



Analysis of The Theory of Embryo Formation from Male Sperm and Lack of Attention to Female Sperm in Quranic Verses

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Abstract

The creation of man, especially the stages of his development in the fetus, is one of the complex issues and wonders of creation in the world. Before Islam and even years later, various views were expressed about how the fetus was originated. Based on the science of embryology, it has been proven that both man and woman are involved in the formation of the fetus. It is claimed that the phrase "a leaping drop" in the verse "He is created from a leaping drop" means a jumping water and refers to the sperm of man. Therefore the female sperm has not mentioned in fetus formation. In response, it can be said: Contrary to popular belief, one of the meanings of the phrase is "fast and moving fluid" and the word "dāfiq" (i.e. leaping) as a subject refers to the intrinsic motion of human creation material and it is considered as one of the secrets of the Qur'an. In other verses of the Holy Qur'an, the creation of man from the "a mingled sperm" is also specified, which refers to the mixing of the sperm of man and woman.

Keywords: *Growth Stages; Dāfiq; Sperm; Fetus; Zygote*

Introduction

Expressing the successive and various stages that take place on the fetus in the womb is one of the important issues in the science of embryology.

The Holy Quran divides the creation of man in the fetus into six stages. According to the Holy Quran, the sperm stage is the initial stage of embryo formation, which is one of the most sensitive stages of the fetus; because the fetus has a very small volume, especially in the first weeks of pregnancy, and therefore is not easily visible, and examination and how it is placed in the womb is not possible without microscopic equipment and tools.

Until centuries before the discovery of the microscope in the 17th century, there was no proper understanding of the role of men and women in the development of the fetus, while the Holy Qur'an, which dates back to the seventh century AD, was the source of revelation of various stages and expresses distinct and different stages for the fetus. The holy Quran, with names and terms, examines the most

important operations and events that take place inside the womb for each stage of the fetus that these Qur'anic terms with the utmost precision and wonder have all the conditions required by the exact scientific terms. (Zendani, 1432, 33).

Examining Theories About Embryo Formation

Embryology is a branch of anatomy¹ that studies the development of the human body from the beginning of the Zygote to the birth of a baby.

Until the nineteenth century, a group of scientists considered the image of Homo colossus as a symbolic image of fertility. Homo colossus means a dwarf or tiny creature of a shape without having different parts of the body (in other words, a potential human being) that squat in a man's "semen", and even the sex of the baby in the form of a miniature girl or boy is known from the beginning. The growth of this micro-organism begins with the entry of the man's "semen" into the woman's uterus. According to this theory, also known as the Preformed Idea, the male contains the reproductive material, and the female is only the container and place for the fetus to grow. According to this view, in the process of fetal development, nothing new is created and its development only means its emergence and flourishing (Noor Mohammadi, 2010, p. 8).

Before Aristotle, the female uterus was considered a field for the growth and development of male semen. Aristotle then concluded that the fetus arises from the blood of menstruation and that semen has no role in its coagulation, just as sour cheese causes milk to coagulate (Albar, 1415, 183).

Another theory accepted until the middle of the seventeenth century is the hypothesis of Spontaneous Generation, which was the focus of prominent physiologists such as the great English physician and biologist William Harvey.

Another view that was prevailed in the seventeenth and eighteenth centuries was the Theory of Evolution, which later became known as the Theory of Preformation, and was supported by Leibniz, Haller, and Bonnet. At the time, most researchers thought that either there was a very small (miniature) animal in the egg that the spermatozoon stimulated it to grow, or that a man and a woman became very small (miniature) in a very small spermatozoon. (Shakerin, 1997, 23; Noor Mohammadi, 2010, p. 8).

The common aspect of all these embryonic ideas until the mid-eighteenth century was the lack of belief in the biological connection of the fetus to the parents and the actual involvement of the two in the development of the embryo, so that even people like De Graf who found the woman's egg cell as the largest cell thought that the fetal miniature was in the "egg cell". (Noor Mohammadi, 2010, 8). After the invention of the microscope in 1677 AD Leon Hooke and Hamm discovered the existence of sperm in human semen, and in the eighteenth century, after many experiments, Spallanzani and Wolff, after many experiments, made it clear that both men and women played a role in the formation of the fetus. Wolff believed that the embryo was not fully present in the sperm, nor in the ovary, but was quite simple in the beginning, then gradually grew into different parts and organs. In 1829, Schleiden and Schwann declared that living creatures are made up of cells. This view underlies the new anatomy, histology, and embryology, and in 1859 AD scientists have come to the conclusion that sperm and egg cell are nothing more than these vital cells. In 1875, Hertwig was the first to observe the fertilization of sperm and egg

¹ Anatomy is a science that talks about identifying different parts of the body. Its Persian equivalent is the same anatomy. Anatomy is a science that studies body structures macroscopically (without the need for magnification) and microscopically (using magnification). Usually when the word anatomy is used alone, it aims to examine structures that are naturally visible without the need for a microscope.

