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اللَّاتِي وَكَذَٰلِكَ (المجادلة ٢) والقوانين الوضعية لنفي شبهة حصول الأمومة للمرأة الواهبة للميتوكوندريا بالنسبة إلى الطفل.

الكلمات الأساسية: استبدال الميتوكوندريا، اللقاح الصناعي، الاستنساخ البشري، الأهداء، الهبة.

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- (1) Necessity makes things lawful which otherwise are not lawful.
(2) Divorce wife by calling her mother.

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دراسة فقهية حول استبدال الميتوكوندريا مع نظرة إلى القوانين

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الملخص:-

الميتوكوندريا هي جزئيات دقيقة وحية توجد في جميع الخلايا. الطفرة الجينية في هذه الجزئيات لها آثار سلبية و الخلل فيها من الممكن أن يؤدي إلى أنواع الأمراض المهلكة للطفل. ليومنا هذا لم يتوصل الأطباء لعلاج نهائي لهذه الأمراض الناتجة من الاختلالات الميتوكوندريالية. يتم نقل الجزئية المصابة إلى الجنين من خلال الأم فقط ومن الممكن ظهور عوارضها في أي مرحلة من العمر وعندها يكون هلاك الطفل النتيجة الحتمية. أخيراً وفي سنة ٢٠١٦ ميلادية تمكن الأطباء إلى التوصل إلى طريقة للوقاية من انتقال الميتوكوندريا المصابة إلى الجنين. في هذه الطريقة المبتكرة تؤخذ الميتوكوندريا السليمة من امرأة غير الأم، ما يسمى بإهداء الميتوكوندريا ولذلك في الفقه الإسلامي تترتب علي هذه القضية الغير المسبوقة آثار فقهية، يتوجب التطرق إليها. فقد اقيم هذا البحث من خلال اتخاذ المنهج التوصيفي- التحليلي في تبين الأحكام الفقهية وتوصل إلى نتائج منها: أولاً، يستفاد في الطرق العلاجية المشابهة وفي هذا الموضوع لإستبدال العضو من لفظ (الإهداء) والذي يقصد به الطبيب والإحسان؛ لكن ما نراه في يومنا هذا لا يتطابق مع ما يراد من هذا المصطلح ولكنه اقرب إلى البيع والهبة المعوضة ومن الممكن استخدام هذه العقود في هذه الحالات والتمسك بإدلتها. ثانياً، للإستفادة من هذه الطرق العلاجية المتخذة من الهندسة الجينية، الحكم الأولي هو الاباحة، ألا اذا ترتبت آثار أخرى كاللمس والنظر إلى الأجنبية وقد يرفع هذه الحظر امتناناً بحسب الضرورات من قبل الشارع المقدس. ثالثاً، يستدل بالآية الكريمة: ﴿لَا تُمَاهُجُوا﴾

the diseases that have no alternative to treatment, the mitochondrial replacement method has been suggested, and it can be transferred by legal contracts like donation contract and sale contract. The existence of mitochondria and other objects, such as blood and gamete, which once were unknown due to the lack of knowledge of their existence or their profit because of the paucity of science, not the weakness of the scholars, now, with the development of the sciences, their benefits in saving lives is inexpressible and the valuableness of these objects and along with the rational benefits, have been proven. It can be said that in such a objects there is ignorance, but in a donation contract ignorance toward donated object could not invalidate the contract. In the mitochondrial replacement, and especially in the maternal spindle transfer, the egg from wife and sperm is from husband and the only possibility is that $\%.01$ of the mitochondrial DNA of the donated egg is transmitted, that according to a say this quantity is worthless and based on what have been said the probability of mixing in the semen could be overcome. In addition, the scholars permitted the methods that are more concerned with the existence of sanctities; therefore, this method by argument a fortiori is permitted. Also, through the positive rules there would not be any legal rights for donor woman because the mother who is carrying the fetus in the womb and gives birth.

