

Original Paper

Ethical Considerations on Human Cloning

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ABSTRACT Cloning is the process by which a genetically identical copy of a certain bacteria, plant or animal is produced by asexual reproduction. There are two types discussed human cloning: therapeutic cloning and reproductive cloning, more likely to achieve a therapeutic cloning is more accessible in terms of technique, but also less morally problematic. Ethics of human cloning has become an important issue in recent years. Legalize human cloning is in the heart of the debate world, was proposed legalizing therapeutic cloning as the only way to investigate, with chances of success, the basic criterion for funding such programs as the main objective being to find treatments for incurable diseases. The cloning of human organs and their use for transplantation or cloning human beings must be taken into account technical and economic barriers.

KEY WORDS *human cloning, ethics, stem cell*

Definition of Cloning

The word clone derived from the Greek Klonos, which means branch. Semantic implication is obvious. Human cloning is the main process by which a genetically identical copy of a certain bacteria, plant or animal is produced by asexual reproduction. The term "clone" was coined by JBS Holdone, an eminent Scottish biologist and used in his speech titled "Biological Possibilities for the Human species of the next-Thons and Ten Years" in 1963 (biological possibilities of the human species 10000de next year). When we talk about what we mean human cloning? Various groups and organizations define differently. To use a specific definition, the American Medical Association define cloning as the production of genetically identical organisms. Somatic cell nuclear transfer refers to the process by which a somatic cell nucleus is transferred into the existing body of an oocyte from which the nucleus was removed.(7) In other words, cloning is a method of producing a child who has exactly the same genes or parent. I take an egg and remove the nucleus that contains DNA genes. Then take DNA from an adult cell and placed in the egg, the adult cell is merged with the enucleated egg, or by a sophisticated nuclear transfer. Then the egg is stimulated electrically or chemically reconstructed and try to make it to divide and become an embryo. However, many groups have used a broader definition of cloning. They include production of tissues and organs by increasing cell or tissue cultures, with current production of embryos. This occurs by creating stem cells. When an egg / ovum is fertilized and

begins dividing, stem cells are all alike. As cells divide, some cells differentiate and become stem cells that produce specific tissues and then organs. We must understand that cloning does not produce an exact copy of the person cloned. What is cloning is that it copies itself and creates a duplicate DNA/genes. The person will not be a Xerox copy. He or she will grow in an environment different from that of the clone, with different experiences and opportunities. Genetics does not define a person or personality in its entirety.(3)

History

The history of human cloning human cloning is undoubtedly one of the most fascinating chapters of our lives. Essential question to be discussed to understand the ramifications of human cloning is when human life begins? C. Ward Kischer, a famous American embryologists, wrote in a recent article: "Since 1973 when Roe vs. Wade was won there were many socio-legal issues related to human embryo. Abortion, fertilization in vitro research on human embryos, research on stem cells, cloning and genetic engineering are substantive issues of human embryology". The answer is clear embryology that life begins at fertilization of the egg by a sperm (sexual reproduction) or if the SCNT cloning, implantation and activation when the donor somatic cell nucleus into an egg recipient (asexual reproduction).(6) Although non-mammalian cloning was achieved in 1952, mankind had to wait another 44 years until he was finally cloned

the first mammal. The first cloned mammal, Dolly the sheep was born on July 5, 1996. In this fascinating history of cloning, there has been a major setback in 2003 when Dolly died at the age of 6 years. Death of the first cloned mammal, was followed by a lively debate related issues / ethical aspects of cloning, debate that continues today. Besides the successful attempts to clone the different species of animals, XX century was marked by several important moments in the development of the genealogy. Deciphering the success of DNA code in 1968 came as an enormous progress around much desired human clone. With nearly 20 years later, by 1988 the human genome, that genome *Homo sapiens* stored in 23 pairs of chromosomes has been released. As things were headed becoming better by the appearance of a human clone, a major problem has become "human cloning prohibition act" in 2009, which has labeled as cloning illegal, immoral, not unethical activity. Since 2009, human cloning is illegal in 23 countries. So far, experiments were undertaken with five species of animals and the high rate of failure has given rise to many questions about human cloning success. Only 1% of animal cloning made so far have had a positive result, but most of them have suffered serious disorders. The conclusion of experts is that the current level of technology, human cloning is very dangerous. I discussed two types of human cloning: therapeutic cloning and reproductive cloning. Therapeutic cloning involves cloning cells from an adult for medicinal use and is an active research area, while reproductive cloning would involve the creation of human clones. Therapeutic cloning could provide unique ways to cure diseases until now considered incurable: diabetes, Parkinson's, Alzheimer's, heart disease.(1) The third type of cloning called replacement cloning is a possibility in theory and would be a combination of therapeutic cloning and reproductive cloning. Higher probability of achieving a therapeutic cloning is more accessible in terms of technique, but also less morally problematic.

Pros and cons of human cloning.