But when the word microscopic anatomy is used, it means to look at the tissues and cells of the body using a microscope. This branch of anatomy is called histology. (So, in fact, we mean macroscopic anatomy (without the need for a microscope). The science of anatomy is the foundation of medical science and is basically directly related to all branches of medical science in which clinical signs must be analyzed for the initial diagnosis of diseases. (Narāghī, Muhammad Ali et al., General Anatomy, p.20).

cell, proving that they were both effective in the development of Zygote, and in 1883 Van Banden proved that they had an equal role in embryonic development. (Albar, 1415, 185-190 with summary).

Therefore, at that time when imaginary ideas and baseless theories were prevalent, the verses of the Qur'an have provided the basic facts on the birth of the fetus in the best terms and the simplest expression.

Therefore, from the point of view of embryology in today's age, some aspects and angles of the fetus have been identified and have been proven as a scientific truth. For example, both male and female sperm play a role in the formation of the fetus, and this is not a theory but a scientific fact. The rest of the theories about embryo formation have been discarded by embryologists.

The Qur'an is the word of revelation and the best book of theology, and in significant verses it deals with how man was created, and especially the stages of his development in the fetus; one of the most important purposes of mentioning such verses in the Holy Qur'an is knowledge of God and belief in Creator (Yā Sīn: 77; Kahf: 37; Mu'minūn: 14), All-Knowing (Yā Sīn: 79) and Omnipotence (Yā Sīn: 81) of God Almighty. With the advancement of science and technology and the clarification of some embryological facts and its conformity with the teachings of revelation, it has become one of the reasons for the rightfulness of this heavenly book and the proof of its scientific miracle.

However, it has been claimed that the verses of the Qur'an are incompatible with the science of embryology, stating that the verses of the Qur'an refer to the male sperm in the formation of the fetus but no reference to the female sperm, so what the verses of the Qur'an say about this are in conflict with definite achievements of the science of embryology, in which both male and female sperm play a role in the formation of the fetus.

Therefore, this study intends to investigate the claims of incompatibility of Quranic verses with embryology by researching the verses of the Holy Quran and examining the views of commentators and translators in order to reveal the facts to the audience.

Explaining the Claims of Incompatibility of Quranic Verses with Embryology

Some verses of the Holy Quran refer to the emergence of man from the male sperm but have not paid attention to the role of the female sperm in the formation of the fetus. Therefore, these verses are in conflict with the science of embryology. Because from the point of view of embryology, both male and female sperm play a role in its formation.

In the Qur'an, it is stated:

﴿فَلْيَنْظُرِ الْإِنْسَانُ مِمَّ خُلِقَ خُلِقَ مِنْ مَاءٍ دَافِقٍ يُخْرُجُ مِنْ بَيْنِ الصُّلْبِ وَالتَّرَائِبِ (الطارق: 6):

“He was created from an effusing fluid”

In these verses, “mā' dāfiq" means "a leaping drop". After the translation, he said the following:

"According to this verse, man is made of male semen. Because it is said that man is made of a leaping drop, which is only true for semen in men. Because the woman is basically semen-free and has only secretions in the wall of the genital tract and uterus that facilitate sperm transfer. And the female egg cell is released when the ovarian wall ruptures and the water does not jump. On the other hand, if He wanted to say that man is made of male and female semen, He should use the leaping drop for both male and female, not just male. In addition, nowhere in the Qur'an, the role of women in sperm has been mentioned. It was also an old misconception that children were considered merely the product of male semen, and even until recently it was common in societies. Again, you see that this common mistake has been included in the Qur'an and attributed to God. It should be noted that in some

narrations, sperm is mentioned for men and women. If the above narrations are correct, it seems that the author of the Qur'an has realized this mistake in the Qur'an and has tried to correct it in the hadith, but in any case, what is stated in the Qur'an is wrong." (Suha, 2015, 59-58)

Summary of the problem:

- According to the verses of the Qur'an, man is made of a leaping drop.
- Leaping drop comes singularly, not for both man and woman, so it is true only about male semen.
- Nowhere in the Qur'an is the role of the female sperm in the formation of the fetus mentioned.

