- Gad El-Hak AGH. In Vitro Fertilization and test tube baby. Dar El Iftaa, Cairo:Egypt. 1980;1225:1:115:3213-3228.
- Gad El Hak AG.E. Serour GI. (ed). Some gynecological problems in the context of Islam. The International Islamic Center for Population Studies and Research. Cairo:Al Azhar University 2000.
- Serour GI. Attitudes & Cultural Perspective on Infertility and Its Alleviation in the Middle East Area. Vayenna E (ed.) Current Practices & Controversies in Assisted Reproduction. Report of WHO Meeting, WHO Geneva 2002 (41 - 49).
- 10. Sura Al Bakara 2:185, Holy Quaraan.
- 11. Hadith Shareef Reported by Abou Dawood.
- 12. Hadith Shareef Reported by Bukhary and Muslaam.
- 13. Sura Al Ahzab 32:4-5, Holy Quaraan.
- Proceedings of 7th Meeting of the Islamic Fikh Council in IVF & ET and AIH, Mecca (1984) Kuwait Siasa Daily Newspaper, March, 1984.
- Serour GI. Embryo Research. Ethical implications in the Islamic World 2002. ISESCO, Rabat, Morocco.
- Serour GI. (ed.). Ethical guidelines for human reproduction research in the Muslim Worlds. The International Islamic Center for Population studies and Research. Cairo: Al Azhar University, 1992.
- Serour GI. (ed.). Ethical implications of the use of ART in the Muslim World. The International Islamic Center for Population Studies and Research. Cairo: Al Azhar University, 1997.
- Serour GI. (ed.). Ethical implications of the use of ART in the Muslim World: Update. The International Islamic Center for Population Studies and Research. Cairo: Al Azhar University, 2000.
- Islamic organization of education, science and culture (ISECO). Ethical reflection of advanced genetic research. Qatar: Doha. February 1993.
- 20. Serour GI, and Dickens B. Assisted reproduction

- developments in the Islamic World. International J Gynecol Obstet. 2001;74:187-193.
- Tantawi S: Islamic Sharia and selective fetal reduction. Al Ahram Daily Newsletter, Cairo: Egypt, 1991.
- Serour GI. 2002: Medically Assisted conception, dilemma of practice and research: Islamic views. GI Serour (ed.). In Proceedings of the First International Conference on Bioethics in Human Reproduction Research in the Muslim World. IICPSR., 1992;234-242.
- 23. Sura El Hag 22:5, Holy Quraan.
- 24. Sura Al Mo'menon 23:14, Holy Quraan.
- 25. Hadith Shareef Reported by Bokhary and Muslim.
- 26. Sura Al-Nahl 58-59, Holy Quran.
- 27. Sura Al-Takwir: 8-9, Holy Quran.
- Fathalla MF. The girl child. Int. J. Gynecol Obstet 2000;70:7-12.
- Serour GI. Transcultural Issues In Gender Selection. S. Daya, R. Harrison, R. Kampers (ed.). Recent Advances in Infertility and Reproductive Technology. International Federation of Fertility Societies (IFFS) 18th World Congress on Fertility and Sterility, Montréal 2004.
- Serour GI. Family and Sex Selection. Healy DL (ed.). Reproductive medicine in the twenty-first century. Proceedings of the 17th World Congress on Fertility and Sterility, Melbourne: Australia. The Parthenon publishing group 2002;97-106.
- Serour G. I. Ethical Guidelines for Gender Selection: are they needed? Proceeding in International Conference on Reproductive Disruptions Childenese, Adoption and Other Reproductive Complexities, USA.: University of Michigan, May 18-22, 2005.
- El Bayoumi AA, Al Ali K. Gene therapy: the state of the art. Rabat, Morocco: Ethical Reflection of Advanced Genetic Research. In Islamic Educational. Scientific and Cultural Organization (ISESCO), Rabat, 2000.

2. The views of the Coptic Orthodox Church on the treatment of infertility, assisted reproduction and cloning

Botros Rizk, M.R.C.O.G., M.D.

