

Obituary

Dr. Gulzar Singh Chhina (1926–2011)



Dr. G.S. Chhina (extreme left) with former Prime Minister late Pandit Jawahar Lal Nehru, when he visited the Department of Physiology, AIIMS. Others in the photo are Dr. (Mrs.) S. Dua Sharma Dr. A.S. Paintal, and Dr. A.P. Sharma.

Dr. Gulzar Singh Chhina passed away on 03 Sep 2011, at his residence at Swasthya Vihar in Delhi, following a short illness. With his demise an era in the history of Indian physiological science came to an end.

Dr. Chhina came from a humble rural background. His father, Arjan Singh, had served in the British Indian Army and was decorated for gallantry in Mesopotamia (Iraq) during the First World War. After the war he was given a piece of land as a reward for war services, in the newly established canal colony of Lyallpur (now Faisalabad in Pakistan). The family then moved to Lyallpur from their

ancestral village of Harsha Chhina in Amritsar District. The surname of Chhina comes from the name of his ancestral village. Gulzar Singh Chhina was born in Lyallpur on 10th April 1926. He was the youngest of four siblings, viz. a sister and two elder brothers. As a child, he was educated in a village school, and he had to cycle five miles to the primary school situated in the next village. He lost his father at the age of 12, and was very close to his mother, Balwant Kaur, who, along with his elder brothers and sister, laboured hard to ensure that his education did not suffer despite the enormous family setback and the loss of everything that they owned, after the partition.

Dr. Chhina graduated in Physiology and Anatomy in 1951 from Amritsar Medical College, and did his post-graduation in Physiology in 1954, from the same college. He started his career as a Lecturer in Physiology at Punjab Government College of Physical Education. The turning point in his life came in 1955 when he decided to quit his government job to join as a Research Fellow of Indian Council for Medical Research (ICMR) under Dr. B. K. Anand in the Department of Physiology at Lady Hardinge Medical College, New Delhi. In 1956, the All India Institute of Medical Sciences (AIIMS) was established at New Delhi, and Prof. Anand was appointed as the Head of the Department of Physiology. In 1956, ICMR granted a Neurophysiology Research Unit to Prof. Anand, with Dr. Baldev Singh as

collaborator. This unit was transferred to the AIIMS, and all those who were working with Dr. Anand also moved over to AIIMS to join this research unit. Dr. Chhina's association with Dr. Anand and Dr. Baldev Singh, the two doyens who pioneered the study of neurosciences in India, continued till the end of their lives. In 1957, he also had the good fortune to work with Dr. M.A. Wenger, Professor of Psychology, University of California, Los Angeles, USA, and Dr. B.K. Bagchi, Professor Electrophysiology, Michigan University, Ann Arbor, ILL, USA, and learn electroencephalography, electrophysiology and psychophysiology from these most renowned experts in the field at that time. Working under the guide-ship of Dr. Anand, he did his PhD in Physiology in 1960 from Punjab University and AIIMS. His thesis work titled "Role of the limbic system of brain in the regulation of affective behavior" should be considered as a bible for anyone stepping into the field of neurophysiology.

Dr. Chhina married Kanwar on 22 April 1956. His strong views on the equality of the sexes caused a flutter during his marriage ceremony. He insisted that his bride should lead during the phera ceremony. This procedure was stalled until a compromise was worked out by which both the bride and groom walked around the Holy Granth side by side. In 1960 Dr. Chhina was blessed with a son.

In 1961, Dr. Chhina was awarded a post-doctoral fellowship of the National Institute of Health. He worked for a year from Jan 1962 with Dr. John Brookhart, Chairman and Professor of department of Physiology, Medical School, University of Health Sciences, Portland, Oregon, USA. There he learned several techniques in Neurophysiology, and carried out experiments on conscious unrestrained freely moving cats to record single neuron activity of the visual cortex, lateral geniculate and visual pathways. He also used stereotaxically guided metal and glass microelectrodes with remote controlled microdrive.

Dr. B.K. Anand was very fortunate in getting some excellent devoted youngsters like Dr. Chhina to work with him. Dr. Anand discovered the "feeding centre" in the hypothalamus while working with Prof. John R. Brobeck at Yale University in USA. But many details of the control mechanism of food intake were worked out by his junior colleagues like Dr. Chhina in India at AIIMS. Dr. Chhina not only worked on hypothalamic regulation of food intake and limbic system regulation of reproduction, but did some pioneering studies on yoga, which continue to be quoted even today. Studies done in collaboration with Dr. Anand and Dr. Baldev Singh, on Shri Ramanand Yogi during the yogi's stay in an air-tight box, and published in 1961, are a pioneering scientific work in the field of Yoga. Through his persistent and devoted work he climbed up the ladder to become a full professor of Physiology at AIIMS in 1976. Later on he became the head of the department.

