

Cloning and Legal Frame

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Cloning is defined to bet the creation of completely identical models of biological organisms and it is subdivided into the therapeutic and the reproductive cloning.

Researches that have been conducted show that reproductive cloning can hold great dangers for humans. On the other hand, therapeutic cloning has proved to be priceless in the domain of basic research for not only the comprehension but also the cure of serious diseases, as well as in the domain of pharmacology. The creation of human embryos for research and the therapeutic purposes by the use of the cloning method is allowed in most countries of the European Union by legislation. However, at the level of International Law and within the framework of the Greek legislation, reproductive cloning is strictly forbidden.

Key words: Cloning, therapeutic and reproductive, legislation in E.E, International Law.

Introduction

The tremendous evolution of science during the 20th century made possible, among other things, the decoding and mapping of the DNA and eventually the “creative” intervention of man on its structure. The inevitable uncontrollable progress of science is definitely responsible for the creation of bioethics, a twin fold field whose aim is to help modern man understand and face the new ethical (moral) and legal problems concerning biotechnology.¹

Cloning is the creation of absolutely identical in terms of genetic composition, copies of biological organisms¹.

It is distinguished in reproductive and therapeutically cloning. The former aims at the creation of self contained human beings while the latter aims at the cloning of human embryos for scientific (research) or therapeutical reasons.

More specifically, the reproductive cloning is based on the technique of the so-called nuclear transposition, namely the replacement of the nucleus of the ovum with the nucleus of mature somatic cell. Chemical or electrical stimuli are then applied and sometime the new ovum begins to be divided as if it were a normally fertilized ovum. If the successive divisions continue then the embryonic development may reach the stage prior to implanting (stem cell cyst). If at this stage this ovum is transferred to the uterus of a female organism then it may be implanted and the embryonic development may continue and may even lead to the birth of a new organism (clone). Therefore the technique of nuclear transposition may be considered to be an attempt of reproductive cloning, only if the ovum-receptor of the genetic material of the somatic

cell is implanted in the uterus which will carry it^{2,3,4}. It must, however, be stressed that all mammals that have been born with this method so far present serious problems and unpredictable health malfunctions.⁵ These dangers are associated not only with problems during birth. The most common anomalies which have been described in cloned animals have to do with the brain and the kidneys as well as the heart, lungs and immune system.^{6,7}

Apart from these dangers, many deaths have been noticed in animals which offered their uterus for the development and birth of the cloned organism. Based on these findings it is natural to wonder whether humanity is ready to accept cloning along with all the dangers that it entails. Are we prepared for an increase in embryonic deaths, newborn babies with serious respiratory and cardiac problems, children dying of relevant anomalies which are created from the DNA of the somatic cell. Experts believe that the generating anomalies are developed during the activation of the DNA of the donor. The elimination of these problems of cloning is not possible with the current techniques as there is no way of identifying the anomalies in the cloned embryo. Based on all of the above evidence it is easily understood that the dangers of cloning man are very big. Such an attempt could lead to numerous who would volunteer to give to clones^{8,9}. These failures can create a negative environment towards the science of genetics. At the same time they would put an end to the development of therapeutical cloning¹⁰.

In therapeutical cloning, in which no human being is created but only embryos, what is used the clone created with the same techniques (nuclear transplant)

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until the stage of stem cell cyst. When the cloned ovum is created during therapeutical cloning, scientists allow it to develop until the stage of stem cell cyst without implanting it in a uterus. Then they take the cells and cultivate them. The cells are undifferentiated cells which have the ability of self reproduction and differentiation to various tissues and organs. With proper handling they can evolve into almost any type of cells in a body. Scientists believe that cells can ensure a reserve of tissues for man. What is important though is that they will allow the creation of tissue genetically identical to that of the donor of the genetic material. For the time being, when one accepts a transplant his body tries to expel it assuming it is alien and not compatible. Doctors suppress this reaction giving the patient very strong medicines which he must take for the rest of his life. The cells which are created through cloning will be cells of the same patient, so his immune system will accept them as his own.^{2,11} Apart from the field of transplant, therapeutical cloning may prove to be invaluable in the field of basic research in the compression and cure of serious diseases which result from malfunctions during cell differentiation and cell reproduction as well in the field of pharmacology.^{12, 13}

Experts of the Institute of Studies of the united nations' university report that cloning of the human species is definitely a matter of time, if the governments don't take relevant measures. As it is reported in the study, the most workable option today seems to be the legally binding prohibition of the human cloning, combined with the liberty of a strictly controlled research in this field, for therapeutical only reasons.

The negotiations for the enforcement of an international prohibition of cloning collapsed in 2005 because of disagreements in the field of research, also known as therapeutical cloning, which aims at facing diseases, such as diabetes and Alzheimer disease. Today, almost fifty governments oppose to human cloning for reproductive reasons and more than fifty have enforced relevant legislation. The government which will decide for the human reproductive cloning have to be prepared for the enforcement of legal measures about the protections of human clones, preventing phenomena of possible exploitation and discrimination. Otherwise, in an inheritance case for example, somebody could claim a clone and the human that he comes from are entitled to the same share of the inheritance. It is reported in the study that in the same way we distinguish twins as different personalities, we should distinguish the clones.