In the end, it is suggested that continuous observations should be made regarding the rapid progress of science, including genetic science and its new methods. These new therapeutic methods and their impact on the Islamic community are creating new challenges for the jurisprudential and legal community; the provision and adoption of appropriate laws are the real necessity to organize such disturbed relationships. Prior to that, close cooperation between researchers, doctors and lawyers has paved the way for the desired outcome.

opinion; at the judicial matters Non-Muslim countries specially the U.K. in vitro fertilization regulation mention that the mitochondrial donation could not be a proof for parents claim in the courts[60]. *Shahid Sadr* implies to excellent matters; he says if the donor woman is single or ambiguous, the proof of the woman who bears the embryo is strongest [61]. In the Act on the Implementation of the Law on the Method of donating Embryo to Infertile Couples, adopted on 19/12/1383 in Article 3, the confidentiality of the method of donating the fetus, and in Article 6 of Section "C", the confidentiality of the receipt, storage and transfer of donated embryos have been mentioned. And emphasize on these matters may have a wisdom. so a woman can have the mother's title in this type of discussion, who keeps the fetus in her womb and give it birth, and the mitochondrial replacement are not excluded from these topics, and such rights as custody, inheritance, and guardians are merely between The fetus and parents [62]; and the status of the title of three parents could be a virtual matter.

12. Conclusion

Genetic science and modern therapies now and in the future will play a vital role in human life and will affect the lives of individuals in many ways, including the treatment of hard illnesses and diseases that have not been treated so far. Scientific advancement and the discovery of the secrets of the nature have been implanted in the human nature. Societies and religions, and specially Islam call for meditation and thought. The sacred Islam invites marriage and reproduction and preserving the generation, and in the end it is the generation that is desirable with relative health, the principle of creation is a kind of perfection in the mind and body. God Almighty says: We have indeed created man in the best of moulds (*Al-Teen/4*) and if there is any paucity, then the cause should be found elsewhere. Therefore, it is necessary for a man to seek the best of health and enjoy the best of it; the narratives also express this fact. For example, "any disease has a medicine "And along with that, the wisdom and conscience of human beings emphasizes these matters. Also, the interest of the family and the physical and psychological stresses on the parents through the transmission of disease from mother to fetus and the benefit of the community expresses the necessity of prevention, and if it does not, it is Obscene. For some of

such as genetic modification and the prevention of transmission of diseases there is no prohibition. Ayatollah *Khoyi* says: Using a strange woman egg for fertilization with male sperm outside the womb and transferring it to the womb of the wife by avoiding the forbidden introductions is permitted [53]. It is also a question of Ayatollah *Makarem Shirazi* about the change in the human cellular genes and about this science of the future and added to it in non-therapeutic matters and merely seeking to achieve physical or psychological superiority and their legitimacy, he answers. In all three cases, if these changes are positive, it's okay [54]. Therefore according to mentioned issue seems that the mitochondrial replacement by argument a fortiori is permitted. Because scholars permitted the artificial fertilization and at some presumptions that the existence of sanctities are more likely, while the possibility of sanctity and mixing in semen particularly in maternal spindle transfer is less.

11. Mitochondrial replacement positive rules

In the fourth presume maybe it imagined that the donor woman take maternity title and as result of it rights such as custody, inheritance and guardianship take place. But for the reasons given, this seems unlikely and between the woman and child there will be not any relationship. First, because the quantity of transferred DNA from donor woman to the child is approximately $\%1$ and this quantity versus to the sum DNA is worthless [55]. Second at vocabulary books mother interpreted as a woman who gives birth to child [56] [57]. *Homairy* about the meaning of the mother word says this word is commonly known and this common known is due to prevalence and self-evidence [58]. third, a group of jurisprudence scholars believe that the donor woman is not real mother but the mother who give birth to child and their evidence is *Sura Al-Mujadilah* verse no two that says: "Those of you who say to their wives be as my mother back, indeed they are not their mothers, their mothers are only those who gave birth to them". *Shahid Sadr* at the "*THIHAR*"⁽²⁾ topic says: the real mother is who gives birth to child and achieve this title; he continues the apparent meaning of "Their mothers are only those who gave birth to them" could be a common rule for many topics not just for "*THIHAR*". For example adaptation; of a couple adopt a child as a son they could not be his parents [59]. Fourth, law scholars

