

NAGURUR GOPINATH

(13 November 1922 – 03 June 2007)

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(1922-2007)

Elected Fellow 1980

FAMILY AND EARLY EDUCATION

NAGARUR GOPINATH was born to Nagarur Narayana Rao and Sundaramma on the 13th of November+ 1922 in Bellary, Karnataka State. After his initial studies in Bellary (elementary and high school), he shifted to Christian College, Tambaram Madras. This boy, when he was 15 years old, applied for admission to higher studies in the discipline Agriculture, but was rejected since he was below the age prescribed for admission. Thank God, he applied for admission to Medicine, got admitted to Madras Medical College. He took his MBBS degree from the Madras University in 1945. With a break, he got Master of General Surgery from Madras University in 1959 and Cardiothorasic Surgery in 1960. He is survived by his wife Rama, their daughter Latha, sons Madhu and Ashok and five grand children.

PROFESSIONAL CAREER

Professor Gopinath joined the Army Medical Corps in 1945 during World War II and was sent to Andaman Islands at the age of 23. He worked with Dr Samuel Oram, the well known Cardiologist from UK and with Col Leigh Collins, a famous surgeon a thoracic surgeon from Queen Elizabeth's College in Birmingham. Later on he was posted at Lahore, Pune and Rangoon. He resigned from the Army and joined General Hospital Chennai in 1948. He also worked at the Arogyavaram Tuberculosis Sanatorium, Madanapalle, Chittoor District for some time.

In April 1951, he joined CMC Hospital in Vellore as a trainee with a giant and legend of thoracic surgery Dr Reeve Hawkins Betts. Dr RH Betts along with a few surgeons like Dr S S Anand from Chandigarh, Dr PK Sen from Bombay, Dr SK Sen from Delhi and Dr AK Basu from Calcutta founded the Thoracic Surgery Association of which Dr Betts became the first President. In 1954, Dr Betts succeeded in establishing a speciality MS in CMCH with support and encouragement of Dr AL Mudaliar, the then Vice Chancellor of Madras University. Dr Gopinath was awarded Rockefeller Foundation Fellowship to spend a year at the University of Minnesota, Minneapolis, USA with Professor Lillehei on Cardiovascular Surgery in 1957. After his return from the US, Dr Gopinath along with two others got his MS in 1960. Dr Betts left India in 1960 after 12 years of distinguished service. Dr Gopinath took over from Professor Betts as Head of the Department in 1960. He set about the task of



creating his own team of cardiologists. He performed the first open heart surgery in India on a 14 year old boy using a heart lung machine in 1962. This was talk of the town then. He worked there till 1964 as Head of the Department of Cardio Thoracic and Vascular Surgery. He joined the All India Institute of Medical Sciences, New Delhi as Professor and Head, Cardio Thoracic and Vascular Surgery in 1964. The very first case he did (dilating a mitral valve) got into a problem and the patient developed a blood clot in the aorta after the surgery. He was hardly a month old at AIIMS. All his colleagues were watching how he would solve the problem. Dr Gopinath opened the aorta, removed the clot and luckily the patient was fine. And his credentials were established. He continued in that position till 1982 and established a good PG programme in Cardiac surgery. He was the first in India to use the pace maker and heart valves for pneumatic heart diseases in 1964. He had built up possibly the best department in this field in our country. With his stature in the field of cardiology, he was successful in inviting great men in cardiac surgery like Dr Denton Cooley, Dr Christian Bernard and Dr Donald Ross to visit CMC,Vellore and AIIMS, New Delhi.

Professor Gopinath was given the National Foundation Travel Fellowship in 1970 to visit the US. He visited many distinguished centres of research and gave lectures. During his stay in Delhi, he has trained nearly 60 Cardio Thoracic Surgeons in this country. The list of his trainees include names of some outstanding surgeons like Dr P Venugopal, Director, All India Institute of Medical Sciences, Dr MR Girinath, internationally famous as a coronary artery surgeon at Chennai, Dr IM Rao, the paediatric cardiac surgeon at Abu Dhabi in the middle east and Dr Sampath Kumar, Chief Department of CT Surgery, AIIMS. Professor Gopinath was never jealous of them, never felt he trained them. He was so humble that he used to observe that he worked with them and he was happy that they went far ahead of him. He was a physician to successive Presidents of India like VV Giri, N Sanjeeva Reddy and R Venkatatraman and Prime Ministers including Mr Atal Behari Vajpayee. He had fond memories of Mrs Indira Gandhi, whose heart he never had the opportunity to treat. But she always used to keep in touch with him about many patients she referred to him. He had been a consultant to various State Governments. After retirement, he founded the Sitaram Bhartia Institute in New Delhi using his clout with the then Lt Governor of Delhi, Mr Jagmohan to get land on payment.