Conclusion: The conflict between the Qur'an and embryology has a reason for the human nature of the Qur'an.

Review

The root of the problem goes back to the meaning of the word "dāfiq" in the verse. To clarify its exact meaning as well as its relation to the following verses, the meaning of "mā' dāfiq" used in the holy verse raises some questions which need a reasoned answer that both helps to interpret the verse correctly and clarifies the truth to the audience.

- 1- What is the meaning of "mā' dāfiq"? Is it possible that "mā' dāfiq" has another meaning that has been overlooked by commentators and translators?
- 2- Does "mā' dāfiq" belong to the sperm of a man, or does it contain the sperm of both men and women?
- 3- Nowhere in the Qur'an is the role of the female sperm in the formation of the fetus mentioned?

Therefore, before examining the views of commentators and scientists of embryology, it is necessary to define "mā' dāfiq" from the authoritative sources of semantic dictionary.

Semantics of the Word "dāfiq"

Dāfiq is the name of the subject comes from the root "dafq" in the dictionary in several meanings: A water that falls at once is called "dafq al- mā'" and also the sperm that falls at once is called "mā' dāfiq" (Farāhīdī, nd, v. 5: 120) Others have said: It means to gather and mix when the people come in a group. (Fayyūmī, nd, v. 2: 197). Another meaning that most lexicographers have stated is that it means moving and fast, and that is when they want to express how something moves: "moving fast" (Ibn Sayyidah, nd, v. 6: 320; Johari, 1425, vol. 4, p. 1475; Ibn Manẓūr, nd, vol. 3, p. 99; Firuz Abadi, Muhammad ibn Ya'qub, al-Qāmūs al-Muḥīt, vol. 3, p. 314.) namely a fast moving. (Ibn Duraid, nd, vol. 2: 672; Ibn Sayyidah, nd, vol. 7, p. 126.) That is, they moved quickly, and when it is said: The camel is moving fast. (Farāhīdī, v. 5, 120; Azharī, nd, v. 9, p. 52)

Literary Points of the Verse "He Was Created of a Leaping Drop"

Some writers have said: "Mā' Dāfiq" means a water to be poured. How can Dāfiq in the form of the subject be an adjective for "Mā' "? In justifying it, some people, such as Farrā and some people, have said: Dāfiq is Madfūq and the people of Hejaz, when the subject becomes an adjective, bring it into an objective meaning. (Farāhīdī, nd, vol. 9:52; Johari, 1425, vol. 4, p. 1475; Ibn Sayyidah, nd, vol. 8, p. 584; Ḥumayrī, nd, v. 4: 2119) Some other syntacticians, such as Abu Ja'far Nuhās, have rejected it and said

that the subjective adjective is not used instead of the objective adjective. If this is the case, it is permissible that the assailant to mean beaten. (Ḥumayrī, nd, v. 4: 2119) and it is quoted from Zajjāj that he said "mā' dāfiq" means "the leaping water", it has been said that this is the method of Sībawayh and Khalil. (Azharī, nd, vol. 9:52; Ibn Manẓūr, nd, vol. 3: 500; Fayyūmī, nd, v. 2: 197)

The word "dāfiq" is a single-application word and has been used only once in the Holy Qur'an in the description of "semen": He is created from a leaping drop. (Ṭāriq: 6)

Checking Translations About "Mā' Dāfiq"

In the Persian translations, "Mā' Dāfiq" has several meanings:

Leaping Water

In most translations into Persian, "Mā' Dāfiq" has been translated as "leaping water":

He is created from a leaping water. (Ansārīyān, 2005, 591; Rezayī Esfahani, 2005, 591; Garmaroodi, 2006, 591; Salawati, 2009, 591; Barzi, 2004, 591; Payande, 1979, 508).

There is disagreement as to whether the leaping water belongs only to the male sperm or to the male and female sperm. Some translators have stated in the translation that it belongs to the male sperm: "He was created from the jumping water of man." (Balāghī, 2008, vol. 7: 206), "He has been created from a leaping water" (i.e. from the semen of a man that is leaping and is placed in the womb of a woman and becomes a child)" (Khosravani, 2012, vol. 8: 524). But Ayatollah Meshkini has said that it refers to the mixed sperm of man and woman. "He was created from jumping water (mixed from couples)" (Meshkini, 2002, 591).

