VOLUME - 10, ISSUE - 04, APRIL- 2021 • PRINT ISSN No. 2277 - 8160 • DOI : 10.36106/gjra

Original Research Paper

Ayurveda

INDIAN PIONEER OF IVF-NOT TO BE FORGOTTEN AND THE PAST NEEDS TO BE REWRITTEN

Skandhan K P*	Kaher's Shri Bmk Ayurveda Mahavidyalaya Belagavi 590003 INDIA *Corresponding Author
Pooja M K	Kaher's Shri Bmk Ayurveda Mahavidyalaya Belagavi 590003 INDIA
Prasad B S	Kaher's Shri Bmk Ayurveda Mahavidyalaya Belagavi 590003 INDIA

ABSTRACT The first test tube baby of India was born after a gap of 67 days of world's first test tube baby. The excellent thoughts and hard work of the creator of this was late Dr Subash Mukerji. His team of scientists introduced cryopreservation of embryo, a method unknown to the scientific world till then and which is currently employed as the technique in in vitro fertilization. However, his excellent work remained unrecognized. Out of humiliation, disgustingness and desperation experienced by the great scientist from medical fraternity, authorities and general public he ended his life on July 19, 1981. Considering the pioneering contribution done by late Dr Subash Mukerji to this field he deserves due recognition.

KEYWORDS : : Dr Subash Mukerji, In Vitro Fertilization, Cryopreservation, Dr Tc Anandkumar

HISTORY OF FIRST TEST TUBE BABY OF INDIA

In a country an achievement, discovery or invention by her citizen is a piece of excitement, enjoyment and celebration. The norm is to recognize, felicitate, honor and pour awards and incentives to the work/ inventors/authors. It is a reckoning factor for the country to present him/her proudly. Unfortunately, our country, India, remains an exception. Recognition comes later, after appreciation done by other countries. The best example is the work done by late Dr Subash Mukerji and his colleagues.

On October 3,1978 mass media reported "The Claim" of a group of Indian medical scientists delivering the second test tube baby of the world[1] after 67 days of gap of the first report from UK[2-4].

Silent and painstaking efforts of late Dr Subhash Mukerji , Professor of Physiology, BS Medical college; Prof Sunit Mukerji, a Cryobiologist, Professor of Food Technology , Jodhpur University and Dr Saroz Kanti Bhattacharya , Associate Professor of Obstetrics and Gynaecology of Calcutta Medical College, Calcutta together worked on an absolute new method of in vitro fertilization which was carried out successfully on a couple, an oligozoospermic husband and his wife with fallopian tube block, leading to the first "test tube baby" in this country[5].

With the technical background, limited available facilities like few general apparatus in laboratory and a refrigerator at home[6] and financial crunch Dr Mukerji and his colleagues were successful in producing the first "test tube baby" of India. The major thrust of the team was in the development of cryopreservation of embryo for a period of 58 days as known first time in the medical history. Till then cryopreservation of a fertilized egg was unknown to the world. Seven days prior to the expected date of delivery the baby was delivered by cesarian section on October 3rd,1978,the second "test tube baby" of the world. The work of this dedicated team is an example of old saying "The lotus grows in a marshy tank".

"Durga", the baby was christened a pseudonym representing a popular Goddess of Hinduism and her photograph appeared in national newspapers, looking normal and healthy. In this conservative society, considering the future of the baby, her parents' identity was kept confidential.

Dr. Mukerji presented his findings during the International Congress on Hormonal Steroids at New Delhi in 1978 and in the Indian Science Congress at Hyderabad in 1979. In this case, like in other instances the typical Indian nature of not accepting a claim of their origin was once again proved. Many of us were proud, some bewildered and others turned at outrun and outcry. The voice of the last group gained momentum. Our constitution protects freedom of thinking and freedom of expression which very easily and quickly permitted to reach on a controversy of Mukerji's creative idea of cryopreservation of embryo. The provincial West Bengal Government constituted a committee to find out "the truth" in the first "test tube baby" of our country. The committee had no comparison to that of Warnock's of 1982 appointed by British Government to study the details of experimental procedures involved in human in vitro fertilization and to propose ways of protecting medical ethical principles[7,8]. Dr Mukerji did not reveal details of his unpublished work as he was interested to publish it first[9]. In this case at the end, committee members reached on conclusion that Durga was not born. A great blow to scientists on their integrity, tireless work and honesty of the results they produced. A popular proverb in India reads, "Unknown is the fragrance of jasmine of own garden".

