108125 - Are Stem Cells Prohibited in Islam?

the question

I want to know the Islamic view on the topic of stem cells and cell banks. A cell bank is a place where a person’s stem cells are stored in return for a fee for a certain length of time -- several years -- so that they can be used in the future if needed.

Summary of answer

Islam permits the use of stem cells for medical purposes, provided that their source is ethically and religiously permissible. Stem cells harvested from umbilical cords and spontaneously aborted foetuses are generally allowed, while deliberately induced abortions or cloning for the purpose of obtaining stem cells are forbidden.

Detailed answer

Praise be to Allah.

The Role of Stem Cells in Medical Treatments

The cells referred to in the question, stem cells, are extracted from the umbilical cord after birth. These cells that are taken from it play a role in rebuilding blood cells and strengthening the immune system of patients with blood diseases such as leukaemia (blood cancer) and anaemia. They may also be used to treat neurological diseases such as brain paralysis, Alzheimer’s and so on.

These cells are not attacked by the immune system, because they quickly develop into a neutral state. The umbilical cord looks somewhat like a rope; it connects the foetus in the uterus to the placenta. It contains two arteries and one vein. The arteries take blood carrying waste material from the foetus to the placenta, and the vein takes blood carrying oxygen and nutrients from the

mother’s blood to the foetus. (End quote from Al-Mawsu`ah Al-`Arabiyyah Al-`Alamiyyah)

Sources of Stem Cells: Ethical Considerations in Islam

There are three sources for stem cells:

1. Stem cells taken from human embryos between the ages of 5 days and two weeks.
2. Stem cells taken from adults, which are collected in two ways:

- From bone marrow, i.e. from the bone itself, such as from the bones of the pelvis or chest. The problem with this method is that it is regarded as painful and requires a general anaesthetic; it also takes a long time, in addition to the fact that the amount of stem cells collected in this manner is very small.
- From blood. This requires a large amount of blood to be taken, then filtered, but in the end only a very small amount of stem cells is obtained.

1. The last and most important source of stem cells is the umbilical cord, which is a rich source of these cells; it may contain as many as 200 million stem cells!

Are Stem Cell Banks Permissible in Islam?

Hence the idea developed of keeping these cells in “banks”. In Dubai there are public and private stem cell banks, and in Jeddah there is a private company that stores cells for those who want that, in return for a fee. These banks implement measures to guarantee that the cells will not be tampered with; the owner can also follow up and check on them just as he can check on the money in his bank account.

Some doctors have stated that it is possible to preserve these cells for up to 25 years, and some doctors say that it is possible to store them for life.

Can Stem Cells Be Donated or Sold?

These cells are useful not only for their owner who may be affected by diseases in which he can

benefit from them; rather he can also donate them to others. Stem cells have indeed been used to treat cases of sickness and they have been a successful alternative to the risky procedure of transplanting bone marrow. From a medical point of view, stem cells are regarded as an alternative to organ donation, as it is possible to regenerate the patient's damaged cells.

For their owner, they are a perfect match for his cells, and he is the only one who has a perfect match. Among members of the same family, the likelihood of a match varies between 25% to 40%. All of this, of course, applies so long as the mother does not have any communicable diseases such as hepatitis or AIDS. Hence it is essential to carry out tests on the mother's blood before collecting the stem cells.

Based on that, if an individual keeps them for himself, there should be no difference of opinion that it is permissible.

Islamic Stance on Abortion and Stem Cell Use

Because of these benefits in the cells that are taken from the umbilical cord, some of those who do not fear Allah hastened to obtain umbilical cords by means of deliberate abortion. We are sorry to say that some of those whom people trusted with their lives did that.

Hence there was a clear statement by the Islamic Fiqh Council that it is prohibited to carry out deliberate abortions for the purpose of using the embryo's organs – including stem cells, of course. There follows the text of the statement:

In the session of the Islamic Fiqh Council, held during its sixth conference in Jeddah, KSA, 17-23 Sha`ban 1410 AH (14-20 March 1990 CE), after studying the research and recommendations on this subject – which was entitled Using Foetuses as a Source for Organ Transplants – which was also one of the topics of the sixth Medical Fiqh conference held in Kuwait, 23-26 Rabi` Al-Awwal 1410 AH (23-26 October 1990 CE) – in cooperation between this Council and the Islamic Medical Sciences Organization, the following was determined:

1. It is not permissible to use foetuses as a source for organs that are needed for transplant into

another individual except in some cases that are subject to conditions that must be met:

- It is not permissible to deliberately induce abortion for the purpose of using the foetus in order to transplant organs into another individual. Rather abortion should be limited to that which is natural and spontaneous (i.e., miscarriage) and not deliberate, or abortion that is carried out for a legitimate shar`i reason. Surgery should not be resorted to in order to extract the foetus except where that is necessary in order to save the mother's life.
- If the foetus is viable (i.e., could survive), then medical treatment should focus on saving and preserving its life, and it should not be used for organ transplants. If the foetus is not viable, it is not permissible to use it except after its death, subject to conditions mentioned in statement no. 1 of the fourth conference of this Council, which discusses one human benefiting from the organs of another human, living or dead.

1. It is not permissible to use the process of organ transplant for commercial gain under any circumstances.
2. It is essential to delegate responsibility for supervision of organ transplants to a committee of specialist and trustworthy individuals. End quote.

Is it permissible to use stem cells in Islam?

It seems – and Allah knows best – that it is permissible to make use of the cells found in the umbilical cord, especially when the cord is usually discarded.

The Fiqh Council of the Organization of the Islamic Conference issued a statement concerning this matter during its session that was held on 18 Jumada Al-Akhirah 1408 AH (6 February 1988 CE). The text of this statement follows:

Firstly: it is permissible to transplant an organ from its place in a person's body to elsewhere in his body, whilst making sure that the expected benefit from this procedure outweighs any potential harm, and on condition that this is done for the purpose of replacing a missing organ or reshaping it, or changing its function, or correcting a defect or removing a deformity that is causing psychological or physical pain. (End quote)

Shaykh Ibrahim Al-Fayyumi – Secretary General of the Islamic Research Council in Egypt – said:

The Council found that generating and growing tissues and cells in order to benefit from them in treating humans is done by using stem cells, and there is nothing wrong with that. This is based on what was mentioned by Professor Dr. Ibrahim Badran – a member of the Council and former Minister of Health.

And he said:

Islam does not prevent science that is beneficial to man. The Council is following with interest everything that is new in this important branch of science, and acknowledges that growing stem cells opens a new door to treatment that will reduce dependency on organ transplants from deceased persons or donors. It will give a greater opportunity to help patients whose illness is incurable, especially in cases of liver, kidney and heart disease.

And he said:

There is no Shar`i reason to disallow setting up banks to store stem cells, so long as they are used for treating humans. (End quote)

Is it permissible to donate sperm or eggs for producing zygotes?

We should point out that it is not permissible for anyone to donate sperm or eggs for the purpose of producing zygotes (fertilised eggs) which will then develop into the foetus with the aim of obtaining the stem cells from it. It is also not permissible to use cloning in order to obtain foetal stem cells. Rather permission is limited to obtaining stem cells from umbilical cords.

A statement was issued by the Islamic Fiqh Council, no. 54 (6/5) on the topic of transplanting brain cells and nerve cells, the text of which is as follows:

The session of the Islamic Fiqh Council that was held during the sixth conference in Jeddah, KSA, 17-23 Sha`ban 1410 AH (14-20 March 1990 CE), after studying the research and recommendations on this topic that was one of the topics of the sixth Medical Fiqh conference held

in Kuwait, 23-26 Rabi` Al-Awwal 1410 AH (23-26 October 1990 CE) – in cooperation between this Council and the Islamic Medical Sciences Organization, and in light of the conclusions reached by the conference referred to, and knowing that this does not mean transplanting the brain of one person to another person; rather the aim of this transplant is to treat a defect in specific cells in the brain that are not able to excrete sufficient chemical or hormone substances, so they are supplemented with similar cells from another source; or it is done to treat gaps in the nervous system that result from some injuries, the Council determined the following:

- Firstly: if the source of the tissue is the adrenal gland of the patient himself, and there is an advantage in that because it will not be rejected by his immune system as the cells are from the same body, there is nothing wrong with that from a Shar`i point of view.
- Secondly: if the source is an animal foetus, there is nothing wrong with this method if it can be successful and there are no Shar`i reservations. Doctors have stated that this method has been successful in different kinds of animals and it is hoped that it will be successful whilst taking the necessary medical precautions to avoid rejection by the immune system.
- Thirdly: if the source of tissues is living cells from the brain of an early embryo – as old as ten to eleven weeks – the ruling varies according to the following:

1. The first method: taking the tissue directly from a human foetus in the mother's uterus by opening the uterus surgically; this method results in death of the embryo as soon as the brain cells are taken, and it is haram unless it happens after spontaneous abortion (miscarriage) or an abortion that is permitted in Shari`ah in order to save the mother's life, and after ascertaining that the foetus has died, whilst paying attention to the conditions which will be mentioned on the topic of using embryos in statement no. 59 (6/8) of this session.
2. The second method: this is the method which may be brought about in the near future, which involves growing brain cells in "farms" in order to make use of them. There is nothing wrong with this from a shar`i point of view, if the source of the cells is legitimate and they were obtained in a manner that is Islamically permissible. End quote.

The role of countries in opposing aborting foetuses to obtain their organs and cells

All countries must oppose the abortion of foetuses in order to obtain their organs and cells, and it is not permissible to benefit from that which has been taken in unlawful ways to take part in setting up their banks. Trustworthy organisations should be in charge of this matter and these cells should be collected in ways that are Islamically acceptable, in order to treat those who need transplant of cells.

Islamic Fiqh Council's Statement on Stem Cell Research

After writing the above, we came across a statement of the Islamic Fiqh Council attached to the Muslim World League on the topic of stem cells, which agrees with what we have stated above. We will post it here to summarise what is stated above and to give it precedence over other statements, because it is the opinion of virtuous scholars who are specialised in medicine and Shari`ah.

The statement of the Islamic Fiqh Council:

The Islamic Fiqh Council of the Muslim World League, in its seventeenth conference in Makkah Al-Mukarramah, 2003 CE, discussed the topic of transplanting stem cells on the basis of the sources of these cells, in accordance with the recommendations of the organisation in its sixth conference in 1989 CE, as mentioned above. In the third statement of the Islamic Fiqh Council, dated 17/12/2003 CE, it says the following:

Stem cells, which are the original cells from which the embryo is created, have the ability – by Allah’s leave – to develop into different types of cells in the human body. Scientists have recently been able to find out about these cells and to isolate them and grow them with the aim of using them for medical treatment and various scientific experiments. Hence they can be used to treat disease and they are expected to have a great impact in the future in treating many diseases and physical deformities, including some types of cancer, diabetes, kidney and liver failure, and so on.

These cells can be obtained from numerous sources, including the following:

- The embryo at the blastula stage, where it forms a sphere of cells from which the various cells of the body will grow. Zygotes (fertilised eggs) produced in attempts at in-vitro fertilisation are regarded as the main source. It is also possible to deliberately fertilise an egg from a donor with sperm from a donor in order to obtain zygotes, and grow them until they reach the blastula stage, then extract the stem cells from them.
- Aborted foetuses at any stage of pregnancy.
- The placenta or umbilical cord
- Children and adults
- Cloning, which is done by taking a cell from an adult human, then extracting its nucleus and inserting it into an egg from which the nucleus has been removed, with the aim of reaching the blastula stage, then obtaining stem cells from it.

After listening to the research presented on this topic and the opinions of members, experts and specialists, and finding out about this type of cells and their sources, and the ways in which they may be used, the Council took the following decision:

1. Firstly: it is permissible to obtain stem cells and grow them, and use them for medical treatment or permissible scientific research, if the sources are permissible. That includes, for example, the following sources:

- Adults if they have given permission and that will not cause any harm.
- Children, if their guardians have given permission, if it is done for a legitimate purpose and without harming them.
- Placentas and umbilical cords, with the permission of the parents.
- Spontaneously aborted foetuses (i.e., miscarriage) or foetuses from abortions that were carried out for medical reasons permitted by Shari`ah, with the permission of the parents.

We should also be reminded of the seventh resolution of the twelfth session, about cases in which it is permissible to abort a pregnancy.

- Spare fertilised eggs (zygotes) from attempts at in-vitro fertilisation, if there are any and they have been donated by the parents; it should be noted that it is not permissible to use them for an illegitimate pregnancy.

1. Secondly: it is not permissible to obtain stem cells and use them if their source is prohibited, such as the following, for example:

- Foetuses that have been aborted deliberately without any medical reason that would make that permissible according to Shari`ah.
- Zygotes that result from fertilisation of donor eggs with donor sperm.
- Cloning. (End quote)

For more details, please see the following answers: 152447, 288676, 252773, 11875, 21582,

And Allah knows best.