Leaping Sperm

Elahi Ghomshei has translated Mā' Dāfiq into a leaping sperm: "He was created from a leaping sperm". (Elahi Ghomshei, 2001, 591).

A Poured and Spilled Water

In his commentary, Meybodi has translated "Mā' Dāfiq" into a water that has been poured and spilled: "He created him from a spilled water." (Meybodi, 1993, v. 10: 449).

The word "Mā' Dāfiq" in Persian translations has three meanings: "leaping water", "leaping sperm", and "a poured and spilled water". Thus, the meanings reflected in the translations refer to the characteristics of the male semen, which is in a jumping state, except for Ayatollah Meshkini, who said: Mā' Dāfiq refers to the mixed sperm of male and female; (Meshkini, 2005, 591) But since only the male semen is in a leaping state, then the mentioned drawback still remains unanswered.

Examining the Commentators' Views on "Mā' Dāfiq"

On whether the "Mā' Dāfiq" belongs only to the sperm of a man or includes the sperm of both a man and a woman: There are two views among the commentators:

First View: Mā' Dāfiq Means Male Sperm

1- Some commentators have applied "Mā' Dāfiq" only to a man's "semen": Ṭabrisī has quoted Ibn Abbas in his commentary: Mā' Dāfiq means the fluid that is poured into a woman's uterus, that is, the semen from which the child is born (Ṭabrisī, 1994, vol. 10: 715).

Allameh Tabataba'i has said: A fluid that flows with speed and pressure is called Mā' Dāfiq, which here means human sperm, which is transferred from the father to the mother's womb with pressure. (Tabataba'i, 1996, vol. 20: 260).

The late Taleghani has said: Mā' i.e. water means unity and ambiguity, which is described in the description and appearance of "Dāfiq" and in more detail "It comes out ...". The unity and ambiguity of "Mā'" refers to its mysterious or insignificant and unknown nature. And they have further said: The appearance of the meaning of Dāfiq in the form of the subject is that the water itself is leaping, and this is consistent with the discovery of the living cell of the "spermatozoon" of man, which is itself mobile and jumping before the pressures of contraction and expansion of muscles. (Taleghani, 1984, vol. 3: 330-331).

However, he further criticized the opinion of some other commentators and said that the verse explicitly states: Mā' Dāfiq, "which is for men", comes out of the backbone and the ribs. As for the milk, the same interpretation has been said:

«نُسْقِيكُمْ مِمَّا فِي بُطُونِهِ مِنْ بَيْنِ فَرْثٍ وَ دَمٍ لَبَنًا خَالِصًا سَائِغًا لِلشَّارِبِينَ» (نحل: 66):

“Here is indeed a moral for you in the cattle: We give you to drink of that which is in their bellies from between] intestinal [waste and blood, as pure milk, pleasant to those who drink.”

Therefore, the backbone and the ribs must be sought both in the male sperm-making organ. He went on to comment on other possibilities and said: Perhaps the Qur'an's view is that this apparent leaping water is the product of the interaction of limbs or forces, or of current hard materials, and of soft and passive material. Perhaps the verse's view is to a more distant and broader origin and to the main elements and materials of the world: this leaping and living water, which is the human origin, is among the hard and effective elements and the soft materials. It comes out of either positive and negative material forces, or active creation forces, and passive matter. None of these meanings is far from the eloquent references of the Qur'an. (Taleghani, 1984, v. 3: 332).

Ayatollah Makarem Shirazi has said: (He is created from a leaping water) is a description for the sperm of a man that floats in semen and jumps when it comes out. He went on to criticize the views of others and said: In these verses, only the male sperm is mentioned, because the interpretation of "Mā' Dāfiq" (leaping water) is true about the male sperm and not the female. He has given several reasons for that:

- 1- The most appropriate interpretation is to say that the Qur'an refers to one of the two main components of the sperm, which is the male sperm, and is perceptible to all.
- 2- What is in the dictionary in the meaning of words is harmonious.
- 3- In other verses of the Qur'an, when it comes to the creation of man from sperm, it relies more on the semen of man, which is a tangible thing (Makarem Shirazi, v. 26: 368).

He went on to say: "There may be a more important truth in this verse, which has not been discovered for us to the extent of science today, and the discoveries of scientists in the future will reveal it." (Ibid.)

