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Explanation and Comparison of the Concept of Coma, General Anesthesia, and Brain Death in Iranian Fiqh and Law

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Abstract

This paper tries to discern the meaning of coma from general anesthesia and brain death in Shia jurisprudence and Iranian law. In medical science, coma is defined as a state of prolonged unconsciousness without any environmental awareness and wakefulness, general anesthesia is a drug-induced loss of consciousness during which the patient losses protective reflexes and stops registering memory, and brain death is the irreversible cessation of all brain functions. When discussing the state of a comatose patient, it should be remembered that coma itself is not a disease, but rather the effect of a disease or injury that has lowered the person's level of consciousness for an uncertain period of time, which could be short or very long. From a medical perspective, comatose people are alive and exhibit vital signs. Accordingly, in the Shia jurisprudence and law, these people are treated as living no matter how long they have been comatose. In other words, a comatose person cannot be considered dead because of the long duration of coma. This is however different from brain death, that is, when the brain is damaged irreversibly and exhibits no vital sign. While a person with brain death is definitely dead, comatose people have a chance of regaining consciousness and recovering, which makes them more akin to people under general anesthesia. In this paper, we first compare the states of coma and general anesthesia and then discuss the state of brain death individuals and make a comparison with coma.

Keywords: *Coma; General Anesthesia; Brain death; Incapacitated; Capacity*

Comparison of Coma and General Anesthesia

While people tend to think of general anesthesia as a deep asleep, in reality, a person under general anesthesia is more like someone who is in a coma. In other words, the brain activity of people under general anesthesia is similar to that of comatose people, with the difference that general anesthesia is a state of unconsciousness whose duration is controlled by physicians, who adjust the drug doses so that the effects disappear after a certain period of time. In the case of coma, however, the state of unconsciousness is not drug-induced but rather caused by injuries or diseases and in fact can be viewed as the body's reaction to the injuries. Also, neither patient nor physician has control over the duration of this unconsciousness, which is why some injuries can put a person in coma for a long time.

Definition of Life for a Comatose Person

The questions that what death is and what constitutes as death fall outside the scope of the science of law and should be answered by the scholars of medical and forensic science. What is important for the law is the effects and implications of death (Zeraat, 2005, vol. 1: p. 58).

These implications include for example the state of financial assets and properties left by the deceased and the inheritance rights of the decedent's survivors, the state of the decedent's debts, and the legal matters that arise when the death has a criminal dimension (e.g. Qisas[1] for murder). Hence, being dead or alive has profound implications in law and jurisprudence, because, on the one hand, some laws apply only after the death of a person, and on the other hand, some laws apply only as long as a person is alive and lose function as soon as he dies (Mir Hashemi, 2006, No. 44: p. 91). For example, Ezni contracts[2] such as delegation contracts expire upon death. Therefore, to settle legal affairs that involve comatose people, it is necessary to determine what state of life they are in (according to Islamic law), whether they can be considered dead, and whether the laws that apply to diseased individuals can also be applied to these people?

To answer these questions, first, it should be explained that Islamic law defines three possible states for human beings in terms of being alive or dead: 1- definite (steady) death 2- definite (steady) life 3- unsteady life (Sadeghi, 1995, vol. 5: p. 28).

To determine the state of a comatose person in Islamic law, we review the definitions and characteristics of the three aforementioned states and then try to determine whether they apply to a comatose individual.

1- Definite (steady) death: definite death has been defined as an irreversible and definite cessation of cardiovascular, respiratory, sensory, and motor functions combined with the death of brain cells (Shirzad, 2010: 27). According to this definition, there are two conditions for establishing definite death: the irreversibility of vital functions and the death of brain cells.

In Islamic jurisprudence, however, death has been defined as the complete and permanent separation of the soul from the body. This definition is based on the belief that humans have two dimensions, a spiritual dimension, which is the soul, and a physical dimension, which is the body. The soul does not dwell in the material world and therefore cannot be felt, but it is a truth that belongs to the body and manifests through its effects on the body, including consciousness, cognition, intellect, senses, etc. When all of these effects disappear, it signifies that the soul is no longer in possession of the body, which is the same as biological death (Abbasi, Farahzadi, 2011, No. 2, p. 25).

