

Vol 3 Issue 1 Oct 2013

ISSN No : 2249-894X

*Monthly Multidisciplinary
Research Journal*

*Review Of
Research Journal*

Chief Editors

Ashok Yakkaldevi
A R Burla College, India

Flávio de São Pedro Filho
Federal University of Rondonia, Brazil

Ecaterina Patrascu
Spiru Haret University, Bucharest

Kamani Perera
Regional Centre For Strategic Studies,
Sri Lanka

Welcome to Review Of Research

RNI MAHMUL/2011/38595

ISSN No.2249-894X

Review Of Research Journal is a multidisciplinary research journal, published monthly in English, Hindi & Marathi Language. All research papers submitted to the journal will be double - blind peer reviewed referred by members of the editorial Board readers will include investigator in universities, research institutes government and industry with research interest in the general subjects.

Advisory Board

Flávio de São Pedro Filho Federal University of Rondonia, Brazil	Horia Patrascu Spiru Haret University, Bucharest, Romania	Mabel Miao Center for China and Globalization, China
Kamani Perera Regional Centre For Strategic Studies, Sri Lanka	Delia Serbescu Spiru Haret University, Bucharest, Romania	Ruth Wolf University Walla, Israel
Ecaterina Patrascu Spiru Haret University, Bucharest	Xiaohua Yang University of San Francisco, San Francisco	Jie Hao University of Sydney, Australia
Fabricio Moraes de Almeida Federal University of Rondonia, Brazil	Karina Xavier Massachusetts Institute of Technology (MIT), USA	Pei-Shan Kao Andrea University of Essex, United Kingdom
Catalina Neculai University of Coventry, UK	May Hongmei Gao Kennesaw State University, USA	Loredana Bosca Spiru Haret University, Romania
Anna Maria Constantinovici AL. I. Cuza University, Romania	Marc Fetscherin Rollins College, USA	Ilie Pintea Spiru Haret University, Romania
Romona Mihaila Spiru Haret University, Romania	Liu Chen Beijing Foreign Studies University, China	
Mahdi Moharrampour Islamic Azad University buinzahra Branch, Qazvin, Iran	Nimita Khanna Director, Isara Institute of Management, New Delhi	Govind P. Shinde Bharati Vidyapeeth School of Distance Education Center, Navi Mumbai
Titus Pop PhD, Partium Christian University, Oradea, Romania	Salve R. N. Department of Sociology, Shivaji University, Kolhapur	Sonal Singh Vikram University, Ujjain
J. K. VIJAYAKUMAR King Abdullah University of Science & Technology, Saudi Arabia.	P. Malyadri Government Degree College, Tandur, A.P.	Jayashree Patil-Dake MBA Department of Badruka College Commerce and Arts Post Graduate Centre (BCCAPGC), Kachiguda, Hyderabad
George - Calin SERITAN Postdoctoral Researcher Faculty of Philosophy and Socio-Political Sciences Al. I. Cuza University, Iasi	S. D. Sindkhedkar PSGVP Mandal's Arts, Science and Commerce College, Shahada [M.S.]	Maj. Dr. S. Bakhtiar Choudhary Director, Hyderabad AP India.
REZA KAFIPOUR Shiraz University of Medical Sciences Shiraz, Iran	Anurag Misra DBS College, Kanpur	AR. SARAVANAKUMARALAGAPPA UNIVERSITY, KARAIKUDI, TN
Rajendra Shendge Director, B.C.U.D. Solapur University, Solapur	C. D. Balaji Panimalar Engineering College, Chennai	V.MAHALAKSHMI Dean, Panimalar Engineering College
	Bhavana vivek patole PhD, Elphinstone college mumbai-32	S.KANNAN Ph.D , Annamalai University
	Awadhesh Kumar Shirotriya Secretary, Play India Play (Trust), Meerut (U.P.)	Kanwar Dinesh Singh Dept.English, Government Postgraduate College , solan

More.....