Division of reproductive endocrinology, Department of Obstetrics and Gynecology, University of South Alabama, Mobile, Alabama, USA

Coptic

The word "copt" derives from the Greek Aigyptios "Egyptian" via Coptic kyptaios and Arabic Qibti. Aigyptios derives from hikaptah, house of the Ka (spirit) of Ptah one of the names for Memphis, the first capital of Ancient Egypt (1). The Arabs, upon arriving to Egypt in AD 640, called Egypt dar al Qibt (home of the Egyptians)

and since Christianity was the official religion of Egypt, the word Qibt came to refer to the practitioners of Christianity as well as to the inhabitants of the Nile Valley (1).

The First Book on In Vitro Fertilization

The first book on the opinion of the Coptic Orthodox Church on In Vitro Fertilization and transfer of embryos was published by His Grace, the late Bishop Gregorios, the Bishop of theological studies, Coptic culture and scientific research (7). His book was based on a lecture that he had delivered the year before at the 10th Annual Conference of the College of Medicine, at Ain Shams University in Cairo in March, 1987. The author could personally testify that HG Bishop Gregorios was a scholar in different fields of Theology and Science and represented the ultimate in dedication and purity that could ever be achieved. His book was given to me more than 15 years ago by Professor Aboulghar who started in vitro fertilization in Egypt and sought the opinion of the Coptic Orthodox community as well as the Islamic community. The introduction of his lecture and book starts by ascertaining that the success of in vitro fertilization represents a great success for Science by alleviating a great obstacle for married couples wishing to conceive a child. Although having children is not the only reason for marriage, it represents nature's first goal of marriage in all beings including humans. He fully acknowledges that motherhood is the strongest instinct that a woman could have and that having children is the first wish for any mother and certainly infertile women are among the unhappiest people even if they were married to the richest, wealthiest and most famous. He also acknowledges that the success of in vitro fertilization has brought happiness to thousands of married couples and settled lives among many families. He quoted examples from the Old Testament painting a picture of how such tragedy could affect family life such as Sara who asked Abraham to marry her maidservant and Rachel and Jacob. He cited Rachel's statement asking Jacob to give her children or she would rather die.

The second chapter focuses on the pitfalls of in vitro fertilization and assisted conception. He emphasized that a key issue is the fertilization of a woman's oocyte by her husband's sperm and extreme accuracy should be exercised in this important issue. He stresses the role of the treating physician in honesty so that there is no question that fertilization has occurred between the husband and wife and not any third party. He acknowledges that in certain situations fertilization might not occur but does not accept that fertilization should

be attempted between the wife's oocyte and any other man's spermatozoa, whether it is from a known or unknown donor. HG Bishop Gregorios calls this fertilization incomplete ethically or legally from all aspects because the fruit of the relation between a man and a woman should be from a holy relation.

Another issue that he does not accept is the establishment of embryo banks and the buying and selling of gametes with money. This is fully unacceptable because it brings down the relation of the value of marriage and conception and having children to a low level.

He then discusses the difficult issue of surrogate pregnancy and believes that this is an area with serious consequences. One of those consequences is that the infant may inherit some different psychological or physiological traits of the carrier. He acknowledges that in the past, a mother who died had her child nursed by another woman who could do so and that was a legitimate option in the absence of facilities for feeding. In a later discussion, HG Bishop Gregorios denounces surrogacy (8).

In summary, HG Bishop Gregorios welcomes and accepts in vitro fertilization only under the circumstances where the oocyte and sperm are taken from the husband and wife and fertilization occurred in vitro with no doubt about gamete mixing. Embryo transfer must be performed to the mother who is the source of the oocytes. All the steps of in vitro fertilization should occur with the approval of the husband and wife and the treating physician should be alert to the fact that no mixing of gametes should occur and there should be no doubt in anyone's mind regarding the source of the gametes. He accepted in this lecture that surrogacy is an option when the sperm and oocyte are obtained from the married couple when the wife has lost or does not have the ability to carry a pregnancy as in the case of a woman who has had her uterus removed because of bleeding or cancer. In a later communication, he closed the door on surrogacy even under those rare circumstances (8). In the details of his lecture, he goes through the clinical indications for in vitro fertilization and the steps that should be adhered to from the retrieval of the oocytes until the embryos are transferred to insure the extreme caution that should be exercised by the couple and the treating physician.

