

Meet the Legend

**Prof Baidyanath Chakravarty**  
**Interviewer: Prof Manidip Pal**



Prof Baidyanath Chakravarty, MO (Cal), FRCOG (London), DSc (Hon), Director, Institute of Reproductive Medicine, Kolkata, is a living legend in the field of infertility. His work on infertility and various reconstructive surgeries of female genital anomalies have made India a reputed global face in this field. We are proud to have him with us.

**MP: Please tell us about yourself**

**BNC:** I was born in a middle class family in Faridpur district, now in Bangladesh, and we were six brothers & sisters. My father was a Railway Station Master in B.N. Railway currently known as S.E. Railways. His was a transferable job and he used to be posted at small road side railway stations where schooling facilities were not available. Financial constraints and my father's service conditions were the initial hurdles of my teen age educational endeavors. I could overcome these adverse circumstances only because I used to stand first in my class and used to enjoy free studentship with some scholarship during my entire schooling period –which continued till I passed my matriculation examination of Patna University in the

year 1945 securing highest marks in the Chotonagpur division of Bihar.

Higher education in Calcutta was a dream for me. This was fulfilled through one of my friends at Chakradharpur (a town in Bihar, where my childhood education was carried out) whose parents used to reside in Calcutta. His benevolent and philanthropic parents allowed me to stay with them and encouraged me to continue with my higher studies – I.Sc. in Asutosh College and subsequently MBBS in Bengal Medical College. Such benevolent families in those days, eager to help ambitious students, were not uncommon.

I was lucky to be associated with them who, apart from my parents' blessings, have helped me in a materialistic way to build up the fundamental basis of my career.

Luck also helped me to go for post-graduate training and studies – which I never expected. This happened only after I stood first in Obstetrics & Gynaecology in Final MBBS examination of Calcutta University. My teachers and colleagues encouraged and inspired me to go ahead stepwise which finally helped me to come to the stage where I am standing today.

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### **MP: Who inspired you to take-up Infertility as career?**

**BNC:** This was through circumstances, not by choice. Initially I was intimately associated with clinical science of infertility and deeply involved in surgical procedures. My interest was more concerned with infertility and function-restoring surgery particularly related to embryological, endocrinological and anatomico-pathological (e.g. tubal block, uterine synechiae, uterine malformations etc.) anomalies.

My journey in the field of reproductive medicine started with Dr. Subhas Mukherjee when both of us were posted as Assistant Professors in our respective discipline of Physiology and Obs & Gyne at NRS medical College, Kolkata in 1965. **My association with Dr. Subhas Mukherjee - WE LIKED EACH OTHER → BECAUSE WE HAD A COMMON INTEREST IN – UNCOMMON SUBJECTS OF ILL-UNDERSTOOD ETIOLOGY WITH UNPREDICTABLE OUTCOME**

Both of us worked extensively on few developmental genetics and endocrinological disorders to find out easy diagnostic parameters and possible methods of surgical correction with or without medical intervention for their social rehabilitation.

Few examples are given below (See photograph in Fig. 1)

#### **Focus on IVF**

Infertility was suddenly a hot topic and research started on both the technology and hormones related to child birth. People started trying to fertilize the egg outside the body. The first test tube bay Louise Brown was born in Oldham, England in July 1978.

#### **Research on IVF in Calcutta**

Myself and Subhas started working on Infertility since 1965. While Subhas was concentrating on basic aspects of reproductive

endocrinology like oocyte maturation, oocyte growth in-vitro and extra corporeal fertilization. I was working more on clinical aspects, - tuboplasty, wedge resection, hysteroplasty, and vaginoplasty. Finally, we developed a common interest of starting IVF in India, a technology - which at that time was an ill-understood subject globally.

The research that the Calcutta duo (myself and Subhas) were developing sustained a blow when we were transferred - Mukherjee to Bankura and myself to Siliguri. Still we came to Calcutta on weekends to work. In the midst of this, suddenly Subhas announced the birth of 'Durga' India's first and World's 2<sup>nd</sup> test tube baby October 3, 1978.

#### **Death of Subhas**

But few people believed that the research could have been possible in a power-cut prone district without basic facility. Subhas could not accept the criticism. He committed suicide in 1981. His death made me more adamant to take the research forward.

