

*Current topics*

# The Islamic Organization for Medical Sciences (IOMS) discusses human cloning\*

## Introduction

The IOMS convened a seminar in 1983 on "Reproduction in Islam", in which two papers were presented dealing with the possibility of human cloning as a result of successful cloning in plants, frogs and small marine animals. The Seminar made the following recommendation:

*To exercise prudence in giving a Shari'ah-based opinion on human cloning (as achieved in animals) and to call for further medical and Islamic investigation of these issues. It would be possible to apply genetic engineering of micro-organisms using the recombinant DNA technology to produce medicinal substances in abundant supply.*

Since 1993, when an identical twin was produced by splitting a fertilized egg, and later when cloning of 'Dolly' the sheep was announced in February 1997, cloning has returned to the forefront of medical debate with much intensity and urgency. Then followed an announcement on the successful cloning of two monkeys at the University of Oregon in the United States of America. Since the techniques used in these operations are supposedly adequate for use on humans, the matter has assumed fresh urgency and provoked strong reactions.

Although no announcements of human cloning have yet been made, the need to pre-empt that possibility and understand its potential implications and draw up appropriate legal and moral responses to it, has moved several Western countries to ban or suspend, for a number of years, experiments involving humans in order to allow further investigation of the matter.

For these reasons, the IOMS has taken the initiative to put this matter up for discussion at the Seminar

## Defining cloning

Cloning is the production of two or more beings that are complete genetic copies of one another. There are two types of cloning:

1. Cloning by induced identical twinning.  
As the fertilized egg splits into two cells, each of them is then induced to make a fresh start and behave as if it were the original fertilized egg. Each half would then grow into a separate fetus, and having come from the same fertilized egg, they would be carrying exactly identical genetic components.
2. Ordinary cloning, which is achieved by injecting a nucleus from a somatic cell of an adult animal into an egg whose

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nucleus had been removed. The cell would then grow into a fetus that would be a true genetic copy of the adult living animal from which the somatic cell nucleus was taken.

## Discussion

The Seminar discussed at length the medical aspects of this matter, and arrived at the following main conclusions relating to cloning:

1. In 1993, human twins were produced by the splitting method, which stimulates the fertilized egg to follow its natural course towards producing identical twins. Each of the initial two daughter cells would then behave as a new fertilized egg in its own right and would grow by dividing itself to form a separate fetus. If the two fetuses were planted in the womb, the result would be identical twins. The debate was not completed since the two scientists in charge of the experiment refrained from planting the eggs in the womb. In fact, they chose to experiment with a defective cell that would divide only until an early stage, due to the sensitivity and seriousness of experiments with human fetuses. More time is, therefore, required to establish a proper ethical and legal framework for this type of work.

The Seminar had no objections, in principle, to this method of fertilization, but deemed it too early to evaluate its advantages and disadvantages. Of its immediate benefits is the application of diagnostic methods on either twin or some of its cells to establish their normalcy before introduction into the womb. It could also be useful in treating certain infertility cases, subject to all the controls governing test-tube baby pro-

cedures. The Seminar discussed thoroughly the new techniques of cloning, in the light of the case of Dolly the sheep and looked at some of the consequences of producing a fetus (later to be born), which is an exact genetic copy of the original, except for the presence of a very few cytoplasmic genes in the cytoplasm in the recipient egg.

2. It emerged that cloning would be fraught with risk, if ever its application is approved. The risks include the infringement on the individuality and identity of the person, undermining the stability of the social order, and the destruction of the bases of blood relationships and established age-old family ties, recognized by the Islamic *Shari'ah* and all other religions as the foundation of the family and of social order. This would have serious repercussions on the principles governing blood ties, marriage and inheritance, as well as on civil, criminal and other laws. Numerous hypotheses and possibilities were cited in this connection.

The Seminar rejected outright as *haram* any proposals that would impinge on the legal marriage contract or introducing a third party into it.

Some distinguished Islamic jurists cited certain ideological, ethical and juridical rulings and principles that had direct relevance to the cloning issue.