In 1998, HG Bishop Serapion of Los Angeles published a series of articles in the El Kiraza journal of which HH Pope Shenouda is the editor in chief (9). HG Bishop Serapion who is a physician by background acknowledges that in vitro fertilization is a legitimate option for couples who cannot achieve a pregnancy by normal means including medical and surgical options. In vitro fertilization is acceptable only if the gametes are from husband and wife. No donor oocyte or spermatozoa should ever be used under any circumstances. Surrogacy is fully unacceptable.

In a small number of other publications of other Bishops in Egypt, in vitro fertilization remains an acceptable option, gamete donation is not.

Sex Selection

Ethicists are divided in two camps: those who feel that sex selection is a choice of couples and those who believe that this would be a biased intervention with negative consequences (10). The Coptic Orthodox Church has not specifically addressed this issue to my knowledge.

Cloning or Somatic Cell Nuclear Transfer

Somatic cell nuclear transfer or cloning is an issue that has divided more ethicists in the Western world (11, 12). Cloning could be performed for reproductive reasons. This type of cloning is known as reproductive cloning. To our knowledge, no human beings have been successfully cloned. Although it is not impossible, it is extremely difficult to do so. Most medical societies including the American Society for Reproductive Medicine

does not accept cloning from an ethical point of view even if it becomes technically possible. Cloning for the production of stem cells is known as therapeutic cloning which is acceptable to some medical societies (12). The Coptic Church does not accept reproductive or therapeutic cloning.

REFERENCES

- Kamil J. Coptic Egypt, History and Guide. American University in Cairo Press. Cairo, Egypt. 1996.
- HH Pope Shenouda III. St. Mark, the Apostle, Saint and Martyr. 3rd Edition, 1996. Ambarouis, Cairo, Egypt.
- 3. d'Orlean Cheneau P. Les Saints d'Egypte. Jerusalem, 1923.
- 4. Aboulghar M. The Jews of Egypt from Prosperity to Diasphora. Dar al hilal; 2004. p.8
- Dunaway M. What is the Orthodox Church? A Brief Overview of Orthodoxy. Conciliar Press, Ben Lomond, CA. 1995.
- HG Bishop Bishoy. Ecumenical Councils. The Institute of Coptic Studies, Theology Section. 2003. pp.1-7.
- HG Bishop Gregorios. The Christian Opinion in In vitro Fertilization and Embryo Transfer. Bisphoric of Higher Studies, Coptic Culture and Scientific Research, 1988, Cairo, Egypt.
- 8. Serour G. Personal Communication.
- HG Bishop Serapion. The View of the Coptic Orthodox Church on In Vitro Fertilization. Al-Keraza, Cairo Egypt. 1998.
- Rizk B. Preconception sex selection. American Society for Reproductive Medicine/Middle East Fertility Society Symposium. September, 1999. published by Middle East Fertility Society Journal, Volume 4, Supplement 2, pp. 14-21.
- Rizk B. Cloning or Somatic Cell Nuclear Transfer. Department of Obstetrics and Gynecology, Grand Rounds, Dec 17, 2004.
- Rizk B. University of Alexandria, Department of Obstetrics and Gynecology 19th Annual Meeting. Somatic Cell Nuclear Transfer: Cloning. May 5, 2005. Alexandria, Egypt.

3. The Vatican view on human procreation

Michel Abou Abdallah, M.D.

INTRODUCTION

The gift of life which God the Creator has entrusted to man calls him to appreciate the

inestimable value of what he has been given and to take responsibility for it: this fundamental principle must be placed at the centre of one's reflection in order to clarify and solve the moral problems