RESEARCH CONTRIBUTIONS

Professor Gopinath is one of the most outstanding Cardiothoracic surgeons in our country with national and international reputation. He can be described as one of the pioneers in developing this field in India. Cardiothoracic surgery is not merely perfection of the craft of surgery, it is a multidisciplinary effort in which Cardiologists, Cardiothoracic Surgeons, Anaesthetists and a number of other laboratory disciplines are involved.



Rheumatic heart disease is the most common form of organic heart disease in our country. Replacement of deformed heart valves through open heart surgery is now an established procedure with relatively low mortality which gives a new lease of life to young persons afflicted with this most crippling form of heart disease. In developing these techniques under Indian conditions and in training a large number of Cardiothoracic surgeons, Professor Gopinath has played a most significant role both in CMC and in AIIMS.

(a) Oesophageal Diseases

Corrosive structure of the oesophagus is commonly seen and the earliest concerted approach in understanding the aetopathogenesis and treatment was made by him and his colleagues at Vellore. The importance of social and psychological factors were brought out by him. This was well expressed in the articles written on this subject.

(b) Tropical Eosinophilia

This is one of the common lesions seen in southern and eastern parts of India, presenting as asthma. He worked in close collaboration with the Department of Paediatrics at Vellore and a well planned study was done. It was his good fortune to isolate microfilariae in the lung biopsy tissue, removed at surgery during its stage of migration at night. This was probably the cause of symptoms which were relieved by Hetrazan.

(c) Portal Hypertension

Professor Gopinath was interested in the study of portal hypertension, he identified noncirrhotic portal fibrosis as a distinct entity from cirrhotic portal hypertension. Its benign nature, morbid anatomy, haemo dynamic changes were brought out in the article on Noncirrhotic Portal Fibrosis published in *American Journal of Medicine*.

(d) Cardio Vascular Diseases

Rheumatic heart disease in India is the common cardiac disease seen. He and his colleagues were one of the first to identify the juvenile type and its typical clinical and surgical presentation. This was published in *British Heart Journal* and has been referred to by others extensively. Subsequent paper on geographical variation of heart disease was presented at the World Conference of Cardiology, Tokyo in September 1978. Basic morbid anatomy and the function of the mitral and aortic valves were studied by him. The material has been reviewed in *Indian Heart Journal* and *Indian Journal of Surgery*.

Professor Gopinath played an important role in using valve replacements from human cadavers and from other animal sources. He was involved in innovation and



indigenous production of equipment and materials commonly used in cardiovascular surgical procedures. He has undertaken a study with the department of Pathology, Microbiology, Immunology of All India Institute of Medical Sciences and with the Central Leather Institute, Madras for preparation of Glutaraldehyde preserved homografts and heterografts of heart valves. This will eventually lead to preparation of such valves. This would be an alternative to prosthetic valves. He also worked with DMRL, Hyderabad on low profile disc valves. The basic feature of this valve is its wider angle of opening and, as a consequence, less chance to cause Thromboembolism.

Professor Gopinath worked with Sriram Institute of Industrial Research, New Delhi for indigenous manufacture of bubble type oxygenator and allied plastic disposable material for use in open heart surgery. This was done with a grant from Department of Science and Technology. Preparation of medically acceptable polyvinyl chloride was done.

After his initial success with open heart surgery programme, he did research on dogs. This was only to pave the road to establish the programme firmly. He got involved in about 20 to 25 of these experiments. The services rendered by Dr Gopinath are exemplary. He along with his colleagues Dr SB Roy at AIIMS started a combined cardiology and cardiac surgery group in the Association. During his last days he was involved in a nutrition project with St John's Hospital in Bangalore.