From this viewpoint, a person's soul is the leader and administrator of his bodily system and death is the cessation of this administration (Seraji, 2010, p. 74). Quran provides this definition of death in Verse 11 of Chapter 32: "Say: The angel of death, who is set over you, will take your souls, then you shall be brought to your Lord". However, contemporary Shia jurists have defined definitive death based on a series of medical criteria including the cessation of brainwaves.

Note that in Shia law, jurists have authority over the interpretation of the laws that classify as Tasisi (instituted)[3], and any doubt in such matters should be addressed through the same channel, because the alternative convention-oriented approach is only allowed for resolving matters that pertain to customs

[1] A doctrine in traditional Islamic law that holds that a punishment should be analogous to the crime

[2] In traditional Islamic law, an Ezni contract is a contract whose main function is to give permission or transfer authority

[3] This refers to the situations where Islam or Islamic jurists enact a rule that itself is unprecedented or concerns an unprecedented matter

and convention. In other words, in the matters for which jurists have instituted a law or involve rational propositions, it is not allowed to adjudicate based on customs and convention. For example, since the Salah (Namaz) ritual is instituted by Islam, the rules that determine whether it is done properly fall squarely under the authority of Islamic jurists (Alidoost, 2004, No. 2, p. 13).

In the matters that classify as Emzayi (confirmatory)[4] of the first category, convention can be the best roadmap for jurisprudence, but only as long as it is exact and strict, because non-strict (lenient) convention can never be a reliable reference for neither framing intensions nor inferring extensions. Thus, to base a legal opinion on a convention, that convention must allow for exact linking of intensions and extensions (Alidoost, 2004, No. 2, p. 14). Furthermore, there is no consensus among jurists as to whether conventions can essentially be a basis for linking intensions to extensions. In the context of the subject of this paper, some jurists believe that convention is the only measure for adjudication because the Islamic law does not provide a specific definition for being alive or dead, as these are conventional matters, and therefore the conventional definitions of life and death apply, because otherwise, Islam should have provided specific definitions for these concepts (Saedi, 2006, No. 45, pp. 260 and 261).

Jurists on the other side of this debate argue that convention cannot be a suitable measure for jurisprudence because lenient convention can be unreasonable and inconsistent. These jurists state that there is no such thing as leniency in the matters of Islamic law because -for example- no leniency is permitted even for the small details of the Salah ritual (Saedi, 2006, No. 45, p. 268).

For the matters that classify as confirmatory of the second category, the convention will not be a good measure for jurisprudence because the complexities of the subject often make it extremely difficult to make inference based on convention. Thus, in these cases, it is necessary to carefully examine the subject and use rational and scientific approaches as much as possible. Therefore, the best approach for adjudication on such issues is to refer to the opinion of experts.

The issue discussed in this paper, i.e. the question that whether the laws that apply to dead people can be applied to comatose individuals, certainly belongs to the class of confirmatory issues. Therefore, this issue must be adjudicated based on the scientific criteria provided by medical experts, because the question that whether a person is alive or dead or meet the conditions for either state at a certain time cannot be answered with a purely convention-based approach without using medical knowledge and criteria. This is because even with all of their theoretical complexities, the opinion of experts and specialists remain the most reliable and consistent measure for determining when a person is no longer alive. In conclusion of this part of the discussion, it can be stated that the stance of Islamic law on the definition and recognition of death is to refer to the opinions of medical experts, unless there is disagreement among experts or there is a possibility of brain coming back to life, in which case the person should be recognized as alive by default (Rouhani; Noghani, 1997, pp. 170 and 171).

Comparison of Coma with Brain Death

Another form of brain dysfunction is the condition known as brain death, which some may mistake for coma. Thus, to clarify this issue, here we describe what constitutes as brain death, examine the state of life of a person with brain death according to Islamic law, and then compare this condition with coma.

