

The Cloning of Human Beings: Ethical and Legal Issues

İNSAN KLONLANMASI: ETİK VE YASAL SORUNLAR

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Abstract

Cloning is a reproductive method that still raises many important ethical and legal questions. In the area of ethics, it has created serious dilemmas such as the morality behind the use of human embryos for scientific purposes, the disposal of unused embryos, the lack of safe scientific measures to support the techniques used, the utility of cloning.

In the area of law, other relevant themes are identified such as the right to life, human dignity, scientific research freedom, as well as the legal nature of the human embryo, the right to reproduction, privacy, identity, hereditary succession.

Therefore, to discuss the issue under the light of these ethical and legal concepts is of extreme importance. The objective of this work is to give readers some succinct information about cloning, and to provide some ethical and legal reflections on its use.

Key Words: Cloning, medical ethics, law

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Özet

Klonlama, hala birçok önemli etik ve legal soruların yükseldiği bir reproduktif yöntemdir. Etik alanında, bilimsel amaçlarla insan embriyosu kullanımı gerisindeki ahlaklılık, kullanılmamış embriyoların elden çıkarılması, kullanılan teknikleri destekleyici güvenilir bilimsel ölçümlerin eksildiği, klonlamanın yararı gibi ciddi ikilemler yaratmaktadır.

Hukuk alanında, insan embriyosunun legal varlığı, üreme hakkı, gizlilik, kimlik, kalıtsal geçiş kadar yaşam hakkı, insan onuru, bilimsel araştırma özgürlüğü gibi diğer ilgili konular belirlenir.

Bu nedenle, bu etik ve legal kavramların ışığında konuyu tartışmak oldukça önemlidir. Bu çalışmanın amacı, okuyuculara klonlama hakkında kısa bilgi vermek ve kullanımındaki bazı etik ve hukuki düşünceleri vermektir.

Anahtar Kelimeler: Klonlama, tıp etiği, hukuk

The idea of cloning human beings began to grow after the birth of Dolly, the sheep, in July 1997. Since then, an intense debate over this type of cloning has been carried out, overshadowing the benefits of therapeutic cloning (cellular cloning) to medicine. The issue, so far restricted to the scientific community, took on new dimensions, and, very fast, extended its boundaries, involving specialists from the most diverse areas of study.

At the same time, cloning became known to society in general through the communication media, generating both fear and awe. With time, this possibility turned into something even more concrete, specially after an ad came out in the North American Laboratory Advanced Cell Technology journal in November 2003, reporting on the production

of the first human clone for therapeutic purposes. At the same time, an European physician reported on his works with human cloning as an assisted reproduction method.

Finally, the belief that cloning had turned into a reality was reinforced by the announcement made by a religious sect, in late 2002 and early 2003, that the first human clone was already among us. Despite all the commotion it caused, nothing has been proved so far.¹

In Brazil, the issue got so much attention that it became the subject of a fictional story aired on national TV. Today, the discussion involves many facts and myths, and the idea is present in the imaginary of all people, even of those who had never heard the word cloning before.

Notwithstanding its fictitious aspect, the cloning technique, although still under development, has turned into a reality. The greatest fear is that the same experience that was used to clone Dolly will be used with human beings. As the procedure is still considered rather inefficient, the concern is highly justifiable.

Cloning is a reproductive method that still raises many important ethical and legal questions. In the area of

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Ethics, it has created serious dilemmas such as the morality behind the use human embryos for scientific purposes, the disposal of unused embryos, the lack of safe scientific measures to support the techniques used, the utility of cloning, among others.

In the area of Law, other relevant themes are identified such as the right to life, human dignity, scientific research freedom, as well as the legal nature of the human embryo, the right to reproduction, privacy, identity, descent, hereditary succession, and many more.

Therefore, to discuss the issue under the light of these ethical and legal concepts is of extreme importance, considering the number of values at stake. The objective of this work is to give readers some succinct information about cloning, and to provide some ethical and legal reflections on its use.

Cloning-Technical Aspects

The first type of cloning comes from nature itself; with the reproduction of identical twins. In this process, two or more genetically identical human beings are developed from a zygote. Thus, according to the cloning concept, identical twins are clones.

This same process can also take place by artificial means such as in the bi-partition of embryos technique. In this technique, a distinction is made between this type of cloning and natural cloning since, in the latter, there is the intervention of man in the partition of the embryos, culminating with the production of two individuals genetically identical.