Address:-Ashok Yakkaldevi 258/34, Raviwar Peth, Solapur - 413 005 Maharashtra, India
Cell : 9595 359 435, Ph No: 02172372010 Email: ayisrj@yahoo.in Website: www.isrj.net



BUDDHIST PERSPECTIVE ON CLONING

CH VENKATA SIVA SAI

Assistant. Professor, School of Buddhist Studies and Civilization,
Gautam Buddha University, Greater Noida, U.P

Abstract:

Medical Ethics The legal definition of medical ethics says 'Medical ethics is a discipline/methodology for considering the implications of medical technology/treatment and what ought to be. Medical ethical issues arise out of specific fields of health care which are mentioned below. Matters related to infertility or any reproductive health related issue. Surrogacy is one good example of this field. Cloning could be cited as one of the issues that is debated upon quite a lot. Children health care also is one of the big issues that comes with legal medical issues too. Dealing with terminal illness, which has triggered the famous (or infamous) euthanasia, also called mercy killing, is one of the gravest issues that has comes under scanner. Organ transplants are also one of the major fields of medical ethical issues. Treating mentally challenged patients is an addition to the ethical issues in medical care.

KEY WORDS:

DNA, cloning, Medical ethics, Health care etc.

INTRODUCTION

In general, cloning is defined as a process of amplifying biological materials that can include DNA, cells, tissues, organs, and organisms. The amplified materials (clones) should have the same DNA as their parental DNA. Since DNA (deoxyribonucleic acid) stores genetic information, clones should have the same genetic information as their parent. There are 3 kinds of cloning:

1. DNA cloning
2. Therapeutic cloning
3. Reproductive cloning

1. DNA cloning

What is DNA cloning?

DNA cloning is also known as molecular cloning, recombinant DNA technology, and gene cloning. Accordingly, the biological materials being cloned in DNA cloning are the DNAs. Therefore, DNA cloning is the simplest type of cloning. Scientists use recombinant DNA technology to produce proteins (protein expression & purification), cell transfection for studying protein function in certain cells, and for other biological applications.

Ethical aspect of DNA cloning

Since the process of DNA cloning itself does not cause any harm in living creatures, DNA cloning certainly does not evoke any ethical issues in Buddhism. DNA cloning is a common biological technique widely and freely used in many science laboratories.

BUDDHIST PERSPECTIVE ON CLONING

2. Therapeutic cloning

What is therapeutic cloning?

Therapeutic cloning is the process of cloning tissues or organs, in which the cloned tissues/organs would only be used for therapeutic purposes. The process of therapeutic cloning involves a procedure called somatic cell nuclear transfer (SCNT), in which the nucleus from an ovum is replaced with the nucleus from a somatic cell (that will be cloned). Somatic cells include cells from the body except the reproductive cells (sperms and ova). In other words, SCNT consists of 3 steps: 1) removing the nucleus from the ovum, 2) isolating the somatic nucleus, 3) inserting the isolated somatic nucleus into the enucleated ovum. So at the end of the microscopic SCNT procedure, one will end up with an ovum in which its original nucleus has been replaced with the somatic nucleus. This cell will develop into blast cyst (early stage of embryogenesis) that contains stem cells. Stem cells are cells that are capable of differentiating into many different cell types. These stem cells would then be induced to grow into specific tissues or organs.

In short, if you would like to obtain a new heart to replace your malfunctioning heart, scientists would isolate the nucleus of your somatic cells (e.g., skin cells) and insert it into the ovum (donated by a woman) that has been enucleated (its nucleus removed). The cell will then be grown, and the resulting stem cells will be isolated and induced to grow into your new heart.

What is the benefit of therapeutic cloning?

The benefit is quite significant! Patients with malfunctioning hearts, kidneys, and other organs can have their new organs. Why couldn't they find organ donors? The short answer is immunohistocompatibility. The incompatible donors will cause the host immune system attacking the 'foreign' organ. As a result, the transplanted organ will fail. So the benefit of therapeutic cloning is clear, i.e., as a new alternative of medical therapy.