There are many medical benefits and disadvantages of cloning and its technology. They include the following potential health benefits: - the possibility of cloning technology to learn to renew activity damaged tissues and grow new cells to replace them; - people's ability to create genetically identical to donor organs such as: kidney, bone marrow transplant; - the benefit of studying cell differentiation at the same time as

the study and development of cloning; - sterile couples will be able to have children who will have the genetic information of the mother or the father's. Potential risks or disadvantages: cloning creates identical genes. It is a process of replication of genetic constitution, so preventing gene diversity. Reducing the diversity of genes, weaken the ability to adapt. Cloning is also detrimental to the beauty that comes from diversity. While human cloning to allow genetic mixing with humans, also makes the reproduction characteristics likely to be undesirable. The cloning of human organs and their use for transplantation or cloning human beings must be taken into account technical and economic barriers. Cloning organs will be more efficient and cost? Cloning techniques will really reach the ordinary people? Further cloning of human rights and animals will play.(2) Cloning technology is not yet well developed. It has a low fertility rate. The cloning of Dolly has been used 277 eggs, 30 began to divide, nine induced pregnancy, and only one survived to term. Clones may be treated as second class citizens, which are only created as organ donors. If people will be cloned, and clones will hopefully receive the same rights as any other human being. Some ethicists fear the clones rights will be broken. Paul Billings, co-founder of Genebase was involved in drafting an international document that would ban reproductive cloning and genetic engineering of microbial limits. As arguments against human cloning, he quoted: "Nobody has the right to have a genetically related child, cloning is not safe, cloning is not legally required medical.

Ethics

Ethical issues of human cloning have become an important issue in recent years. Many ethical arguments against human cloning are based on misconceptions. Many people think that these clones will have the same characteristics / personalities as the person cloned. Although clone and cloned individual have the same genes, traits and personalities are different. People think that a clone is physically identical to the donor and her behavior, but this is not true because although there is a physical identity, living environment shapes an individual's ongoing behavior and psychology. Many people believe that cloning will lead to loss of individuality eventually, but people have their own personality cloned which personality is similar to those in which they were created. Lawrence Nelson, associate professor of philosophy at UCS, said that embryos can be used for research if: - the purpose of research can not

be achieved by other methods; - the embryos have reached more than 14-18 days of development; - those who use forbid you to consider or treat as personal property. One of the most serious problems of cloning of human embryos for therapeutic purposes, is that with harvesting stem cells, the embryo is formed by cloning practical killed. We can not reduce the existence of a human embryo to "a cell" as long as after both science and teaching of the Church, the human embryo is a carrier of life.(8) For a few years, the legalization of human cloning is in the center of global debate, which was also attended not only scientists but also politicians, philosophers, theologians, psychologists. For example, American Association of Pro Life Obstetricians and Gynecologists (AAPLOG) has spoken out against cloning, drawing attention that some business people might think of trading a human life.(4) What is harder is that it could reach the reproduction of living people without them knowing, to be involved in this process or to give consent. Questions appeared on the social status of any clone. What will be their status in society? In the U.S. House of Representatives issued a ruling that human cloning is illegal, but the Senate has yet to rule on the matter. The opinions are still leaning toward accepting only therapeutic cloning. Legalization of therapeutic cloning has been proposed as the only way to investigate, the chances of success, the basic criterion for funding such programs as the primary objective should be finding cures for incurable diseases. A coalition of states, including Spain, Italy, Philippines, USA, Costa Rica and the "Holy Land" have tried to expand the debate on all forms of human cloning, noting that in their view, therapeutic cloning violates human dignity. Costa Rica proposed the adoption of an international convention to combat any form of cloning. Australia has banned human cloning in December 2006, but therapeutic cloning is now legal in some parts of Australia. European Union - European Convention on Human Rights prohibits human cloning in an additional protocol, but the protocol has been ratified only by Greece, Spain and Portugal. England - The British government introduced legislation to allow therapeutic cloning in a debate on January 14, 2001. Hope that parliament will pass the law was prohibitive. Roman Catholic Church under Pope Benedict XVI has condemned the practice of human cloning, saying it represents "a grave offense against human dignity and equality among

the people." Human cloning is prohibited in Islam at the Tenth Conference in Jeddah. Saudi Arabia has decided on June 28, 1997-July 3, 1997 as the beginning of human cloning is "haraam" (forbidden by the faith-sin). Jesse Rainbow explain why there is an aversion to human cloning - a clone would not be a "real person" - cloning is "playing the God" - cloning is not "natural" mention in closing some of the conditions proposed in a provisional list yet, so research on therapeutic human cloning (reproductive one is illegal) to proceed lawfully: it is necessary for embryos to be used only in the early stages of their development, without being allowed to grow further, all programs research must be supervised by government organizations dealing with fertilization and genetic techniques, various research programs will receive funding and approval only if it is scientifically demonstrated that there is no other way of obtaining the same results conventional, will not be permitted to research on human genetic material can be combined with that of animals, there must be a permanent state of public information on research undertaken and to be postulated that the limitations may be required to report the experiences and suffering of animals used for human benefit.(5)

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