the mitochondria is the sister of the donor; *Ayatollah Tabrizi* has an opinion. He has answered a question about getting the egg of wife sister and implants it into ovum and then fertilizes it by the sperm of recipient husband and the answer was, along with preserving sanctities, it seems possible [50]. Therefore, according to this view, this assumption is also permitted and can be cited; but this presume seems medically inaccurate and the purpose of these methods is to prevent the transmission of diseases, and it is possible that the sister of the wife is carrying the defective mitochondria too; therefore, this assumption does not seem to be correct unless that sister is half-blood sister (*abi*) but not of full-blood sister (*abaweini*). The third presume is the mixing of egg material before fertilization (the replacement of the maternal spindle) or after fertilization (Nuclear displacement); as have been stated the mitochondrial replacement is based on two methods. Nuclear replacement and maternal spindle replacement, the difference between two methods are for moving nuclei between two eggs. In the first method, the replacement occurs after two oocytes are fertilized with the sperm of the recipient woman husband, and in the second method, the replacement before fertilization. The priority of the second method could be imagined in two statuses; firstly the egg of donor woman would not be fertilizing directly with intimate man. Plus to it, with removing the egg nuclear donor woman, it will lose its fertilization signification and identification and we could not call it egg. Because fertilizing an egg without nuclear would not has positive result. And according to the some scientist opinion remain substance is worthless [51]. Secondly, in fertilizing before removing, many fetuses are formed, and some of these fetuses must be wasted to carry out replacement; but in the maternity spindle replacement there is no fetuses that would be wasted and the choice of this method by the first born baby born by this procedure was this reason. Of course, the *Shiite* scholars believe that in this hypothesis, there is no problem in the death of the fetuses, and the killing of the fetuses could be sin if it is in the womb, but outside of the womb there is no reason for sin [52]. As stated in these methods, the mother's oocyte nucleus contains 99.09% of the total DNA, which contains most of the child's external traits, and only about one- percent of the total DNA transfers to the recipient's oocyte; in fact, this means that all attributes are from the parents to the fetus. In similar ways and issues that involve such discussions,

10. Mitochondrial replacement imperative rules

By obtaining such results that the mitochondrial replacement is as a type of artificial insemination and that illegitimate causes are removed as needed, it is necessary to assume the forms for this method in order to make the discussion possible. The mitochondrial replacement applies by using two methods known as Maternal Spindle Transfer and Pronuclear Transfer and from three person father, mother and the donor. At this procedures man and woman who are related legally want to have a child at the same time genetically derived from them. ; But the baby is unlikely to be healthy due to genetic disorders in the mother's mitochondria. And by entering donor woman maybe a disadvantage happens and by entering donor woman maybe a disadvantage happens, with existence of this woman we may presume some status. The first presume is a donor woman is strange. The second presume, the woman donor is the wife's sister. The third presume the mixing of the egg material is before fertilization (maternal spindle replacement) or after fertilization (nuclear replacement). Fourth presume is achieving the Relation between the Donating Woman and the Newborn. Regarding the first presume, the woman giving donation to the strange man or, *Shahid Sadr*, in the same case in the discussion of the artificial fertilization he expresses a presume and says: that the egg is from the intimate woman and she carrying the fetus of her wife and Parents are couples in this case, although the owner of the egg does not play a role in the mother's part, yet the mixing of owner of egg and sperm of intimate man is forbidden [48]. In addition, marriage with the intimates, although this sanctity is literarily, and not from the *Shari'a*, but it has rational obscenity, and it is independent from the Shari area in a narrative from Imam *Sadiq* (AS): Among some animals, it's sister is brought to it, after discovering the cover and seeing it's sister, the animal suicides [49]. Therefore, these acts even among the animals are obscene, despite the fact that in the mitochondrial replacement, and especially in the mother spindle transfer, the transfer happens before the fertilization of the eggs, and despite the paucity of possibility of mixing in the material but there is a doubt, there is a sanctity between the brothers and sisters And this sanctity is achieved in accordance with the caution rule(*Ghaedat Al-Ehtiat*) that is common among the jurisprudents in the properties, reputations and lives. In the second presume, the recipient woman of