In 2005 the united nation agreed to a non-binding declaration of prohibition of the human cloning, which was inaccurate in many points. As a result of this many scientist continue their research which may "at some time" lead to a successful human cloning.

It should be mentioned that only therapeutical cloning is allowed in Great Britain while reproductive is prohibited by law since the year 2001. The United Nations recently voted for the prohibition of human cloning, however this resolution is not binding, so

the British scientists can carry on their research. Last year South Korean scientists cloned 30 human embryos but the genetic material in their case came from cells from women which were combined with their own ova.

The creation of human embryos for research and therapeutical purposes through the method of cloning (method SCNT) is allowed in Sweden by law effective since April 1st 2006. An amendment concerning the use of human embryos for research a therapeutical purpose in the 1991 law specifies that Swedish researches can conduct research using IVF and SCNT methods to embryos that are 14 days old or younger. The Swedish Parliament voted for the amendment accepting the research with great majority. The new law forbids the reproductive cloning and states that scientists must have permission from their donors in order to use the donors' tissues in research involving embryos.¹⁴ In Massachusetts the legislation which approves of research in embryonic cells and embryo cloning for research purposes was voted for both by the Senate and the House of Representatives.¹⁵ The new law states that a committee should be formed whose responsibility is counseling and is also responsible for supervising all relevant research activities while it forbids reproductive cloning in the state of Massachusetts.¹⁶ The committees of Medical Ethics exist nowadays in all developed countries of the world and the spectrum of their activities cloning has been added.¹⁷

As far as international law is concerned but Greek law as well, reproductive cloning on humans is strictly forbidden. So according to article 11 of the UNESCO International Declaration of November 11th 1997, concerning the Human Genome and human rights, "practices which go against human dignity such as human cloning for reproductive purposes are not allowed". Moreover, according to the First Additional Protocol of February 18th 1998 of the Convention of the Council of Europe concerning human rights and biomedicine of April 4th 1997, "every intervention aiming at the creation of a human being genetically identical to another one dead or alive" is strictly forbidden. Even in article 3 par.2 of the Chapter of Fundamental Rights of the European Union of December 7th 2000, it is clearly stated that

reproductive cloning is also forbidden by the Constitution of several European countries such as the German Constitution (article 6 of EschG of 1990), the British (part 3, article 3, ar.3d of the HEF act of 1990), the Austrian (article 9, par.1 of FmedG), the Icelandic (article 12 of I, 55/1996) and the Spanish (article 9, par.20 of I 42/1988). In other legislations – such as the French and the Swedish the banning is reasonably concluded.^{17, 18} Besides, the protocol of the Convention of Oviedo has been accepted by thirteen countries and is part of their National Legislation.¹⁸ Finally, as far as Greek law is concerned, the recent law 3089/2002 referring to "medical assistance in human reproduction" forbids reproductive cloning (article 1455 A.K.). However it must be noted that none of

the above mentioned laws is accompanied by field of today's legislation.

Taking all the above into consideration arises that in today's level of law the moral arguments for the seed cloning have not influenced the latter's injunction, ever thought it remains defective if it is not accompanied by specific penalties.

Nevertheless, beyond pragmatic law, seed cloning remains an issue of bio morality for which certain evacuation of the different viewpoints is indicated.

The injunction of human seed cloning must not lead to restrictions on the research on the technique of cloning for therapeutic reasons may be proved beneficial for the protection of health.

ΠΕΡΙΛΗΨΗ

Κλωνοποίηση είναι η δημιουργία απολύτως πιστών γενετικά αντιγράφων βιολογικών οργανισμών διακρίνεται δε στην θεραπευτική και αναπαραγωγική κλωνοποίηση. Οι έρευνες που έχουν πραγματοποιηθεί απέδειξαν ότι η αναπαραγωγική κλωνοποίηση ενέχει πολλούς κινδύνους για τον άνθρωπο. Η θεραπευτική κλωνοποίηση έχει αποδειχθεί πολύτιμη στον τομέα της βασικής έρευνας όχι μόνο για την κατανόηση σοβαρών ασθενειών αλλά και για τη θεραπεία αυτών καθώς και στον τομέα της φαρμακολογίας. Η δημιουργία ανθρώπινων εμβρύων για ερευνητικούς και θεραπευτικούς σκοπούς με τη μέθοδο της κλωνοποίησης επιτρέπεται νομοθετικά στις περισσότερες ευρωπαϊκές χώρες. Στο επίπεδο του διεθνούς δικαίου, αλλά και στο πλαίσιο της ελληνικής έννομης τάξης η αναπαραγωγική κλωνοποίηση του ανθρώπου απαγορεύεται ρητά.

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