In addition, there is the method that produced Dolly, which consisted basically in taking a somatic cell from an adult animal, preparing this cell with appropriate methods and, subsequently, introducing an enucleated ovule of the same species. Through an electrical discharge, these cells are fused and start to divide, developing an embryo.

Finally, in another similar procedure, the nucleus of a somatic cell is taken out and fused with other enucleated ovule. Currently, these two methods have been widely used in animal cloning. In addition, there are other common methods used for cloning vegetables which are not within the scope of this work.

Human Cloning

Although the first animal cloning experiences were carried out in the end of the XIX century, the first mammal cloned from an adult animal cell was born only in 1997.

Since then, the possibility of cloning humans began to be considered, even though until today, there have been only rumors about its realization. However, cloning has become a well established reproduction technique among scientists, and several animals have already been produced

by this scientific procedure. Considering the speed of scientific research advances, we can say that the cloning of human beings is just around the corner, and that the announcement of a scientifically attested cloning of a human being in the next years will come as no surprise.

Besides all its technical limitations, approved and non-approved experiences with the cloning of human beings might have already been carried out somewhere in the world, since its realization is inevitable.

This can be attested by the many unfounded reports on the birth of human clones which once in a while appear in the media. Arguments for the cloning of human beings such as “giving sterile, homosexual, aging couples, as well as singles, the opportunity to perpetuate their species”, have been posed by many scientists. However, the arguments carry within themselves many conceptual ambiguities.

In November 2002, the world came to a halt when the birth of a human clone was announced. This time, the announcement came from the American company Advanced Cell Technologies. However, in this case, the objective of the company was not to clone a human being, but, rather, to get embryonic stem cells for therapeutic purposes. During the experience only three embryos survived manipulation, and only one developed six cells.²

Around this same period, an European physician announced that, until the end of 2003, the first human clone would be born. Soon after, a religious sect caused great controversy announcing the birth of a human clone, although, it was never confirmed.³

Why Cloning?

Considering all the results obtained from cloning experiences and the fact that the technique is very close to being used in human beings, the question still remains: Why clone?

Many reasons are given to support the use of cloning with human beings. To many, it will be a way to produce “an army of superior beings”, bringing back the ghost of the Nazi figure of Hitler and his followers, who, during World War II, gave humanity the tragic example of trying to get genetically identical copies of German soldiers, to maintain the “purity” of the Arian race, and win the war.⁴

Some see cloning as a way to produce “organ repository individuals”. Others see it as the road to eternity, since one can reproduce copies of oneself successively. And, as we mentioned before, there are those who see in cloning the opportunity for homosexual, elderly sterile couples and single parents to reproduce through assisted reproduction procedures.

Nowadays cloning is seeing as a way to benefit the human species through therapeutic cloning, which has the potential to save millions of people.

It is inappropriate to discuss the development of an army of superior beings or of “organ repository individuals”, since we would be reducing the clone to a mere mean and not an end in itself as Kant once stated. According to Kant, we should “always recognize that human individuals are ends, and that they should never be used as a means to our ends”. The eternity myth can also be contested once the clone would be at most the biological copy of the matrix and never the same individual.

Reproductive Cloning

Among so many ideas about reproductive cloning, it is important to mention one which is particularly founded – cloning as an assisted reproduction technique to help childless couples.⁵⁻⁷

Considering the number of infertile people, and that reproduction is one of the basic and most desirable of all human functions, reproductive cloning, for this specific end, could represent an act of considerable importance to humanity. Whenever reproduction by other methods fails, the cloning technique could minimize the suffering of people to whom the right to reproduce was denied.

Some argue that homosexuals could also take advantage of this technique, once they are considered sterile individuals. Should they have the same right as that of a heterosexual individuals? On the other hand, could they make use of other techniques? Far from making any preconceived value judgement on the issue, this is a question which has no objective answer, but that deserves some serious reflection.

Taking into consideration the suffering of many childless people, this is an issue that deserves some special attention. In this case, specifically, there is another implication which involves the identity of the clone. Wouldn't it be a way to threaten the dignity of the cloned individual? Would it be a process of “reproducing” or “multiplying” the species? It is important to remember that the right to an identity is guaranteed by the Federal Constitution. Thus, this issue deserves some serious reflection as well.

Notwithstanding all the benefits that this technique can bring to science, it is important to emphasize that reproductive cloning is still under development. So far, results with animal cloning have been disappointing, since they have produced “apparently” healthy animals in a series of experiments.