life more difficult for the family and especially for the parents. Additionally, the baby's right is to be born healthy. God Almighty says: Indeed, We created the human with the fairest stature (Al-teen/4). It is the right of the infant to take into account health matters for him to be born healthy, and by providing methods of healing and advancing knowledge, it is necessary for man to work and try. In some narratives, it is advisable to prevent the transference of improper attributes to offspring, and to be more precise in marriage to produce healthy and clean children. In a narration from the Prophet (PBUH) says: choose your excellence for your sperms, because the venous is rooted in a rigorous manner [43]. Venous literarily means "root", "race", and by adapting them to the science of the day it can be interpreted as a gene. In another narrative of Imam *Sadiq* (AS) says: Take marriage from the family of the righteous and cleanliness because the venous transfers to another generation secretly and unwittingly [44]. *Imam Ali* (AS) says: The goodness of ethic is a reason for the dignity and goodness of one's venous (genes) [45]. Consequently, these narratives refer to the transfer of traits and attributes from parents to children and, from the point of view of modern science, this is a task of the genes, so when scientific methods were not available, prevention was carried out through research on the descents, and therefore the marriage was forbidden by fools and crazy. Prophet Muhammad (PBUH) says: Avoid marrying a fool, because a fool's companion is also a grief, and is also a disgrace to his child [46]. But now scientifically prevention is possible, and it is possible to prevent some of the detriments from transportation and avoid many illnesses. *Imam Sadiq* (AS) says in a narrative: God has descended the medicine and the healing, and God did not create a disease unless he has put some medicine for it. So drink the medicine and cite Allah [47]. in addition to the rational rule, these verses and narratives, imply the try to find a remedy for diseases, in addition the "drink" (*Ashrab*) verb is translated into obligation; of course, this narrative, and especially the final part, implies treatment through non forbidden medicine, maybe at applying this procedure prohibited acts happen, but Islam due to necessities has allowed some act⁽¹⁾.

8. Mitochondrial replacement identification

About the similarity of mitochondrial replacement to another technique, some of the scholars believe that it is as same as the cloning [40]. And another group believes it is a kind of in vitro fertilization [41]. The U.K. Has included this topic within the vitro fertilization regulation and this including could be an emphasize for the second similarity. This view seems to be stronger with respect to the writings in this area. But away from similarities and differences, the mitochondrial replacement aim is different from in vitro fertilization aim. at the first technique the aim is fertilization and at the second technique the aim is preventing the transmission of the infective mitochondrial to the fetus.

9. Obstacles of this approach from the point of view of jurisprudence

Most of the Islamic scholars permitted the in vitro fertilization except if another prohibited acts happen along with procedure; like touching and looking at stranger woman, thus if we presumed the mitochondrial replacement as an in vitro fertilization, according to the scholars opinion, implementing this procedure at the first stage is permitted. Because the Islamic sharia did not prohibited this procedure and the development of the science but Islam invites to science development and encourages those who have activity at this scope. Because getting on these science causes revealing Allah signs in the depth of the nature and more of humility toward god. But some time at implanting these procedures opposition happens with other Islamic rules. Of course, these contradictions in a Sharia that is dynamic and based on providing the expediency for the community and the individual of Muslims and avoiding them from corruption, cannot limit the realm of life to Muslims, but, in the face of necessities, Islam have tolerant attitude. The Holy Prophet (PBUH) says: The religion I am sent is an easy religion and forgiveness [42]. And to apply this procedure and committing some of prohibited acts is not meant to disobey God, but occurs due to necessity. We can state these necessities as follows: firstly, this procedure needs specialized individuals and it's impossible for couples to perform such specialized and scientific work by themselves. Secondly, the use of these therapies is a necessary necessity because mitochondrial diseases, in addition to the distress of children, make