3. Reference was also made to the fact that public reaction to cloning in certain Western countries, including those where its researches were carried out, was extremely strong and reflected deep reservations. Some of these countries had already banned research on human cloning, while others have wide withdrawn state funding from such research. Some, however, had suspended research

for a number of years and assigned specialist committees to re-examine the issue. The Seminar was concerned that private funding and pharmaceutical companies might ignore these considerations and pursue research in third world countries, exploiting them to carry out human cloning experiments, as they had done in other cases on many occasions in the past.

4. The Seminar emphasized that Islam imposes no restrictions on the scientific research, but considers it a religious duty and encourages it as a means of understanding God's traditions in His creation. However, Islam advocates that the doors of scientific study should not be left wide open for the application of the results of research in the public domain without proper examination by *Shari'ah* experts. Not everything that is practicable is necessarily applicable, but should be free of any harmful effects and in line with the rules of *Shari'ah*.

Since some of the untoward effects do not become apparent until some time later, it is important to give full consideration and adequate time to the issues involved and take all possible precautions.

5. Based on these unanimously agreed considerations, some participants were of the view that human cloning was not permissible in any way, shape or form. Others, however, thought that certain, present and future, exceptions may be made, if their benefits are proved and they could be accommodated by the *Shari'ah*, provided each case is considered on its own merits.
6. In any case, human cloning is still a long way away, and the evaluation of its immediate advantages and disadvantages

may vary with the passage of time. It would, even, be premature to say that after so many years of genetic engineering in plants, its safety for humans has been definitely established. Its application in animals is as yet in its very early stages. Unpredictability is probably the greatest concern in this respect. Mankind should not forget the lessons of splitting the atom whose unexpected consequences emerged only after some time. Close monitoring of plant and animal cloning experiments must, therefore, continue for a considerable time.

7. The Seminar noted with regret that the Muslim world continues to follow blindly in the footsteps of the West in the fields of modern biological sciences. It called for the establishment of the necessary academic institutions to undertake this work according to the teachings of the *Shari'ah*.
8. The Seminar sees no objection to the application of cloning and genetic engineering techniques on plants and animals within the considered restrictions.

## Recommendations

The Seminar passed the following recommendations:

1. All cases introducing third parties into a marriage, whether a womb, an egg, a sperm or a cloning cell are not permissible.
2. Ordinary human cloning, in which the nucleus of a living somatic cell from an individual is placed into the cytoplasm of an egg devoid of its nucleus, is not to be permitted. If exceptional cases emerge in the future, they should be considered to verify compliance with the *Shari'ah*.

3. All Muslim countries are called upon to formulate necessary legislation to prevent foreign research institutes, organizations and experts from directly or indirectly using Muslim countries for experimentation on human cloning or promoting it.
4. The Islamic Organization for Medical Sciences and other similar bodies are called upon to monitor all scientific developments in the field of cloning and define its terminology and organize seminars and meetings, as required, to determine and articulate the Islamic rulings and principles pertaining thereto.
5. Specialized committees should be set up to look into the ethics of biological research and adopt protocols for study and research in Muslim countries, and prepare a document on fetal rights as a prelude to formulate legislation on the rights of the fetus.

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### Cloning in human reproduction

The fiftieth World Health Assembly,

Having considered the Director-General's report on cloning, biomedical technology and WHO's role in standard-setting;

Noting the statement issued by the Director-General on 11 March 1997, as well as the statements made by Member States at the Fiftieth World Health Assembly:

Welcoming the Convention on Human Rights and Biomedicine of the Council of Europe, which deals with the ethical principles of biomedicine;

Recognizing the need to respect the freedom of ethically acceptable scientific activity and to ensure access to the benefits of its applications;

Recognizing that developments in cloning and other genetic procedures have unprecedented ethical implications and considering that related research and development should therefore be carefully monitored and assessed, and the rights and dignity of patients respected,

1. **AFFIRMS** that the use of cloning for the replication of human individuals is ethically unacceptable and contrary to human integrity and morality;
2. **REQUESTS** the Director-General
  - (1) to take the lead in clarifying and assessing the ethical, scientific and social implications of cloning in the area of human health, in appropriate consultation with other international organizations, national governments and professional and scientific bodies; and, with the relevant international bodies, to consider related legal aspects;
  - (2) to inform the Member States in order to foster a public debate on these issues;
  - (3) to report to the 101st session of the Executive Board, to the Fifty-first World Health Assembly and to other interested organizations on the outcome of the assessments