#### **My initial hurdles**

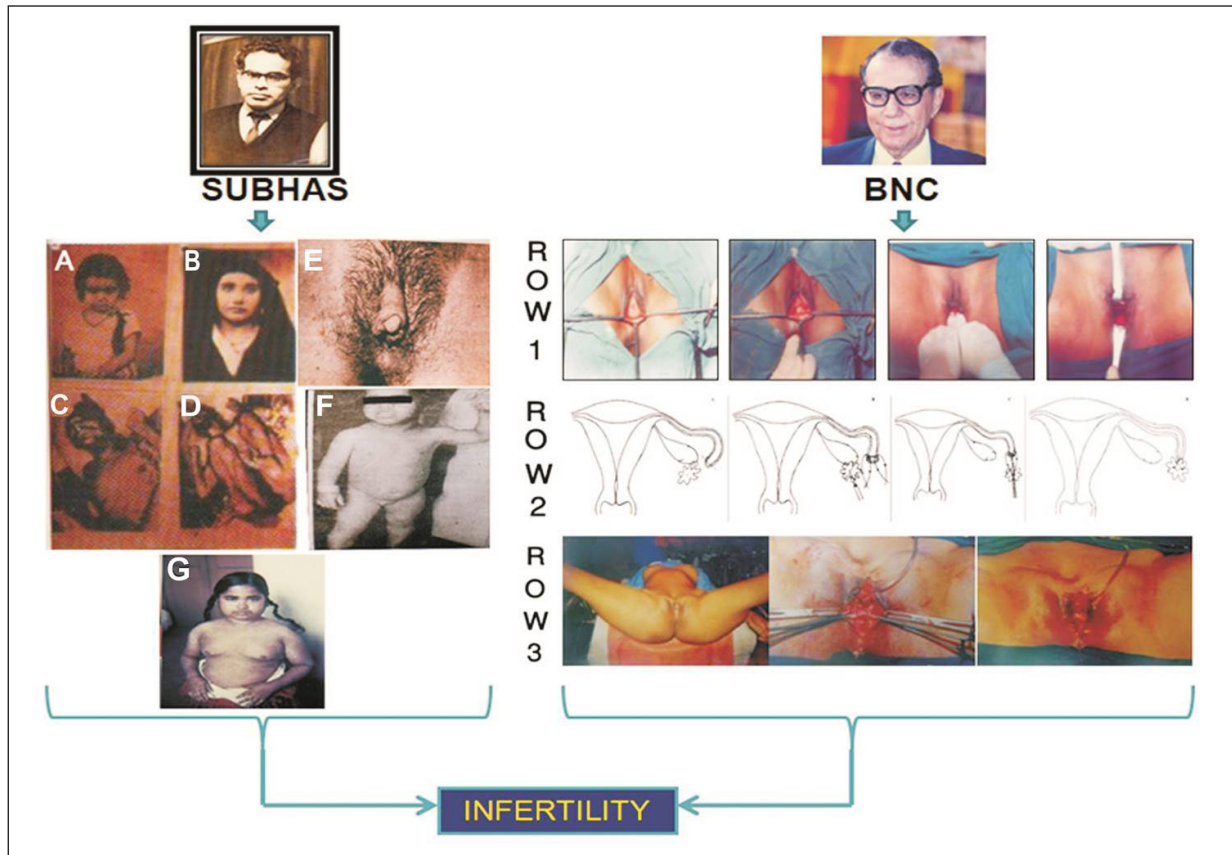
I also faced my share of 'doubters'. As a surgeon by that time I had been successful in reconstructing cervix and vagina in a series of women born with 'cervico-vaginal atresia'. Finally three of these women, when married successfully delivered viable babies (1990-2000). (Fig. 2)

#### **Sharing ignominy of 'doubters'**

When I lectured about it in Delhi, Vellore and Bombay, people politely clapped. But their lack of credence in research happening in Kolkata was apparent. The same fate awaited my papers abroad. The papers initially caused excitement - which fizzled out on learning that the researcher was from India.

#### **My first test tube baby (2<sup>nd</sup> in India)**

With a team of youngsters that include Dr. Sudarshan Ghoshdastidar, Dr. Siddhartha



**Figure 1: Dr. Subhas Mukherjee:** Photographs (A,B,C,D) at different chronological ages: A) The subject at four years of age; B) At 16 years of age, when she was married; subsequently she was divorced for infertility though the husband was azoospermic subsequently known; C) & D) primarily PCO developed and then anorexia nervosa (because of sustained emotional stress; E) photograph of CAH (enlarged phallos — clitoromegaly; coarse pubic hair; fused labia) F) Cretin G) Cushing's Syndrome  
**Dr. B.N.Chakravarty:** Row1) Serial steps of vaginoplasty; Row 2) Serial steps of tuboplasty; Row 3) Rare Mullerian anomalies

Chatterjee, Dr. Bani Kr Mitra, Dr. Arup Majhi, Dr. Partha Goswami, Dr. Sanghamitra Ghosh, Dr. Ratna Chattopadhyay and my young but senior associate Prof. Subir Kr Dutta – I started my IVF research in a small garage of my own CIT road chamber at Moulali, Calcutta. Finally, Imran my first Test tube baby was born on 3<sup>rd</sup> November 1986. (Fig. 3).

**MP: Please mention those, who have influenced your life**

**BNC:** Apart from blessing of my parents and the almighty GOD, the turning events which had tremendous effects of building up my career are as follows:

Extreme degree of care and encouragement which I received from the benevolent and philanthropic parents of one of my school



**Figure 2:** Delivery of world's 5th baby following correction of cervico-vaginal atresia (1998)

friend for providing me a shelter during my entire period of pursuing higher education in Calcutta after I completed my matriculation examination at Chakradharpur now in Jharkhand.

