ABSTRACT

Recent advances in the field of cloning and stem cell research have introduced new hope for treatment of serious diseases. But this promise has been accompanied by enormous questions. Currently, cloning is a matter of public discussion. It is rare that a field of science causes debate and challenge not only among scientists but also among ethicists, religious scholars, governments, and politicians. One important concern is religious arguments. Various religions have different attitudes toward the morality of these subjects; even within a particular religious tradition there is a diversity of opinions. The following article briefly reviews Islamic perspectives about reproductive/therapeutic cloning and stem cell research. The majority of Muslim jurists distinguish between reproductive and therapeutic cloning. The moral status of the human embryo, the most sensitive and disputed point in this debate, is also discussed according to Holy Quran teachings.

CLONING is a field of medical science that can both have an enormous potential impact on human health and quality of life and be a fount of new basic research discovery. Recent advances in cloning have been offered new hope for curing diseases such as diabetes, Parkinson’s, neurologic degeneration, congenital heart, Alzheimer’s, cardiomyopathies, osteoporosis, and so forth. But this technology has been accompanied by social, political, economic, legal, religious, and ethical questions worldwide. The debate over cloning became further complicated when medical scientists were able to isolate human embryonic stem cells for the first time in 1998. Research with embryonic stem cells has enabled investigators to make substantial gains in developmental biology, therapeutic tissue engineering, and reproductive cloning. There are two areas of the use of cloning in which the ethical and social issues differ: cloning to produce human beings (reproductive cloning) and cloning to produce human cell lines or tissues (therapeutic cloning). The majority of scientists, bioethicists, religious scholars, policy makers, and international and national regulatory bodies favor a prohibition of reproductive cloning, but they differ over therapeutic cloning and stem cell research. In this article, the religious perspectives of Islamic jurisprudence about this subject are discussed.

REPRODUCTIVE CLONING

Human therapeutic cloning is the asexual production of a human being whose genetic makeup is nearly identical to that of a currently or previously existent individual. Human therapeutic cloning is possible via either embryo splitting or nuclear transfer. Many of the arguments against human cloning are grounded in the fact that human cloning is dangerously similar to “playing God”. But from an Islamic perspective, cloning does not bring into question any Islamic belief. The creator of the universe has established the system of cause-and-effect in the world; all creation takes place solely through His will. Cloning would be only manipulating God’s creation, therefore scientists would not become God or replace God.

However, human reproductive cloning is prohibited by many Muslim scholars because the religious dimensions of human cloning are determined by positive and negative aspects of this new technology. Most criticisms of reproductive cloning come from scientists who are aware of the high risks. The majority of cloned animal embryos were lost before birth; a significant percentage of births were accompanied by serious abnormalities. The percentage of cloned animals reaching adulthood per manipulated egg is as low as 0.3% for cows and less than 1% for sheep. On the other hand, all the evidence suggests that human cloning would be extremely wasteful use of embryos and fetuses. Dr. Hwang and colleagues, for the first time, have cloned a human blastocyst. In this experiment, they used 242 eggs...
from 16 women, yielding a total of 30 embryos, but stem cells were successfully harvested from only one of them.10 Therefore, it is envisaged that it would be an abuse of the woman who supplied the eggs and miscarried the fetuses, and that any humans born live from such an experiment would more than likely suffer impaired health and development.7 In these circumstances, the majority of scientists believe attempts to clone humans are dangerous and irresponsible.11

In addition to the abovementioned points, some Muslim references argue as major problems of reproductive cloning the loss of kinship and lineage due to the unnaturalness of reproduction, the social harms, the unjust eugenics, and the contradiction of the diversity of creation.

THERAPUTIC AND RESEARCH CLONING
The fact that human embryonic stem cell research necessitates the destruction of human embryos renders such research unethical. The science of therapeutic cloning by nature involves the widely debated issue of the ontological and moral status of the human (preimplantation) embryo. Positions range from those who regard the early embryo as a person with all human rights to those who believe that the embryo is too rudimentary in development to have any moral status at all.12,13 Most theological perspectives consider the human fetus as an individualized human entity, but there is substantial debate regarding at which stage of development human dignity is conferred.2 In Islam, the embryo, even in the first day of its existence, has the right to life, and we have no right to kill it. However, there is a distinction between different stages of human development in the uterus. The Holy Quran describes stages of the human creation in chapter 23 (Al-Muminun sur’ah), verses 12–14: “We created man of an extraction of clay, then We set him a drop in a safe lodging, then We created of the tissue bones, then We covered the bones in flesh; therefore We produced it another creature. So blessed be God, The Best of Creators”. Some of the judgments and decrees of Islamic jurisprudence regarding human cloning originate from interpretations of these verses of The Holy Quran. Muslim jurists have made a clear distinction between the stages before and after ensoulment (when God says, “thereafter We produced him as another creation”). The ensoulment, based on opinions of the majority of the Sunni and Shi’a Muslim scholars, takes place about the end of the fourth month (120 days after fertilization).14 The embryo even in the pre-ensoulment stages has sanctity; its eradication is a sin but its punishment (blood money) will be less than abortion after ensoulment. Given this view, abortion is permissible in Islam before the end of the fourth month of pregnancy when there is a physical or emotional necessity involved, like a life-threatening danger for the mother or a high possibility of severe fetal anomalies. Therefore, based on majority of Islamic scholars, the use of embryo for therapeutic or research purposes may be acceptable under necessity if it takes place before the point at which the embryo is ensouled. Due to positive decrees (fatwa), the Islamic Republic of Iran is one of the first countries that has produced human embryonic stem cells. Following growing medical ethics activities in Iran,15 special attention has been paid in current years to organ transplantation16,17 and to addressing new ethical issues such as cloning and stem cell research for health care professionals.18

In conclusion, in the opinion of most Muslim jurists, cloning, as a great scientific event, would have advantages and limitations. According to its inevitable consequences, reproductive cloning is prohibited due to the majority of Muslim reference decrees. However, stem cell research and cloning for therapeutic purposes is permissible with full consideration and all possible precautions in pre-ensoulment stages of fetus development.

REFERENCES