Ethical aspect of therapeutic cloning

Even though there has not been an agreement among biologists and other Buddhist scholars on the ethical aspect of therapeutic cloning, it is clear that Buddhism does not view the cells in our body as living creatures. That is, individual human cell, tissue, and organ in our body do not possess their own mental aggregates (Pali: nama). Ova and sperms are also not considered living creatures that have their own mental consciousness. However, as fertilization takes place, fetus will be formed through embryogenesis. The newborn will have both mental (Pali: nama) and physical (Pali: rupa) aggregates. The question here is, "At what stage of embryogenesis does the mental consciousness appear to exist?"

This question is important because in Buddhist view, living creatures consist of both mental (nama) and physical (rupa) aggregates (Ref: Samyutta Nikaya 12.2). The relationship between these mental and physical components is very intricate, and they are quite inseparable. Without our ears and audio nervous system, we cannot hear. However, when we are not alert enough, e.g., during our sleep, we probably cannot hear soft voices that usually could be heard when we are fully alert. Therefore, the mental and physical aggregates are quite inseparable from one another. They need each other. So when do these mental aggregates form during embryogenesis?

Stem cells are formed around 4-5 days post-fertilization (fusion in the case of cloning). At this stage, there is no sign of the presence of mental consciousness. As discussed above, mental consciousness is strongly linked to nervous system, i.e., without nervous system our mental consciousness will not function; therefore, we should examine when the nervous system is being formed during embryogenesis. The process of nervous system formation in embryogenesis is known as neurulation; and this process starts about three weeks post-fertilization (Ref: Am J Med Genet C Semin Med Genet, 135C(1): 2-8). This is the earliest time that an embryo can be said to have a nervous system. At this point, the nervous system has just begun to form and is certainly far from its completion. Because of this reason, the 4-5 day-post-fertilization stage should not be categorized as 'living' according to Buddhist definition. And the recovery of stem cells at this stage of embryogenesis should not be labeled as 'killing.' Therefore, therapeutic cloning should not be considered as an unethical act if only it is done in the first week post-fertilization.

3. Reproductive cloning

What is reproductive cloning?

Reproductive cloning is a process of making new organism (clone) whose DNA is identical to its parent (the one being cloned). The method used in reproductive cloning is similar to that of therapeutic cloning; however, the embryo formed is allowed to grow in the uterus of a surrogate mother.

What are the benefits of reproductive cloning?

The benefits of reproductive cloning include the selection of good genes in cattle that are

BUDDHIST PERSPECTIVE ON CLONING

responsible for high quality of dairy products, the reintroduction of the extinct species, etc.

Philosophical aspect of reproductive cloning

According to Buddhism, living creatures are not the products of divine creation, but are formed by delusion (Ref: Samyutta Nikaya 12.2). Because of mental delusion, living creatures are subjected to rebirth. Accordingly, with the cessation of mental delusion, rebirth ceases. There is no 'ego' (soul, absolute existence). Living creatures experience rebirth due to mental delusion. This teaching is also known as dependent origination (Pali: paticcasamupada). That is, everything exists due to its condition. With the cessation of that condition, that existence also ceases. Hence, there is no absolute existence. The concept of reproductive cloning could be accepted in Buddhism, and is not viewed as awe. Cloning can be successful because scientists understand that ovum with the diploid nucleus from somatic origin can grow into embryo. By supplying such a condition, embryo will form. And with that supportive condition, mental (Pali: nama) and physical (Pali: rupa) aggregates can develop into existence—a baby is then born.