My loving teachers at Chakradharpur Railway high school helped me in building a strong 'fundamental' basis on which I am completing a challenging journey to achieve something, big or small which I have achieved today.

Lastly the final touch for building up of my career which I received was from Dr. Subhas Mukherjee, the pioneer of 1<sup>st</sup> test tube baby in India. Sixteen (16) years of my association (1965-1981) with Dr. Subhas Mukherjee provided me the final incentive to continue the academic, professional and research activities which I am still carrying today till the final years of my life.

**MP: Please tell us about your important achievements**

**BNC:** After passing MBBS in 1952 from Bengal Medical College (now known as Calcutta Medical College), and standing first in obstetrics and gynecology, I decided to go in for higher studies in this specialty. I passed the M.O. (Master of Obstetrics)



**Figure 3:** Imran, my 1st and India's 2nd test tube baby (1986)

examination of Calcutta University in 1959. I went to UK in 1961 and obtained the Membership of the RCOG in 1963. The RCOG awarded me the fellowship (FRCOG) in 1977. I (Dr. Chakravarty) was also honoured with D.Sc. by North Bengal University in 1990.

I held various teaching posts in several medical colleges in West Bengal and finally retired as Professor in 1986. I was visiting professor at Wadia Maternity Hospital Mumbai, Maternity & Child Hospital in Saudi Arabia and PGI Chandigarh and Pondicherry. I have contributed chapters in many Indian and foreign text books and several publications to scientific journals (about 100).

### Awards

Apart from merit awards for academic achievements and ranks during my school, college and university careers. I (Dr. Chakravarty) received many awards, felicitations and mementos from different universities, societies and organizations for my outstanding contribution to medical education and science. Some of the notable awards are cited below:

Coates Gold Medal by Calcutta University (1985), Mother Teresa Millennium Award

(2006), Barclay Medal (2006), Honorary Fellowship of Asiatic Society (2015) and Life Time Achievement Award from many societies for life-long contribution of women's health. My latest achievement was the membership of International Federation of Fertility Society (IFFS) which was conferred in 2016. I was also conferred 'Life time achievement' awards including the recent one from Govt. of West Bengal.

**MP: According to you what is the most important part of infertility treatment?**

**BNC:** Apart from counseling and categorization of couples to groups of specific treatment protocol, - like Ovulation Induction, IUI, IVF etc, it is important to convince the couple that the prevailing guidelines should control the type of treatment to be offered rather than patient controlling it.

For example, many patients in recent times come to reproductive clinic with an appeal for IVF. Individualized treatment protocol according to each couple's specific characteristics may optimize treatment outcome and accelerate safety concerns.

Actual scientific treatment strategy to optimize gonadotropin usage, FSH starting dose, woman's age, ovarian reserve markers and previous treatment outcome should be taken into consideration which could lead to achieve a satisfactory oocyte yield and avoid extremes of over and under-response leading to undesirable outcomes.

Above-all, we cannot overrule the law/guidelines which is formulated by the government regarding different sector of ART. Hence I think the clinician's choice will be much more fruitful for the patient's benefit.

**MP: What is your opinion about present day infertility practice?**

**BNC:** Rapid advancement of general infertility treatment in addition to technology and science of ART in last few years has occurred all over the world. India

has one of the highest growths in the ART centers and the numbers of ART cycles are increasing every year.

Although advanced ART techniques like Magnetic Activated Cell Sorting (MACS), ICSI, DNA Fragmentation Index (DFI), whole genome sequencing, cryopreservation techniques, trophoectoderm biopsy along with PGD/PGS have substantially advanced and gaining momentum worldwide, but most of these procedures are not frequently practiced all through our country in comparison to world spectrum.

**MP: What is the future of infertility research in India?**

**BNC:** Many emerging topics including SET, gender selection, fertility preservation, posthumous use of stored gametes and embryos and later PGD/PGS, FET, whole-genome sequencing etc. were discussed in Asia and Oceania Federation of Obstetrics and Gynaecology (AFOG) conference in 1994,- but their practical application was not followed strictly. Further studies are needed in order to address these issues.

One of the main challenges in reproductive medicine is to ensure highest quality of the spermatozoa used in ARTs, specifically, in terms of genetic integrity. A wave for "ICSI-all" came around 2010 disregarding "natural selection" which has been transformed recently into a "freeze-all" policy supporting cryobiology. This shows the importance of cryobiology in the upcoming technologies of ART practice. Cryobiology is very essential for future generation of ART specialist for organ, tissue, gamete and embryo preservation. 'Freeze all embryos' may in future have some importance in ART procedure.

**MP: What is your opinion about the curriculum of MCh Reproductive medicine & surgery or starting DM Reproductive Endocrinology course?**

**BNC:** In my opinion between the two, MCh in reproductive medicine and surgery should

be better and useful topic for post doctoral upgrading of the subspecialty. The reason behind this choice is that MCh will cover a large range of sub-disciplines as against DM in reproductive endocrinology.

**MP: If you are born again then how you would like to be recognized?**

**BNC:** I like to be remembered by my work/s that I am doing throughout my life and not simply by words or propaganda.