more severe”⁵¹.

In a question of Imam Hasan (as) to Imam Ja'far Sadiq (as) what death is. He replied

“It is greatest happiness that would be bestowed to the believers when they would be transferred from the world full of hardships to the bounties of the everlasting world. And it is the great destruction that would befall the disbelievers, when they would be transferred from their worldly paradise to the everlasting fire (of Hell)”⁵².

So, we should do good deed during our life time and work for the betterment of the humankind unless our death will be hardship.

Can dying people see: Religiously, dying person will be able to see and hear his family, relatives, friends and strangers who are around him at the time of death. But he is non responsive because soul has taken over and he has lost control over his temporal body. After death curtain will remove over eyes and death man can see each of the invisible angles and other soul and quite different world what is never seen before. Prophet Mohammad (S) said,

“I swear by the One who holds my life and soul in His hands, if you were to see the station where the Angel of Death is standing in the house and were to hear his words, you would surely forget the one who has passed away! Rather, you would shed tears for yourself”

Experiment also showed that cochlear inner ear epithelia isolation from 10 days postmortem neonatal murine for replacement therapies for hearing loss, the survival rate is significant⁵³ which is consistent with this Quranic verse. As the deceased is being carried by casket, his spirit crying out on staying above the casket, “O my family! O my children! Do not let the transient world play with you as it played with me in which I collected the wealth both from the permissible and impermissible means and then left it for others behind me (to inherit). May felicity and delight be for those who have inherited that wealth, however, a responsibility remains on my shoulders. Be careful since that which has come upon me shall also come upon you.”

Conclusion: Death is the permanent and irreversible cessation of life. Increase organ procurement modern definition of

brain death has been postulated. Brain as whole has the promising implication in transplant medicine. Religion has vast of information regarding death to prepare the people for after life. Many religions accept the concept of whole brain death including Islam. Axiom of Islamic medical ethics is non maleficent or do not harm. Reduce the burden of illness psycho-social and spiritual support is needed at the end of life⁵⁴. As the death is the inevitable and sure moment of life. We can do good deeds in our life. Our benevolent works remain and may make us eternal.

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meticulously. 2nd author did the literature review and checked the manuscript meticulously.