Of all those who shaped his career, one has to mention the name of Dr. Baldev Singh. Dr. Baldev Singh who was collaborating with the Neurophysiology Research Unit, in all its activities, joined as a Professor and Head of Department of Neurology at AIIMS, in Feb 1965. After retiring from the Department of Neurology in 1968, he joined the department



Dr. G.S. Chhina with other colleagues (From left Dr. Sen, Dr. S. Dua Sharma, Dr. G.S. Chhina, Dr. Santosh Mahindra, Dr. B. Hussey (visitor), Dr. B. K. Maini, Dr. B.K. Anand and Dr. Subhadra Kuldeep; Venue : Lady Harding Medical College, New Delhi).

of Physiology, AIIMS, as Emeritus Scientist of ICMR and Emeritus Professor of AIIMS. Dr. Chhina had his room in the department of Physiology, which was adjoining that of Dr. Baldev Singh. There was an interconnecting door between the two rooms, and Dr. Baldev Singh was most often found in Dr. Chhina's room. Dr. J.S. Bajaj, who was the Professor of Medicine and Dr. P.N. Tandon, who was the head of the department of Neurosurgery at AIIMS, would often join them during late evenings. Their interactions had resulted in many collaborative research projects of national interest. Dr. Chhina used to have a stream of visitors who would come to him to seek his advice on various scientific matters. Dr. Baldev Singh also used to have his quota of visitors who would come to him to get his opinion on scientific issues. During their discussions, if Dr. Baldev Singh felt that it was necessary to get a second opinion, he would bring the guest to Dr. Chhina's room for further discussions.

It was very rare for Dr. Chhina to leave the department before dinner time. If there were visitors in his room for Dr. Baldev Singh, he would disappear into his laboratory, and continue his work there. His laboratory (which was called electronics lab - for some strange reason) had a small cabin with a couch. This was used for human sleep studies. He would relax on the couch and get on with his reading, unmindful of the hustle and bustle going on outside the lab. Many a times, students would be working and talking in the laboratory without realizing that Dr. Chhina was inside the cabin.

Though Dr. Chhina had guided many students, he was made a full guide for PhD only

in 1968. Fortunately I happened to be his first student in that capacity. Dr. Anand was my co-guide. Dr. Chhina was very fond of his laboratory and instruments, to the extent of being very possessive about them. He was very good at instrumentation and surgery. He never used to allow the new students to touch the instruments in his absence. As one could imagine, it was a frustrating experience for all those who used to work under him. At that time we could never appreciate his attachment towards the laboratory, and the effort that he had put in to bring it to that level of excellence, which was at par with any leading laboratory in the world. The lab had oscilloscopes, amplifiers, pulse generators, wave form generators, power supplies and several electronic equipments from Tektronix and Grass companies. The instruction manuals of all the equipments were under lock and the key, and were in the safe custody of Dr. Chhina. We students who were seeing those equipments for the first time in our lives, found it fascinating to watch him manipulate the instruments, and were greatly tempted to do the same thing ourselves. One day some of us, including a technician, decided to lock the lab from inside and manipulate the instruments ourselves. I cannot describe the thrill that we had when we manipulated the various knobs of the instruments. The technician also joined us in the rejoicing and said that "The Sardarjee would have a shock of life if he comes to know that we have switched on these equipments. He would not even show us the manual."

Suddenly the door of the small cabin inside the lab opened and the huge towering figure of Dr. Chhina appeared before us. One can imagine our plight at that time. Dr. Chhina did not utter a word. He went towards the equipments, pulled out a stool, sat in front of the oscilloscope and started explaining the functions of each and every controlling knob. Most of his explanations, at that point in time, went above our heads. But we did not have the courage to ask for any explanation. At the end he asked us whether we have understood every thing. We all kept silent. What he said after that is still vivid in my memory. "All these equipments are for you only. Who will be the sufferer if something goes wrong? I will be sad or even mad if something goes wrong, but you who have to use these equipments for your thesis work will be the real sufferer. There is nothing more precious than the instruction manual. Probably it is more precious than me and my equipments. Even if I don't teach you, you can learn everything from the manual. No one taught me the use of these equipments. I learned it all from the manual. In fact, I do not want to teach you. I want you to learn it all yourself. Before I give the manual, and before I let you touch the equipment, I want to have confidence in you. I will give you the manuals one by one. You cannot take them home or to your hostel. You will have to sit with the manual in front of the equipment, and go step by step. You will have to return the manual at the end of the day". I should mention here that photocopying was not available on those days, not to speak of internet and website, from where one can download the information.