RESEARCH OF SOCIAL RELEVANCE

After his retirement from AIIMS, Professor Gopinath was actively involved with cardiac rehabilitation. On the latter he has written eight volumes. He observed *"When I sought funding for this project, many did not know what I was talking about. Cardiac rehabilitation programme enables people, despite heart disease to live as normal a life as possible."* Gopinath has done substantial work in compiling data to get a fair idea of how much heart disease, how much hypertension and related maladies are in the populace. There is no credible data on these in urban and rural areas. He used to lament that people give lectures without getting to know the ground realities.

With a few colleagues he undertook a study of 13,000 people in Delhi and 6000 people in rural Haryana, most of them farmers. The age group studied during six years (1984-90) was 24 to 64. Substantial presence of coronary artery disease was observed. Some people had pain. But only 3.9% with pain in the chest had ever seen a doctor. When ECG studies were undertaken, 66.6 % had ECG changes, but had no chest pain. Next hypertension was tracked. One in eight had high blood pressure in urban group whereas the incidence in rural areas was only 2.9%. This in his opinion is due to the absence of physical activity in urban areas. In rural areas only shopkeepers and who are not in active farming had coronary artery disease. An interesting finding was that obesity was found more in Sikhs followed by the rest of it



was also observed heart ailment was more prevalent in meat eaters than in people eating vegetarian food. His eight volume manual provides enough guidelines on the reasons for the heart disease, and the best possible physical, mental and social conditions needed to return to normal life. These activities can be performed before and during surgical treatment of the disease. Professor Gopinath felt that the incidence of this disease is increasingly being seen in youngsters. This is due to more stressful lifestyle, increase in smoking and drinking and nutrition habits leading to obesity. On the high cost of surgical treatment, unfortunately, it is affordable to a miniscule percentage of Indians

AS A PERSON

Professor Gopinath was a warm and affectionate personality. He was very endearing to his students and nurses alike who worked alongside. His daily routine began at 2-30 AM, he did most of his personal work himself, walked for 25 minutes in the mornings and did some exercises before commencing his professional activities. He used to take ragi and kanji in the mornings. His philosophy of hard work instilled the culture of 24 hour work cycle in his students. His dedication to work with several thousand patients in Vellore and New Delhi with various kinds of heart diseases was outstanding and remarkable. The motto one requires to work with him is 100% attention for 100% of the time to become an excellent cardio thoracic surgeon. He contributed his wisdom, knowledge and experience by being a prolific writer and contributed in both national and international journals.

AWARDS AND HONOURS

Dr Gopinath got elected Fellow of INSA in 1980 and served in its Council during 1985-1987. He became a Fellow of the American College of Surgeons in 1957. He got elected Fellow of the National Academy of Medical Sciences in 1977. He was a Member of the Association of Surgeons India since 1955 and Foundation Member of Society of Thoracic Surgeons USA. Professor Gopinath was awarded Padma Shree by the Government of India in 1974. The life time achievement award from the Association of Cardio Vascular and Thoracic Surgeons was bestowed on him in the year 2000. Five doctors from India were honoured by Wockhardt Harvard Medical International in 2003 for medical excellence. Professor Gopinath was the one honoured for Cardiac Surgery for the path breaking Life Time Achievements by the Dean of Medical School, Boston, USA. International Conference of Cardio Thoracic and Vascular Diseases honoured Dr Gopinath (the father of heart surgery in India) Life Time Achievement Award in Dec. 2005.

OBSERVATION FROM PEERS

Dr Prasad Rao, past President of the Cardio Vascular Surgeons writes *"The surgeons who are trained by Dr Gopinath and heading various departments in India find in*



pleasant combination of **Bheeshmacharya and Dronacharya.**" Dr Stanley John writes "Prof Gopinath was quick mentally and had a unique ability to recall details. I could see evidence of this while I worked at CMCH with him for three years between 1961 and 1964. The only regret I reckon with is that it was only a short period of three years for me and not more. Dr Gopinath will always be remembered as one of our **surgical immortals.** On 3rd of June 2007 he left the surly bonds of earth to join the hands of God after a fruitful life of 85 years. The Indian Association of cardio vascular and thoracic surgeons offers heartfelt condolences to the bereaved family. To Dr Gopinath we say adieu- **we shall miss you**"

V RAMAMURTI, FNA

Old No. 2, New No. 5

Fourth Main Road

Kasturba Nagar

Chennai 600020

Tel: 044-24412590

E-mail: ramamurti@hotmail.com

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