The Second View: Mā' Dāfiq, The Sperm of Men and Women

Some other commentators have dedicated "Mā' Dāfiq" to the sperm of both men and women:

Ṭabrisī has quoted from Farrā' who has said: "Mā' Dāfiq' means 'Madfūqun'". The people of Hejaz used the subject noun in place of object noun; such as: *لَيْلٌ نَائِمٌ، هَمٌّ نَاصِبٌ، سِرٌّ كَاتِمٌ*. And then quoted from Aṭā that he said: In the verse of the Qur'an, the backbone of the man and the ribs of the woman is meant because the child is not born except from the sperm of man and woman. (Ṭabrisī, 1994, v. 10: 715).

Others have said: Man was created from a fluid that flows and is rapidly poured into the uterus, which comes out of the man's backbone and woman's ribs. (Nūwī Jāwī, 1417, v. 2: 622).

The author of Mahāsīn al-Ta'wīl has given many explanations about this and has continued: Mā' Dāfiq is the liquid from which the perfect creation is originated, like man, who has intellect and consciousness. (Qasemi, 1418, v. 9: 450). Dāfiq comes from the root Dafq meaning Madfūq, that is, poured, and the noun of the subject here means the noun of the object, just as the noun of the object sometimes comes instead of the noun of the subject, such as: *«حجابا مستورا» (اسراء: 45)*

Or that it is permissible in reference that Dāfiq is the adjective for the word that is attributed to the water itself. Or it is an explicit metaphor, as if its drops are driving one after the other, which has made it Dāfiq. And it is narrated from Leith that he said: Dāfiq means pourer and without interpretation it means the same as the name of the subject. (Qasemi, 1418, v. 9: 451).

The author of Tafsīr Fī Zilāl al-Qur'an has said: Man was created from a liquid that is collected from the backbone of a man, and from the ribs of a woman, which are the bones above the chest, and this secret is the knowledge of God that man does not know it. (Sayyid Ibn Quṭb, 1412, v. 6: 3878).

Because Mā' Dāfiq comes out of the backbone of man and ribs of woman, and the semen feeds on blood and blood from food, so it is not correct to say this Mā' Dāfiq in the verse, except when it has been collected from the parents on a certain condition, and who does collect these? Surely the Almighty God who is able to bring back and revive man (Hejazi, 1413, v. 3: 852).

Marāghī has said: "Dāfiq means Madfūq, which comes out of the backbone and ribs of both man and woman, the same substance that is for the creation of man, when it comes out of man and woman and is placed in the womb." (Marāghī, nd, v. 30: 112).

Mā' Dāfiq is the same sperm and the meaning of backbone and ribs is the backbone of man and the ribs of woman, respectively, and these two are the sources of a sperm from which man is born (Mughniyeh, 1424, v. 7: 549).

According to the first view: Mā' Dāfiq means the semen of a man that comes out of his backbone and ribs. The main reason for this is that Mā' Dāfiq means leaping water and comes out with intensity and strength, and the female sperm does not leap, so according to the context of the verse, here the backbone and ribs are for men.

According to the second view: which is the opinion of most commentators. (Sabuni, 1421, v. 3: 519; Faḍlullāh, 1419, v. 24: 182; Gonābādī, 1408, v. 4: 246; Ṭantāwī, nd, v. 15: 354) In the verse "He is created from a leaping water" Dāfiq means Madfūq, meaning a poured liquid which includes both man and woman. The main reason for this is that man is created from the sperm of both man and woman. Therefore, according to the context of the verse, according to some, the backbone and ribs are specific to both men and women (the backbone and ribs of a man, and the backbone and ribs of a woman), and according to others, backbone is specific to men and ribs is specific to women.

Reviewing the Views

The second view, expressed by most commentators, seems to be correct. That is, Mā' Dāfiq belongs to both men and women. In addition to the narrations that specify the male and female sperm that both play a role in the formation of the fetus, some verses can also be cited in this regard.

1-Quranic Reason

One of the reasons is the Holy Quran itself, some of the verses of which can be used to describe the characteristics of "Mā' Dāfiq".

A) The use of "Dāfiq" in the Qur'an

The word "Dāfiq" is one of the single-application words used in Surah Tāriq:

«خُلِقَ مِنْ مَاءٍ دَافِقٍ يُخْرَجُ مِنْ بَيْنِ الصُّلْبِ وَ التَّرَائِبِ» (الطارق: 6-7)

He was created from an effusing fluid. Which issues from between the loins and the breast-bones.