It is still early to evaluate the results of cloning; the first cloning of a mammal was developed from an adult somatic cell only in 1997. Nobody knows for sure if these animal clones are healthy, thus it is still premature to use the technique on humans. It is unacceptable to make use of this procedure without knowing for sure its efficacy. What

we know so far is that cloning ought to be developed further before using it with human beings.

In the case of the sheep Dolly, among the many embryos that failed to mature, there were several malformed fetus which were aborted during the different gestational phases and other which died right after they were born. This has been observed in all species of cloned animals; many animals died of respiratory or cardiac problems right after their birth, not to mention the number of premature deaths, which will be unacceptable for human beings.

In addition, there problems related to aging: will the human species have the same problems Dolly had? Cells age as we get old, and there are many factors that contribute to a programmed cell death – one of them is the shortening of the telomeres due to the reduction in telomerase activity.

Researchers found out that Dolly, who died recently, had health problems common to an adult sheep, and that her chromosomes were the size of those of the sheep that gave birth to her. However, experiments have shown that this happened with some animal species only. It is still unknown if the same could happen to the human species.

Perhaps, in the future, with the advances of science, these technical problems will be solved, and, only then,, all ethical questions considered, we will be able to consider cloning a form of “assisted reproduction”.⁸⁻¹⁰

Therapeutic Cloning

After having examined reproductive cloning, it is important now to analyze therapeutic cloning, and make a distinction between them.

In the heat of the discussions on cloning, a lot has been said by the different segments of the society about reproductive cloning, regarding the prohibition of the technique. However, before making any preconceived judgement it is essential to know every cloning process in detail and their aims. This is how this study intends to introduce therapeutic cloning: by discussing its objectives.

Human cloning for therapeutic purposes consists basically in applying the cloning technique to non-reproductive ends; to bring benefits to human life through its therapeutic use. This technique makes use of certain cells such as stem, embryonic or adult.

Therapeutic Cloning From Embryonic Stem Cells

Cells remain undifferentiated up until the blastocyst phase (approximately 200 cells), in the first five days of gestation, i.e., they are able to give origin to any other body cell or tissue, also known as totipotent cells. At this stage, one of these cells can be taken out, and, in the middle of the culture for specific factors, it can be induced to become one specific cell type. Thus, considering that this is an

embryonic stem cell with retinoic acid, it will develop into a nervous cell, more specifically a neuron cell. If another factor, different from the retinoic acid, is used, they can develop into another cell type.

Thus the development of specific tissues, which could be implanted in specific organs to regenerate them, becomes possible. In the future, with the scientific advances, even the development of specific organs will become something realizable, such as the production of a liver, for instance.

Although it sounds like something taken from a fantasy world, research with mice and rats has already been carried out. In the case of mice, it was possible to regenerate blood cells through stem cells differentiated in the laboratory, as in a bone marrow transplant. As for rats, nervous cells were developed to make them recover lost functions with the degeneration of the previously damaged nervous tissue. Therefore, there is great therapeutic value in this technique, which can be used in human beings after some necessary technical adjustments.

Therapeutic Cloning From Adult Stem-Cells

Adult stem-cells are most easily found in the umbilical cord blood or in the placenta of a newborn baby. Generally, during birth, blood is collected from this area and then stored and frozen at -135o. C, and used as bone marrow transplant donor banks. In addition, these same stem-cells can turn into other cell types through culture, representing a great therapeutic asset.^{11,12}

In the near future, according to the speed in scientific advances, they will be used as sources of any organ or tissue. In this sense they will turn into a transplant bank for the donor himself/herself.

The great advantage in using adult stem cells is that they can be isolated from the patient's own tissues, avoiding rejection risks. In addition, the ethical/legal dilemma involving the destruction of embryos will be solved. However, besides being extremely rare, adult stem cells do not have the same potential for dividing and differentiating themselves.^{13,14}

Ethical Implications in Reproductive and Therapeutic Cloning

Reproductive cloning, as seen before, has not presented itself as a sufficiently safe technique to become successful. Its current research status has shown that it is unethical to clone a human beings, since the lack of safety regarding the health of the future clone and the great number of discarded neonatal in different phases of gestation are sufficient to support the opinion that this method goes against all ethical principles and human rights (dignity, respect and justice).

As for therapeutic cloning, it's aims are highly laudable. The life saving justification is strong enough to make

it ethical; it is more than a human whim, but an extremely valuable asset - life itself.