[4] This refers to the situations where Islam or Islamic jurists enact a rule that approves and upholds an existing custom, norm, or convention (this is known as emzayi -confirmatory- of the first category) or a rule that merely permits a custom, norm, or convention without approving it (this is called emzayi -confirmatory- of the second category).

Chapter 1: Definition of Brain Death

In short, brain death has been defined as the irreversible cessation of higher functions of the human brain (Goodarzi and Kiani, 2011, p. 42). The main causes of brain death include stroke, cerebral hemorrhage, and cardiac arrest (Soltanian, 1998, No. 14, p. 189). The aforementioned events can disrupt the supply of blood and oxygen to the brain, which is the center of control of vital functions such as respiration and cardiovascular functions. Since brain cells are more sensitive to oxygen deprivation than other cells, three to five minutes of oxygen deprivation can kill them on mass, doing serious irreversible damage to the brain. Once brain cells die, the brain can no longer provide the commands that the heart and respiratory system need to function, which is why brain death leads to definitive death (Goodarzi and Kiani, 2011, p. 42). Definitive death is the natural outcome of brain death. However, with the advancement of medical technologies, even after a person's brain dies, his cardiac and respiratory functions can be sustained by life support equipment. But since these functions are supposed to be controlled by the brain and brainstem, these organs fail as soon as they are detached from the support equipment, which leads to definitive death (Seraji, 2010, p. 67). It should be noted that once brain cells die because of oxygen deprivation, they cannot be revived or regenerated, which means the brain will never return to its original state (Goodarzi and Kiani, 2011, p. 43). Since life support devices can keep a person breathing artificially for a few days or at most a few months, a person with brain death will certainly die in a short time, even if he receives the most advanced medical care. Statistics show that 85% of patients with brain death die within a week, almost 100% of them go into cardiac arrest within two weeks, and their heart usually stops functioning after two weeks (Abbasi, 2000, P. 181). The longest time a person with brain death has kept alive by life support is 107 days [it is actually 20 years] (Soltanian, 1998, p. 190). While a person with brain death who is on life support has respiration and blood circulation, he will have a flat line ECG (Shirzad, 2010, p. 26). This means that the brain and brainstem, which are supposed to control the cardiac and respiratory functions, are not sending any signal to the heart or lungs, and hence no oxygen will be entering the lungs and reaching the bloodstream without the respirator. Once oxygen is in the bloodstream, spontaneous pulses of the heart (or artificial cardiac systems) distribute the blood and its oxygen to other organs, but this is only because heart muscles begin to develop before the nervous system and therefore have an innate ability to produce impulses spontaneously. This is why there are reports of contraction in heart muscles during forensic dissection or even 24 hours after death (Hatami and Masoudi, 1987, p. 7)

In the Iranian law on organ transplantation of deceased patients and patients with brain death, enacted on 5/4/2000, there is no definition of brain death and the diagnosis of this condition is delegated to a group of medical experts (Abbasi, 2010, p. 129), who are appointed by the minister of health to 4-year terms. However, the executive bylaw of this law, enacted in 2002, has used the same definition of brain death as have other countries. In Article 1 of this bylaw, it is explicitly stated that "Brain death is the irreversible cessation of all functions of whole cortical and subcortical structures of the brain and the brainstem". In view of this definition of brain death, in Iranian law, when we say that a person is in the state of brain death, it means that his whole brain activity is lost irreversibly and forever. Some of the signs of this loss of brain function include lack of response to pain stimuli, loss of spontaneous movements of the limbs, loss of brainstem reactions, loss of spontaneous respiration, and flat-line ECG (Soltanian, 1998, p. 190).