But there are other verses from which one can get help in its meaning:

« وَ أَنَّهُ خَلَقَ الرُّوحَيْنِ الذَّكَرَ وَ الْأُنثَى مِنْ نُطْفَةٍ إِذَا تُمْنَى » (النجم: 46)

from a drop of] seminal [fluid when emitted.

« أَلَمْ يَكُ نُطْفَةً مِنْ مَنِي يَمْنَى » (القيامة: 37)

“Was he not a drop of emitted semen?”

These two verses lead us to the point that semen is the same fluid that carries the sperm with itself and the meaning of the sperm is the same as Mā' Dāfiq, but whether it belongs to a man or both a man and a woman? The fact is that it is not specified in the verse, but as most commentators have written: It is the sperm of both man and woman. Because the child is created by mixing the sperm of the two.

B) The Mingled Sperm in the Qur'an

The word Amshāj (i.e. mingled) has been used only once in the Holy Qur'an.

«إِنَّا خَلَقْنَا الْإِنْسَانَ مِنْ نُطْفَةٍ أَمْشَاجٍ نَبْتَلِيهِ فَجَعَلْنَاهُ سَمِيعًا بَصِيرًا» (الانسان/2)

“Indeed We created man from the drop of a mixed fluid so that We may test him. So We made him endowed with hearing and sight.”

The word "Amshāj" is from the root of "Mashj" and its main meaning is to be mixed and mingled. (Farāhīdī, nd, v. 6:41; Ibn Fāris, v. 5: 326). It is used in the sense of mixing colors with each other and mixing the sperm of men and women. (Johari, 1425, v. 6: 341; Azharī, nd, v. 10: 292). Some have considered the meaning of sperm to be mixed with blood as one of the meanings of Amshāj (Azharī, nd, v. 10: 292; Rāghib Isfihānī, nd, 769). Regarding the interpretation of this verse, several possibilities have been raised:

A) Mixing male and female sperm. (Ṭabrisī, 1994, v. 10: 615; Tabataba'i, 1996, v. 20: 121).

B) It refers to different talents within the sperm in terms of hereditary factors through genes and the like. (Sayyid Ibn Quṭb, 1412, v. 6: 3780, Makarem Shirazi, 1993, v. 25: 335.)

C) It refers to the mixture of different ingredients of sperm (Tabataba'i, 1996, v. 20: 121; Makarem Shirazi, 1993, v. 25: 335; Ibn 'Āshūr, nd, v. 29: 347).

D) Amshāj refers to the development of sperm in the embryonic period (Makarem Shirazi, 1993, v. 25: 335).

Therefore, as it was said in the literal meaning of Amshāj, the word Amshāj basically means to be mixed, but why the word "sperm" is singular but "Amshāj" is used in the plural form, and in terms of literature, the adjective should be match with the subject. In explanation, we can say: First, the mingled sperm is used where the sperm of the male and female are mixed together to form an egg cell.

Secondly: the word Amshāj, which is used in a plural form, can have the capacity to accept all meanings, both the mixing of male and female sperm and different sperm composition materials, as well as male and female hereditary factors and the physical and mental characteristics of male and female, which is transmitted to the fetus, as well as many other features that have not yet been scientifically discovered. This is one of the mysteries and wonders of Qur'anic interpretations that can only indicate the divine origin and source of revelation.

2. Narrative Reason

In the narrations that have been narrated from the infallible Imams about the interpretation of the "mingled sperm" in which the mixture of both male and female sperms has been mentioned, for example, it has been narrated from Imam Ali ibn Abi Ṭālib (AS) that he said about the formation of the fetus in the womb:

"The sperm of a man and a woman are mixed in the womb, in which case, whichever is more dominant, the fetus becomes like that sperm, so if the sperm of a woman is more dominant, the fetus becomes like its uncles (the brothers of mother), and if the sperm of a man is more dominant, the fetus looks like his uncles (the brothers of father)" (Majlisī, 1403, Vol. 57: 340).

In a narration from Imam Bāqir (AS), it is stated that "the mingled sperm" has been interpreted as a mixture of male and female sperm. (Qomi, 1404, v. 57: 376). "The sperm of a man and a woman are both mixed together." What has been said in embryology about Zygote formation after fertilization and cell proliferation is quite consistent with the meaning given to the term "mingled sperm."