many situations about selling the death animal, believe that the abomination of the dead animal is not the main cause of selling invalidity. And about the second reason (casting the sperm out of the uterine) says: if the aim of the prohibiting the benefiting is common rule about no cleaned objects, this opinion would not be accepted. And the aim of prohibition being invaluable due to casting the sperm out of the uterine this reason is not complete at this era, because at our era due to technology development the possibility of using human or animal sperm out of the uterine is available and could be fertilized by sperm and change to a valuable object [35]. *Imam Khomeini* at the *Al-Makaseb Al-Moharama* book says: it is obtained from the scholar's opinion the trading prohibition reason with uncleaned objects is non-utilization. At the same book about blood utilization *Imam -Khomeini* says: benefiting from blood and selling for this purpose is possible but not for eating and this opinion is the strongest [36]. So blood trading and compromising on it and transfer your rights about it have not prohibited. Also transferring blood between patients and pay for it after weighting by developed instruments these all is allowed. But if there is ignorance toward weight, shall compromise on it. But it is better that payment be for consent. Keeping on this procedure is preferred [37]. About blood utilizing at the contemporary era another scholar says: the prohibition and permission happen when there is no benefit. And the narratives had narrated at passed time due to non- utilization; while at contemporary time the utilization is available. Contemporary scholars with considering the development of technology and necessities of time they have expanded the topics and argued about how to sell the egg and sperm [38]. *Eiravany* says: due to the necessities of the time and absence of the prohibition, trading by egg and sperm looks rational [39] thus according to the many of scholar's opinion the blood selling is not because being unclean, but because non-utilization; at our contemporary era due to science development the utilization ability is now available, so due to changes at the scientific scope, the opinions also have been changed and a group of scholars frankly permitted the trading with eggs and sperms. So it looks that the transferring could happen with conciliation contract, donation contract and even sale contract.

objects are valid considering the strong say and this opinion is opted by *Malek* and *Ahmmad* through one of two Hadith that conveyed by them because its because it's a kind of voluntary act and volunteering with unknown objects are valid. Like Vow and Will. Secondly the validity is a principle and third cause; there is no any detriment at this donation for donee [30]. *Naeini* says: ignorance toward payment and its amount could not affect the valuableness and could not obstacle the transferring; therefor donating the unknown objects and compromising on them is correct [31]. Eventually ignorance at this statues could not invalid the donation contract; although have been said that the developments of science and technology could offer appropriate equipment to clarify any ignorance.

7-2-2.Mitochondrial valuableness

Mitochondrial according to its importance certainly will considered by wise people. If something in a time due to scientific issues was not important, but at another time its importance revealed of course will be considered and that thing will have valuableness. *Imam Khomeini* at *Al-baie* book says: the aim of valuableness is when wise people pay attention to something at different times(one time something valuable and at another time maybe have no value) with appropriate payment [32]. *Imam Khomeini* adds: the attention and Competition toward something causes more of payments by wise people to achieve that thing [33]. Thus, the mitochondrion for those who infected by mitochondrial disease and their families is so important. And its value is more than money, so it looks that infected people are ready to pay more than mitochondrial value to cure themself.

7-2-3.Mitochondrial replacement legitimacy

Another section of this writing is about the legitimacy and possession of the mitochondrial. The old books somehow have implied to this kind of cases. About prohibition of selling the sperm, Sheikh Ansari says: due to the abomination of sperm, it couldn't is sold or possessed, and no one of scholars opposed this opinion. Because if sperm casted out of the uterine it would haven't any benefit and if casted into the uterine it would not any benefit to buyer, too [34]. But a group of scholars have an opinion about this case. At *Menhage Al- Foghaha* book reply above case, says: *Skeikh Ansari* at

some exceptions are considered that convert the donation to irrevocable contract. In the same time the taking delivery and handing over is required for irrevocable (article 83, civil code). *Alemha Helli* says: "the property of donation and gifts and charity will not be obtained with the offer and acceptance unless the taking delivery and handing over happens and this is the opinion of our scholars (28)." Article 802 of the Civil Code also emphasizes this point.

7-2.The donated object

The valuability and legitimacy of objects are the basics of the contract to transmit them and acquiring ownership and also for the validity of the contract. At describing the donated object and its features have been said: "any object that could be transmitted by sale it may be transmitted by donation, too [29]. If we assume the mitochondrion as a donated object maybe criticisms arise, so, we need an appropriate answer is required to continue the discussion.

7-2-1. Ignorance toward mitochondria

Like another nominated contracts, the legitimacy of the donation contract has been proved and it plays an important role in the legal relations between individuals and the generality of verse "O you who believe! Fulfill (your) obligation". (*Almaeda / 1*) implies the obligation to contracts that with payment. And this is a rule till other evidence opposite it. And the basis for the contracts without payment is revocability till any exception or other evidence opposite it and the donation with payment and donation to relatives enter these exceptions. All scholars believe that the *Al-Wifa* verse (*Almaeda/1*) includes all kind of contracts, whether irrevocable contracts or revocable contracts. But at this writing valuableness, legitimacy and ignorance caused the doubt, can we use *Al-wafa* verse as an evidence or not? But we know that the development at hardware, technology and genetic science clarified all ambiguities and now it's possible to watch, manipulate and measure these subtle members. Thus it looks that there's not ignorance. But although, if we presume the ignorance toward the mitochondrial; most of the scholars have opinion that the ignorance toward the donated object would not invalidate the contract. *Allameh helli* says: donate the unknown