CONCLUSION

Ethical aspect of reproductive cloning Although Buddhism can accept the concept of reproductive cloning, pragmatically speaking reproductive cloning still has many technical concerns. There have been many reports that describe the abnormalities of clones. The reasons for their abnormalities remain unclear. However, some scientists believe that the somatic nucleus used in reproductive cloning may not be optimal because of the shortening of the telomeres (the two ends of the DNA that get shorter as the DNA replicates). Many clones had short lives. Therefore, scientists should acknowledge the underlying moral responsibility, and should not put reproductive cloning into practice, especially in a large scale. However, in order to tackle these technical concerns, experiments are needed. These experiments would tend to generate ethical issues. When these technical difficulties have been sorted out, reproductive cloning may then become a common practice in our society.

"This Dhamma is compared to a raft, for the purpose of crossing over, not for holding onto. You should let go even of Dhammas, to say nothing of non-Dhammas." (Majjhima Nikaya 22)

NOTES AND REFERENCES:

1. Beauchamp, Tom L. and James F. Childress 1989. Principles of Biomedical Ethics, Oxford: Oxford University Press. 1989.
2. Epstein, Mark. "Awakening with Prozac: Pharmaceuticals and Practice." Tricycle Fall:30-34. 1993.
3. Florida, R. E. "Buddhism and the Four Principles". In Principles of Health Care Ethics, ed. R. Gillon and A. Lloyd, Chichester: John Wiley & Sons, 105-16. 1994.
4. Jones, Ken. The Social Face of Buddhism: An Approach to Political Activism. Boston: Wisdom Publications. 1989.
5. Kabat-Zinn, Jon. Full Catastrophe Living: Using the Wisdom of Your Body and Mind to Face Stress, Pain and Illness. New York: Dell. 1990.
6. Keown, Damien. Buddhism & Bioethics. London and New York: Macmillan/St. Martins Press. 1995.
7. Kitagawa, J. "Medical Ethics of Japan through the Nineteenth Century," in Encyclopedia of Bioethics, ed. W. Reich, London: Macmillan, 922-924. 1987.
8. Kimura, R. "Religious aspects of human genetic information" in Science, Law and Ethics, Ciba Foundation Symposium. Chichester: Wiley. 1990.
9. Lindbeck, Violette. "Thailand: Buddhism meets the Western Model," The Hastings Center Report 14:24-26. 1984.
10. Mettanando, Bhikkhu. "Buddhist Ethics in the Practice of Medicine" in Buddhist Ethics and Modern Society: An International Symposium, ed. C. Wei-hsun Fu and S. A. Wawrytko, New York, etc: Greenwood Press, 195-213. 1991.
11. Nakasone, R. Y. Ethics of Enlightenment. Fremont, Ca: Dharma Cloud Publishers. 1990.
12. Nakasone, R. Y. "Buddhism". Encyclopedia of Bioethics. London: Macmillan. 1994.
13. Ratanakul, P. Bioethics, an introduction to the ethics of medicine and life sciences. Bangkok: Mahidol University. 1986.
14. Ratanakul, P. "Bioethics in Thailand: The Struggle for Buddhist Solutions," Journal of Medicine and Philosophy 13:301-12. 1988.
15. Ratanakul, P. "Thailand: refining cultural values." The Hastings Center Report 20:25-27. 1990.

Publish Research Article International Level Multidisciplinary Research Journal For All Subjects

Dear Sir/Mam,

We invite unpublished research paper.Summary of Research Project,Theses,Books and Books Review of publication,you will be pleased to know that our journals are

Associated and Indexed,India

- * International Scientific Journal Consortium Scientific
- * OPEN J-GATE

Associated and Indexed,USA

- DOAJ
- EBSCO
- Crossref DOI
- Index Copernicus
- Publication Index
- Academic Journal Database
- Contemporary Research Index
- Academic Paper Databse
- Digital Journals Database
- Current Index to Scholarly Journals
- Elite Scientific Journal Archive
- Directory Of Academic Resources
- Scholar Journal Index
- Recent Science Index
- Scientific Resources Database

Review Of Research Journal
258/34 Raviwar Peth Solapur-413005,Maharashtra
Contact-9595359435
E-Mail-ayisrj@yahoo.in/ayisrj2011@gmail.com
Website : www.isrj.net