Besides, a heated debate is taking place on the use of human embryos for therapeutic cloning (therapeutic cloning from embryonic stem cells). For those who support the thesis that life begins at conception, it is unacceptable to use a live being (an embryo) to save another. They argue that, with the development of an egg- cell or zygote, a human being begins its life cycle, and as such, needs to be protected, rather than an object of scientific investigation or any type of therapy, even under the strong argument that another life might be saved. Supporters of this thesis say that no life is worth more than any other life, and that it would be inconceivable to sacrifice one in detriment of the other.

This, in fact, is an extremely serious issue. The key to this controversy is found in the belief about life' s origin. Without questioning the importance of the issue at hand, since its definition is highly controversial, one may argue that, in the first phases of the embryonic development, at least until the blastocyst phase, what exists is just a conglomerate of cells. There has been no consensus about the precise moment in which life begins, thus, values must be revised and the benefits of therapeutic cloning re-examined. It is paramount, however, to understand the agony of the people who could have their lives saved by this technique to be able to sympathize and make some value judgement on this issue.

As for therapeutic cloning from adult stem cells, there seems to be a consensus regarding its ethical standing.^{15,16}

How About Reproductive Cloning?

The great majority of the countries in the world has demonstrated their intention to legally ban reproductive cloning, including Brazil, where two law projects are currently under way in the National Congress.^{17,18}

However, it is naïve to think that the legal banning of cloning by many countries and international documents will stop it from happening. The limitations of cloning seem to be only technical since a scientist has already expressed his intention to carry it out on a ship cruising international waters.¹⁹

Thus it is imperative to study the legal standing of an eventual human clone, and to discuss the legal concept of a "cloned person", and the content of his/her legal personality. The humanity of a clone is likely to be recognized. Doted with life and all human vital organs, the clone will be considered as human as any other individual.²⁰

Taking into consideration the inviolable right to life and that the clone is an person and not a thing, it is possible to foresee the legality of its personality with all the inherent human rights, with no discrimination. Based on the

human dignity principle, the clone should be protected before its birth, with the right to descendence, and all the other human rights throughout his life. Denial to this condition would be a way of separating two class of people: one with rights and other without any rights.

Any guidelines, regulation or judgement on this issue must guarantee, above all, the basic human rights as a way to respect life and mankind.²¹

Conclusion

Human cloning, although still under development, is an unprecedented milestone in the history of mankind. In face of everything that has been said and done, and all the national and international interest in the issue, especially after the birth of several animal species through this technique, plus the several reports on these experiments with the human species, one may conclude that human cloning is not fiction anymore, but a reality that is already present in many laboratories around the world.

At this research stage, reproductive cloning is still unacceptable in human beings due to lack of proved safety. There are no arguments strong enough to justify it. To carry it out is an irresponsible act towards life and human beings; it is to turn away from all the consequences it may bring.

So far reproductive cloning has been seen as a technique which will bring no benefit to mankind other than being part of a researcher's or any other person's whim or ambition. It would mean to turn a clone into an object of personal vanity. In this sense, it would have been used as a mean rather than an end. Considering all the dimensions of this individual, it would vbe a violation of Kant's maxim.

Therapeutic cloning, on the other hand, has an enormous potential to save lives, and its purposes are highly laudable. It is possible to consider its use with human beings-t would be an unprecedented historical and scientific advance, thus its regulation must be discussed urgently. To this end, the issue must be analyzed from dimensions other than a simple dogmatic discussion. It is necessary to take into consideration the many questions this extraordinary technical advance will raise which have not yet been dealt with legally. It is urgent to reflect on the concepts and legal institutes of this method.

As for the regulations of the issue, the legislator must carry out interdisciplinary reflections so that the current banning of reproductive cloning will not represent a barrier for therapeutic cloning, which is considered of extreme importance to science and human health.

The issue must be analyzed in such a way that reproductive cloning will not create an obstacle for therapeutic cloning and that, an approval without control of therapeutic cloning will not likewise represent an approval authorizing the practice of reproductive cloning. Therefore, the issue

must be well regulated so that experiences with cloning can start benefiting science and man and not the opposite, i.e., man and science being used as experimental objects.

Even though it is common sense that reproductive cloning must be banned by modern legislation, there is still no rule strong enough to curtail this illicit practice. In case of a transgression of the law, and the production of a clone becomes reality, it is still imperative that its legal and ethical standing be discussed. Considering that a clone is a person and not a thing- albeit a product of an illicit practice- it has all the rights inherent to a human being. He/She will have, as any other individual, judicial personality, different form the person who gave him/her the genetic material, i.e., he/she will become a new individual with its own rights and obligations.

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