first and second section, article twenty one lawmaker expresses this issue "1. A person commits an offence if the person intentionally gives or offers valuable consideration to another person for the supply of a human egg, human sperm or a human embryo. 2. A person commits an offence if the person intentionally receives, or offers to receive, valuable consideration from another person for the supply of a human egg, human sperm or a human embryo"[25]. Spanish Law 35/1988, article 5 states that "donation of gametes should be a formal, secret and free of charge contract between the Centre and the donor and should under no circumstances have a lucrative or commercial nature" [26]. Consequently, the aim of donation is goodness and friendship, but not financial benefits. But what is considered nowadays there are actually negotiations going on as a prelude to transmission, discussing the quality of the mitochondria, and when and from whom, and financially, as a change, and, in general, a lot of issues that are not proportionate to the nature of the donation are made between the individuals. There is a certainty that these deals, and particular in the future, will have a commercial aspect, and the demand for buying and selling eggs and sperm and rental of the uterus, especially in cyberspace, expresses this fact, and it seems that in the future supply and demand of different types of genes will be increased. So what we call it donation has two cases; wither there is payment for donation which called donation with consideration and sale. Or there is no payment that called donation without consideration. But in this discussion, focusing on the authenticity of the contract is in the transmission of mitochondria and the position of the grantee in it.

7-1. Donation contract

In the vocabulary books donation is defined as giving something to someone without any payment [27]. Article 795 of the Civil Code of Iran defines the donation as an agreement that a person transfers something with financial value to another person for free. The legislator has stated the terms of the donation in Articles 795 to 807 of the Civil Code, and according to its special circumstances, it has been known as a nominated contract, and being free, payment, tangible and transferring property are from its features. Article 803 of the same law implies that the donation is revocable. But there are

transfer of this member as a legal practice requires an agreement that has the ability to express various dimensions of the case, and the use of the term "donation" in this discussion causes more ambiguity. Considering the importance of the subject and the issues involved, the elimination of ambiguities plays a fundamental role in organizing legal relationships among individuals; donation literally means gift giving and gift [20]; and also the meaning of sending a gift to a person or *Hady* for *Beyt Al-Haram* [21].

In the vocabulary books, the gift is for the creation of brotherhood, friendship and goodness. [22] In the Book of *Almbosud Fi Fiqh Al-Emamiah*, the writer believes that Hiba is a sort of gift and when he interprets the second verse of *Al-Maeeda Sura* - help ye one another in righteousness and piety, but help ye not one another in sin and rancor: fear Allah: for Allah is strict in punishment- he says the donation is a kind of goodness. So he believes that the donation, the gift and the charity are synonymous and he reasoning that if a person swears that he does not give a charity and then charms afterwards, he has acted contrary to the oath. However, this is the title of charity with the intention of become closer to Allah. But If the intention is friendship it is a gift [23]. So the intention of individuals have basic role at these acts. Many of scholars to express the relation between donation and gift believe that the donation is a revocable contract that may be concluded with any word that can express the intention of individuals and the barter with circumstantial evidence that indicate the intentions are sufficient for this purpose. And in the reciprocal contacts this is considered as a contract in deed, and the gift is a special kind of donation, that is performed by the respect and the bow and is done without formula of contract [24]. Thus the donation has common meaning than gift and donations like organ, gamete, womb and mitochondrial and maybe more species organs at future in most cases are donation with consideration.

7. Mitochondrial transmission by donation contract

The usual term for mitochondrial transmission is donation and this combination (mitochondrial donation) has been translated and entered into our Jurisprudential and legal issues with 1t's new technology and it seems is expressed in this title to avoid consideration. The Prohibition of Human Cloning for Reproduction Act banned commercial trading with human eggs, human embryo. At

disorders, excessive fatigue, deafness, visual impairment and physical imbalance are signs of symptoms. The mitochondrial disease term emerged in the 1980s and includes a series of disorders such as inflammation in the brain, vessels and heart, molasses and Lee syndrome [17]. There is no certain cure has been found for mitochondrial diseases and what is prescribed, such as vitamins, is to reduce its effects only. Recently, doctors proposed a method known as mitochondrial replacement to prevent the transmission of mitochondrial mutations.