Note that the aforementioned signs of brain death should remain stable for some time, reflecting that the condition is permanent. According to medical experts, this period is 48 hours if the cause of unconsciousness is known (e.g. concussion or cerebral hemorrhage) and 72 hours if the cause is unknown (Soltanian, 1998, p. 191). This is consistent with what is stated in several sources of Shia jurisprudence, which rule that when a person seems to be no longer alive, one should wait for three days to ascertain

death[5]. Clearly, what is important in this rule is not the period (3 days) but to delay the burial until knowing for certain that the person is indeed dead.

Chapter 2: State of Life of a Person with Brain Death

As mentioned, in Shia law, human beings could be in one of the following three states in terms of being alive or dead: 1- steady life 2- unsteady life 3- definite death (Sadeghi, 1995, p. 28.). From this viewpoint, it is not enough to a judge person dead or alive, but it is also important to determine whether his life is steady or unsteady.

One group of jurists believe that a person with brain death has steady life. Indeed, many well-known contemporary jurists have ruled in their fatwas that it is not permissible to transplant the primary organs of a person with brain death (organs like the heart or liver, without which the person will certainly die). This ruling is based on the argument that since a person with brain death cannot be considered definitely death, taking away his main organs, which will kill him, should not be permissible (Mohammadi Karaji, 2010, No. 62, p. 80)

Opposing this view, some jurists argue that a person whose brain is dead should be considered dead. Unlike the first view, which is common among jurists, this second view is only adopted by Makarem Shirazi and Mousavi Ardebili, who have ruled that one can transplant the organs of a person with brain death, provided that the brain death is definite and irreversible and the organ transplantation will save the life of another Muslim (Mohammadi Karaji, 2010, No. 62, p. 484) This fatwa is clearly based on the argument that a person with brain death is not alive, because otherwise, his main organs could not be transplanted under any situation.

The second view is more widely accepted among Iran's legal scholars, who have explicitly stated that "brain death falls into neither steady life nor unsteady life category; it is definite death and there is no longer any life left in the person with brain death to differentiate" (Abbasi; Farahzadi; and Rahmati, 2011, p. 31). It has also been stated that "if a person's brain is dead and all credible supplementary tests confirm this diagnosis, it is certain that the soul has left the body and the person must be declared death; but if a person has only suffered an injury in the cerebral cortex or brainstem, he must be considered alive" (Tavakoli Nazari, 2003, p. 102). Regarding the last part of this quote, it should be noted that no one believes that a person with only the death of the cerebral cortex should be considered dead (Amani, 2009, p. 162). Elsewhere it is stated that "Today, brain activity should also be factored in the diagnosis of cardio-pulmonary failure, in the sense that if a person has had a cardiac arrest but shows sustained brain activity, he must be considered alive and doctors are obliged to resuscitate him, but, on the contrary, if the brain activity is stopped, he should be considered dead even if he has a heartbeat" (Hatami and Masoudi, 1999, p. 78).

[5] Mohammad Ibn Jamal al-Din, Maki Al-Ameli (1999), Lama'a al-Damashqiyyah, Vol. 1, Translated by Gharvayan, Mohsen and Shirvani, Ali, 12th edition, Qom, Dar al-Fikr Publishing, No. 24, p. 42;
Muhammad ibn Hassan, Hor Amoli, (1989), Tafsil Wasa'il al-Shi'ah ela Tahsil al-Masail Shari'a, Vol. 2, First Edition, Qom, Aal al-Bayt Institute,
Abwab al-Ehtezar, Chapter 48, narration 1, p. 474;
Muhammad ibn Ya'qub quoted from Ali ibn Ibrahim from Abiyyah an Ibn Abiyyah from Ibn Abi Umayr from Hishan ibn al-Hakam from Abi al-Sen: "When a person dies by thunderbolt or drowning, one should wait for three days - as a change may occur in that time"; Ibid; quoted from Muhammad ibn Isa from Yunus from Isma'il ibn Abd al-Khaliq from Ibn Akhi Shahab ibn Abd Rabbah: "Abu Abdullah said, when a person dies by drowning, thunderbolt, crushing, or suffocation with smoke, wait five days to observe whether there is any change".