Enthusiastic Dr Subhash Mukerji approached the Government bodies for support to pursue further his novel work on cryopreservation of embryo which was leading to further humiliation . Same time, he was invited to discuss about his work with scientists and experts at University Primate Research Centre in Japan. The Government of West Bengal denied permission to Dr. Subash Mukerji to proceed to Japan. The mistake done by the authorities turned to be very expensive. Desperate and disgusted and ostracized Dr Subash Mukerji suicided on July 19, 1981. His death note read as "I can't wait every day for a heart attack to kill me"[10]. A self-imposed reward to his grand success! A great loss to the scientific world!! Dr Mukerji, like several other scientists, who was interested more in his work and so his unpublished data got accumulated. He carefully guarded his unpublished data to make sure it did not go into wrong hands.

In 1997, Mukerji's papers and handwritten notes on his technique were independently assessed by Dr .T. C. Anandkumar, who is an internationally reputed scientist in the field of reproduction and formerly served as the Director of prestigious Institute for Research in Reproduction at Bombay. He is one of the top most scientists of our country. Dr Anandkumar who himself played a key role in the birth of another test tube baby born in Mumbai (1986).

As a part of enquiry, Dr Anandkumar met the mother of Durga. On his private enquiry as one of the top most scientist of our country and internationally reputed for his work on reproduction he concluded that the study of Dr Mukerji and group showed they used gonadotropins for ovarian stimulation, transvaginalcolpotomy to harvest oocytes and cryopreservation of the human embryo. Dr Anandkumar admired the whole work of Dr Subhash Mukerji and said it was genuine and his claim was true! "It is noteworthy that Dr Mukerji was far ahead of his time in successfully using an ovarian stimulation protocol before anyone else in the world had thought of doing so"[11]. Dr Mukerji's pioneering method of combining in vitro fertilization and cryopreservation of human embryos is the technique currently preferred in medically assisted reproduction, In vitro fertilization throughout the world.

Analyzing records up to 2013, Dyer et al.[12] Reported the number of IVF centers world over at 2500. They are increasing globally in number as shown below.

COUNTRY	NUMBER OF IVF CENTERS
India	402(ICMR 2019)
USA	464(GDC 2015)
Europe	1279[13]
Africa	40[12]

Recognizing the excellent contribution of Dr. R G Edwards in creating the birth of first "test tube baby" of the world, he was awarded the Nobel Prize in Medicine and Physiology in 2010. A similar highest recognition, posthumously, is solicited in case of late Dr. Subash Mukerji.

All authors have equally contributed in preparing this manuscript. "All authors read and approved the final version of the manuscript".

REFERENCES

1. The Hindu. News item. October 4, 1978
2. Edwards RG. Life Before Birth, Hutchinson,London,1989
3. Edwards RG, Steptoe P. A matter of life. London, Hutchison, 1981
4. Steptoe PC, Edwards RG. Birth after Reimplantation of a human embryo. Lancet 2(8085):366,1978
5. Mukerji S, Mukerji S, Bhattacharya SK. The feasibility of long term cryogenics freezing of viable human embryos. A brief pilot study report. Indian J Cryogenics 3:80-84,1978
6. Ghose A. The forgotten hero of IVF. http://www.livemint.com/Leisure/d7RtCFT0yw5GmsoC6OgvO/The-forgotten-hero-of-IVF.html
7. Report of committee to inquiry into human fertilization and embryology. London, HM stationary office. Cmnd 9314, 1984
8. Skandhan KP, Skandhan S. Human In Vitro Fertilization. Panminerva Medica 30:5-6, 1988
9. Bharadwaj A. The Indian IVF Saga: Contested History. Reprod Biomed Society Online 2:54-61,2016
10. Pal S. The pioneer of IVF in India who was rewarded with suicide: Subhash Mukhopadhyay. Subhash Mukhopadhyay an example of how India treats her stalwart pioneers. Http://edtimes.in/2017/07/pioneer-ivf=india-rewarded-suicide-subhash-mukhophadhyay/
11. Anandkumar TC. Architect of India's first test tube baby: Dr Subash Mukerji(16 January 1931 to 19 July 1981).Historical Notes , Curr Sci 72:526-531,1997
12. Dyer S, Archary P, de Mouzon J, Fiadjoe M, Ashiry J, On behalf of the African Network and Registry for Assisted Reproductive Technology. Assisted reproductive technologies in Africa: First results from the African network and registry for ART, 2013. Reprod Biomed Online 38: 216–224,2019
13. De Geyter C, Calhaz-Jorge C, Kupka MS, Wyns C, Mocanu E, Motrenko T, Scaravelli G, Smeenk J, Vidakovic S, Goossens V, European IVF-monitoring Consortium (EIM) for the European Society of Human Reproduction and Embryology (ESHRE). ART in Europe 2014: results generated from European registries by ESHRE. Human Reprod 33:1586-1601,2018