5. Mitochondrial replacement and its categories

The mitochondrial replacement or mitochondrial donation is a method for preventing the transmission of mitochondrial DNA diseases from mother to child, if this method can prove its ability; it can meet the wishes of mothers to have a child that is genetically dependent on them. To make avoiding the transmission of mitochondria from mothers to children is one of the benefits of this method. This new technology will be implemented in several ways.

5-1. pronuclear transfer technique

At this procedure initially two oocytes would be taken, the disease carrier oocyte from mother and another one that is disinfected from donor woman. Then the pronuclear of two oocytes that had been fertilized discard and at final stage the pronuclear of healthy oocyte inject into mother oocyte [18].

5-2. Maternal Spindle Transfer technique

At this procedure the replacement happens between DAN. Initially the pronuclear of the donated egg that contains %99.09 of the total DNA of the egg is removed and the mother's egg pronuclear replaces it. In fact the replacement of DNA happened between mother's egg and donated egg. Then the fertilized egg is injected into mother's uterus, as same as in vitro fertilization [19]. In the mitochondrial replacement, the concept of donation is usually used as a legal act for the transmission of mitochondria from a donor woman to a recipient woman.

6. The nature of the donation and its effect on the transfer

In addition to medical and genetic issues, the mitochondrial replacement has legal and juridical dimensions; therefore, the

molecule known to be a source of energy for the cell, so the most important task of mitochondria is providing energy [8]. In addition to providing energy, mitochondrion has variety of other tasks, such as signaling, the creation of diversity in cells, the regulation of the cell division cycle and their growth [9]. This member has a structure with two outer and inner membranes that perform various tasks [10]. Regarding the developmental stages of mitochondrion, it is believed that, So far away in the past, it was an independent bacterium, and at some point in time it became part of it as it enters into eukaryotes. [11] Most of the cellular DNA is concentrated in the nucleus of the cell itself. However, the mitochondria also have their own genome and, in addition, mitochondrial DNA is the most important prove of similarity to the genomes of bacteria [12].

3. Mitochondrial transmission through mother

Mitochondrion divides by binary fission, similar to bacterial cell division and follows the division of the cell. This division and segregation process must be tightly controlled so that each daughter cell receives at least one mitochondrion. An individual's mitochondrial genes are not inherited by the same mechanism as nuclear genes. The mitochondria and thus DNA are usually transmitted only by the mother's egg and the male sperm has no role in it, although the sperm mitochondria enter the egg, but disappear at other stages [13]. And only mother mitochondria remain. The egg cell contains relatively few mitochondria, but it is these mitochondria that survive and divide to populate the cells of the adult organism. Mitochondria are, in most cases inherited only from mothers. This process is known as maternal inheritance [14].

4. Mitochondrial diseases

Mitochondrial diseases occur due to mutation of mitochondrial DNA; these are a pattern of maternal inheritance. Both parents could inherit the mitochondrial diseases; but the transmission hazard is only through mother. These diseases are prevalent between nations and diagnosis it's range looks hard [15]. Translation error Evaluations show that one in every 4,000 people is infected with mitochondrial disease [16]. Regarding the infected organ and amount of infection, the diseases are different and variable. The level of infection disease can appear mild, moderate or severe. Diabetes, epilepsy, digestive

healthy mitochondria that were taken from a female donor will be replaced. This treatment has been implemented in Mexico because of the lack of restrictions on the implementation of such methods. The aim of the mitochondrial replacement procedure is to prevent mother-to-child transmission of hereditary diseases. On December 2016, England was the first country to legalize the procedure to provide the appropriate legal framework for implementing. This new approach caused many reactions in some of the world's societies, most notably advanced societies. And in our jurisprudential and legal community, it is necessary to take proper steps in the framework of the law and Shiite jurisprudential principles in order to benefit society and the individual from the benefits and to avoid harmful effects. In the works written in the field of gene therapy, there are excellent descriptions contain artificial insemination and cloning is mentioned. For example, *Serat Al- Najat* tabrizi and *Al-Astensakh Bina Al-Tachnia Va Al-Tashrie* of Sabzevari, But in our legal community a limited work has been taken. On 30 July 2003 The law of donating embryos to infertile couples through five acts and hence the Executive Order of that Law on 9 march 2005 was approved. Therefore, with the emergence of such a new issue and its importance for the Islamic society and the Muslim individual, the following questions are raised:

1. Is the mitochondrial replacement as same as artificial insemination and cloning?
2. What are the Islamic jurisprudence and law scholars' views about this kind of novel procedure?
3. What are effects according to Alahkam-Al- taklifie and Al-Ahkam- Alwazie?
4. What kind of contract we should use to transfer the mitochondria if the permission at utilize is presumed?

In this article, it is tried to investigate and explain the jurisprudential rulings of mitochondrial transposition with a look at the rules of the law using the library and analytical-descriptive method.

2. Mitochondrion

The mitochondrion is a part of the eukaryote cell, and its location is in the cytoplasm. Mitochondrion is the most commonly produced adenosine triphosphate (ATP) for the cell, and the triphosphate is a

Keywords: mitochondrial replacement, donation, donation contract, in vitro fertilization, cloning.

1. Introduction

Preserving the generation and parenthood and the existence of healthy children is one of the desires of each family and of the factors of consolidation which leads to the establishment of society. In addition to the instinct, the Islamic Sharia calls for this important matter; the Holy Qur'an considers the property and children as an adornment of life and says: Wealth and children are [but] adornment of the worldly life. But the enduring good deeds are better to your Lord for reward and better for [one's] hope [*Mojadele/46*] and in a Hadith quoted from the Prophet (PBUH) [1] bring more children because it will be honor for me hereafter against other nations.

The Holy Prophet (PBUH) encourages giving birth and considers it a title of pride and, in another Hadith from of Imam Ali (AS) says: The happiness of a person who has seen his rightful child before his death.[2] After all, when the child is healthy and well-being that means happiness. The factors that affecting health and well-being is the environment and genetic disorders that may occur to the individual or transferred through parents. Between these factors the genetic disorders are one of the most important causes of the disease and the challenges of diagnosis and treatment [3]. Genetic abnormalities can occur in two ways: disorders of mitochondrial DNA and disorders of gene nucleus DNA [4]. Some of the defective genes are transmitted only through the mother and inherited by mitochondria DNA to the child and cause various diseases. Such as heart failure, epilepsy, anemia, optic atrophy and muscular problems. Such complications can be fatal [5]. Mitochondrion plays a major role in the production of adenosine triphosphate (ATP) in cells (Taylor, the same) and is known as cell power generation center. The mitochondrial mutation occurs in one of the 37 mitochondrial genes [6]. So far no specific treatment has been found for mitochondrial diseases; doctors have launched a new initiative to prevent the transmission of mitochondrial diseases. In April 2016, using the genetic material of couples and another woman as a mitochondrial donor, the first baby was born into a Muslim Jordanian family through a method known as mitochondrial replacement technology MRT. In this method, defective mother mitochondria will be removed and

Jurisprudential Study on Mitochondrial Replacement with a look at the laws

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Abstract:-

Mitochondrion is an organelle that exists in all cells. Mutation in its gene could cause unpleasant results, various disease and fatality to fetus. So far, there is no definite cure for these diseases. The defective mitochondrion transfers through mothers and shows itself during different stages of the life and in the end in death. Recently and in the 2016 by implementing the mitochondrial replacement, physicians were able to prevent the mitochondrion transmission. In this procedure another woman as donor enters the case, that it will be many effects from the point of view of the jurisprudence. This article was conducted using descriptive-analytical method, reviewed the related Islamic laws and many results have been achieved: first, in the texts the donation is used to interpret the transmission of mitochondrion from one woman to another one; but it does not suit to the nature of the donation that aims the charity, because what is seen is kind of Sales or Donation contract that there is something valuable in exchange. Second, the exploit of this technique at the beginning is the permission, unless it opposes unauthorized deeds, like touching or looking at a woman who is not wife; but Islam take easy on Muslim, and Dismisses prohibitions by necessities. Third due to the verses, pregnancy and childbirth the donor could not be mother.