Chapter 3: Comparison of Coma with Brain Death

One of the differences between brain death and coma is that, as mentioned, in brain death, survivability is extremely limited and the person dies in a short time, but in coma, the person may stay alive for many years before dying or regaining consciousness, as the duration of coma is unknown and depends on the underlying causes. Considering this major difference, there no way to equate a brain death individual with a person in coma who is experiencing brain dysfunction, though they may appear similar and could be mistaken for each other.

Also, as previously explained, the basic measure that doctors use to diagnose brain death is the impossibility of regaining consciousness. The reason why a patient with brain death will never regain consciousness is that the underlying cause damages the brain or causes oxygen deprivation in the brain to the extent that brain cells simply die and the brain stops functioning, which means organs can only be maintained by oxygenation through artificial means. But in comatose people, the damage is not devastating enough to kill the brain cells and may just hinder the oxygen supply to the brain, which results in unconsciousness. Unlike in brain death, where brain cells die and ECG turns into a flat line, in coma, brain cells remain alive and ECG shows brain activity, which indicates a promising probability of recovery from coma. Thus, it can be argued that to distinguish brain death from coma, one has to ascertain whether or not the person's unconsciousness is reversible. If the person's unconsciousness is temporary and reversible, a state that can also be caused by certain factors such as drug poisoning, opium poisoning, etc., it means that the person is just comatose (Dibayi, 2005, p. 116). But if examinations prove that unconsciousness is permanent and irreversible, the person is brain dead and can be declared dead due to the permanent cessation of brain function.

Results

In coma, parts of the brain could be damaged for any reason, resulting in unconsciousness, but the brain, heart, lungs, kidneys, liver, and other organs remain functional; thus the person is still alive and has only lost consciousness. This length of this unconsciousness depends on the severity of the brain injury and may last from a few days to months or years. The concept of general anesthesia is quite different from both coma and brain death. General anesthesia is induced by anesthetic drugs and can be viewed as a temporary and controlled adjustment of the level of consciousness. For the brain death, however, it is argued that just like death, which is an absolute concept and must be determined in adjudications based on a measure rather than its conventional meaning, proving death in suspicious cases such as brain death should be delegated to confident experts. Therefore, a jurist can declare that a person with brain death is indeed definitely dead as long as this is supported convincingly by the final verdict and consensus of medical experts. In this regard, there is a consensus among medical experts that a person whose brain appears dead or has begun to disintegrate should not be considered alive (as the soul has departed) and the movement of the heart and other organs in these people can be likened to similar movements in slaughtered animals. Indeed, continuing treatments on these people could possibly be judged as an act of embezzlement. These cases also meet the requirements for applying the laws and jurisprudential rules that apply to a dead person in matters such as the annulment of marriage, iddah[6], the state of debts, the annulment of delegations, the execution of the will, the division of inheritance, etc. However, since people with brain death have some live organs and have not yet turned into a lifeless cadaver, it is concluded from the Islamic laws pertaining to dead that the rituals concerning the dead people, such as ghusl mas-hil mayyit[7], are not obligatory in these cases. From what was discussed in this paper, it can also be concluded that in the cases of brain death, although the heart and some internal organs such as the

[6] The period that a woman must avoid marrying after the death of her husband or after divorce
[7] Full ablution that becomes obligatory if one directly touches a dead body

lungs can still function with the help of life support equipment, a person with dead brain, who has no brain or neural activity, is equivalent to dead. Indeed, such a person cannot be considered alive, because he has truly died the moment his brain has died. This is also consistent with the conventions of the society, as the society does not see the person with brain death as alive, and since death is not inherently a construct of Islamic law or jurisprudence and has a conventional meaning, Islamic law has delegated the definition of death to the conventions of the society. While the legal implications of death apply to brain death individuals, since the heart and lungs continue to function on life support equipment, these legal implications come into effect not from the moment of cessation of brain activity (brain death), but from the moment of cessation of cardiac and pulmonary activity.