Embryological Perspective on the Characteristics of the Sperm

According to embryology, as soon as the spermatozoon joins the egg cell, the Zygote begins to divide and multiply, first two cells, then four, eight, and so on ... without any increase in the fertilized volume. These divisions occur as the Zygote moves toward the uterus. The movement of the Zygote is done by regular contractions that take place in the muscles of the uterine wall.

When the embryo reaches the uterus, it forms a cell mass called a morula (strawberry); because it is similar in appearance to strawberries. After the embryo implants in the uterus, its superficial cells are separated from the inner cells and form cylindrical cells, which are responsible for feeding the fetus. Nutrient cells are called trophoblasts (external cell mass). (Wei Sadler, 2016, 59). (See Figure 1)



Figure 1

3. Lexical Reason

As mentioned in the semantics section, the word "dāfiq" also means "gathering and mixing" and "moving and fast".

If it is according to the meaning of "gathering and mixing", it means "union and fusion of male and female gametes".

It may come to mind that if it meant male and female gamete, why He not used the word for both in the verse and say: "He is created from the sperm of both of them." (Noor Mohammadi, 2010, 11) Therefore, the verse subtly refers to the combination of two fertility factors in men and women, which from the union and fusion of the two, the emergence of the fetus is obtained. (Ibid.)

The only drawback of this view is that if we take Dāfiq to mean the accumulation of male and female gametes, which is the fertilized egg cell, then backbone and ribs in the next verse must be matched with the male sperm and the female egg cell. While no one has meant that. It no longer seems compatible with the word "dāfiq" which is the noun of the subject.

Contrary to the popular view of the scholars who take the word "dāfiq" to mean the passive noun of "Madfūq", it seems that the meaning of " "Movable and fast" is more correct for the word "dāfiq", i.e. "dāfiq" in the form of the noun refers to the intrinsic movement of "water", meaning that this fluid is mobile and fast in a way, and this is its inherent adjective that cannot be separated from it, it can be from the prophecy and miracle of the Holy Qur'an, and it is completely in line with what is said in embryology about the fertility conditions for male and female sperm.

4. Scientific Reason

The study of embryology on the characteristics of male and female sperm indicates that it has been proven in modern times that sperm present in male semen must be alive and motile so that fertilization can be performed, and that motility for sperm is a condition of fertility. (Zandani, 1432, 35). (See Figure 2)

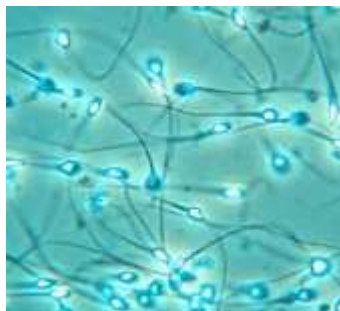


Figure 2

From the embryological point of view, sperm has an inherent motility. However, the female's egg cell do not move inherently, but shortly before ovulation, the fallopian tubes begin to sweep the surface of the ovary, and the fallopian tube itself begins to contract regularly. The researchers believe that these movements are the sweeping of the juices and the movements of the cilia on the lining of the fallopian tube, which carries the surrounding oocytes into the fallopian tube. After the oocyte is placed in the fallopian tube, the muscular contractions of the fallopian tube, as well as the movement of the cilia on the fallopian tube, push it forward at an adjustable rate by endocrine agents during and after ovulation. In humans, fertilized oocytes reach the uterine space in approximately 3 to 4 days (Wei Sadler, 2015, 58-59) (see Figure 3).



Figure 2

Conclusions

Therefore, from the contents stated after analysis and review, it can be concluded as follows:

- 1- Mā' Dāfiq in the verse means moving, not jumping, which can express the characteristics of both male and female sperm.
- 2- According to the various interpretations that have been expressed in the meaning of "mingled sperm", the Holy Qur'an refers to the sperm of both men and women with certainty, and both play a role in the formation of the fetus and the narrations of the Infallible Imams (AS) also confirm it and it is completely in harmony with what has been discussed in the science of embryology. In addition, we can imply many of the physical and psychological characteristics of men and women are transmitted to the fetus.
- 3- Even if "Mā' Dāfiq" alone expresses the characteristics of a man's sperm, there is still no problem with the verses of the Qur'an. Because the Qur'anic phrase "mingled sperm" clearly expresses that both male and female sperm are involved in the formation of the fetus.

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