Dr. Chhina was a highly principled person who followed the Sikh religion. He had great respect and regard for all religions. He was a teetotaler and was not fond of non-vegetarian food, unlike many from his community. Talking about his community, I am reminded of a foolish mistake I had made during my initial days of stay in Delhi. For those who follow

Sikh religion, it is considered a great sin to smoke. Born and brought up in south India, I was totally unaware of this aspect of Sikh religion. There was a departmental party, a few days after I had joined AIIMS. The host was passing around a box containing imported cigars. Even those non-smokers were examining the cigars and were singing praises of that rare quality stuff. In an effort to please my boss, I took the cigar box and walked briskly towards Dr. Chhina to offer them to him. Stunned by the action, the rest of the crowd ran towards me, and snatched the cigar box from my hand. This foolish act of mine was a subject for laughter during the rest of the party. Later people explained to me about the customs and practices of Sikh religion. If I had been in Dr. Chhina's shoes, I would have been telling this joke at every opportunity. But, I have never heard him telling this joke to anyone.

Dr. Chhina had a well-rounded personality. He could read and write Persian, Urdu and Punjabi. He was also very fond of Urdu poetry, and he used to sing a few couplets during get-togethers and parties. He was a very humble, simple and dedicated person with unflinching devotion to his first love, i.e. neurosciences and neuroscientists. He had exemplary ability to understand and analyze scientific problems. His knowledge and love was never limited to physiology and medical sciences. He had good knowledge of subjects like electronics, physics and psychology. In all scientific meetings, people used to look forward to his suggestions and comments. He always encouraged and supported hard working sincere students, even if they were not working under him. He never tolerated any student who took a short cut towards success. He never went out of the way to support his own students, if they were not deserving. This was something which distinguished him from the rest of the faculty. As students we could never appreciate this quality of his. But now, looking back I can admire the strength of his character. He never strove for cheap popularity among students, unlike many of his colleagues.

After retirement from the department of Physiology in 1986, he joined as Emeritus Medical Scientist in the department of Neurology of AIIMS. After a year he went to Iraq to work as Visiting Professor of Physiology in the Military College in Baghdad, and later as Professor of Physiology at Basra. In 1990 he went to USA and joined as Director Research at Tele-health Corporation, Baltimore. While in USA, his expertise in yoga and knowledge of alternative medicine was sought after by various scientific bodies like SKY Foundation of Philadelphia, Himalayan International Institute of Yoga Science and Philosophy, Honesdale, and National Institute of Health. He used to attend the Neuroscience meetings, and was a member of the Society of Neuroscience, USA. His former students and admirers used to make it a point to meet him during the Neuroscience Congresses. During his stay in USA, he used to visit India frequently. His wife's failing health and that of his own, made him spend more time in India, after 2000. He finally returned to India in Oct 2006, but he kept himself active by staying in touch with professional and scientific activities. I remember very well the keenness with which he attended the National Sleep Medicine Course, which was conducted at India Habitat Centre, Delhi, on December 12-13, 2009. He participated in all the deliberations and discussions, as he used to do several years back.

The year 2010 was a tragic one for Dr. Chhina. Mrs Kanwar Chhina passed away on 27 August 2010. She was like the rock of Gibraltar in his life, always giving him her full and unstinting support for over 54 years. Her demise was a huge blow for him as no one could replace the companionship that she had provided him throughout their lives together. He survived the passing of his wife and lifelong companion by one year and one week. In early August 2011, Dr. Chhina went to AIIMS for a routine check-up, but suffered a stroke whilst there. He never fully recovered from it. He spent his last few days at his residence at Swasthya Vihar in Delhi, and passed away peacefully on the afternoon of the 3rd September 2011.

We can best honour his memory by emulating his unbending spirit and courage of conviction in academic pursuits. He will continue to be an unlimited source of inspiration for all. His timeless personality will keep on inspiring the future generations to pursue the unending task of shrinking the unknown and expanding the span of knowledge. May his soul rest in peace in heaven with the satisfaction that the seed of interest in neurosciences that he had sown is being nurtured in the minds of his admirers.

Finally, I will be failing in my duty if I do not thank Rana who provided me with a lot of material that appears in this obituary.

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