Postscript

Mohammad, Momen Qomi, (1995), Kalamat Sadideh fi Masail Jadidah, First edition, Qom, Asalemi Publishing Office affiliated with the Society of Seminary Teachers of Qom.
Muhammad ibn Jamal al-Din, Maki al-Ameli, (1999), Lama'a al-Damashqiyyah, Volume…

Persian References

Books:

Abbasi, Mahmoud (2010), Medical Criminal Law, Second Edition, Tehran, Hoghoughi Publishing.
Dibaei, Amir (2005), Abstract of Forensic Medicine, Second Edition, Ahvaz, Ahvaz University of Medical Sciences Publishing.
Goodarzi, Faramarz (1989), Forensic Medicine, Tehran, Official Publication of Iran Judiciary.
Goodarzi, Faramarz; Kiani, Mehrzad (2011), Forensic Medicine for Law Students, Eighth Edition, Tehran, Samt Publications.
Jafari Langroudi, Mohammad Jafar (2011), Mediator in Legal Terminology, Fourth Edition, Tehran, Ganj-e-Danesh Publishing.
Rouhani, Mahmoud; Noghani, Fatemeh (1997), Medical Laws, First Edition, Tehran, Teymourzadeh Publishing.
Shirzad, Jalal (2010), Police and Forensic Medicine, Second Edition, Tehran, Research and Publishing Office of NAJA University of Law Enforcement Sciences.
Zaraat, Abbas (2005), Criminal Law, Volume 1, First Edition, Tehran, Fekrsazan Publishing.

Articles:

Abbasi, Mahmoud; Farahzadi, Ali Akbar and Rahmati, Mohammad, (2011), Examination of brain death from the perspective of Islamic jurisprudence and criminal law, Journal of Medical Ethics and Law, Vol. 4, No. 2.
Alidoost, Abolghasem, (2004), Utility of convention in applying intensions to extensions, Journal of Islamic Law and Jurisprudence Research, Year 1, No. 2.
Amani, Hamid Reza, (2009), Crime Against Cortical Death Patient, Judiciary's Law Journal, Vol. 73, No. 68.
Hatami, Ali Asghar and Masoudi, Neda, (2010), Legal Implications of Brain Death, Journal of Legal Studies of Shiraz, Vol. 2, No. 1.
Mir Hashemi, Sarvar, (2006), Fundamentals of the legitimacy of organ transplantation, Nedaye Sadegh Magazine, Year 11, Issue 44.
Mohammadi Karaji, Reza, (2010), Nature of brain death and its jurisprudential and legal implications, Fiqh-e-Ahl-e-Bait Journal, Year 16, No. 62.
Nazari Tavakoli, Saeed, (2003), Comparison of brain death with unsteady life, Journal of Articles and Studies, Vol. 73.

Sadeghi, Mohammad Hadi, (1374), Non-settled Life Article, Scientific Journal of Forensic Medicine, Year 2, Issue 5.
Sadeghi, Seyed Abbas, (2001), The use of auditory responses in confirming brain death, Scientific Journal of Forensic Medicine, Year 7, No. 22.
Seraji, Mahmoud, (2010), The nature of brain death according Quran and hadith, Arak University of Medical Sciences Research Journal, Vol.13, No. 4, Special Issue 2.
Soltanian, Hamid, (1998), Brain Death, Fiqh-e-Ahl-e-Bait Journal, Year 4, No. 14.
Taghizadeh, Elmira, (2010), How to calculate the diya of people with plant life, Culmination of Law, Year 2, No. 6.

Arabic References:

Books:
Qomi, Saduq, Mohammad Ibn Ali Ibn Babavieh, (1995), Al-Maqna'a, first edition, Qom, Imam Hadi Institute.
Maki Al-Ameli, Muhammad ibn Jamal al-Din, (1999) Lama'a al-Damashqiyyah, Vol. 1, Translated by Gharvayan, Mohsen and Shirvani, Ali, 12th edition, Qom, Dar al-Fikr Publishing.

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