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HISTORY

The Great Neurosurgeon and Spinal Surgery

Professor Vijendra K Jain: The Innovative Spinal Surgeon

Professor Vijendra K Jain

INTRODUCTION

Dr VK Jain has been one of the most innovative surgeons of this era. His seminal contributions to surgery for spinal diseases, particularly related to the craniovertebral junction (CVJ), have been a great boon for his patients. This article recounts the events in his life that have shaped his life-long passion for amelioration of the suffering of patients, and his love for teaching and training his students the fine art of micro-neurosurgery that has helped to propagate his ideals and principals, far and wide.

THE INITIAL INFLUENCE

The Formative Years

Dr Jain was born in 1953 in a lower middle-class family. He completed his primary and secondary education from Roorkee, a small educational town in Western Uttar Pradesh, which houses the famous Indian Institute of Technology, Roorkee, India. He was very good at studies, always being the topper of his class.

The Stint at KGMC, Lucknow, India

After finishing school, he got through the premedical test of Uttar Pradesh with flying colors and joined King George Medical College (KGMC), Lucknow, for his MBBS course in 1970. After successfully completing this course, he decided to be a surgeon and joined the MS General Surgery course in the same college. While attending various wards postings in his general surgery rotation,, he came across a patient having a left-sided, chronic subdural hematoma, who was aphasic and right hemiplegic but improved completely after surgery to start speaking and moving his right upper and lower limbs well. This event spurred him to decide the future course of his life and he took an immediate decision to be a neurosurgeon. The immense attention paid to the patients and the dedicated care accorded to them by the two-member team of neurosurgeons at KGMC, Professor VS Dave and Professor DK Chhabra, had a lasting effect on his young and impressionable mind. The National Institute of Mental Health and Neurosciences (NIMHANS), Bengaluru, India, was considered as a top-notch training institute for neurosurgery and had a direct 5-year MCh neurosurgery course. Three important neurosurgeons in KGMC Lucknow (apart from Professor VS Dave), who have become legends in their professional career, and who have been responsible for the development of neurosurgery in the state of Uttar Pradesh, Professor DK Chhabra (who established the Department of Neurosurgery at Sanjay Gandhi Postgraduate Institute of Medical Sciences (SGPGI), Lucknow), Professor SC Tandon (who after remaining in the faculty of Neurosurgery of Banaras Hindu University, Varanasi, became a senior consultant neurosurgeon in Varanasi), and Professor AK Singh (who became the Professor and Head of Neurosurgery, GB Pant Hospital, New Delhi), prevailed upon Dr Jain to join the NIMHANS, Bengaluru, India, for his direct 5-year training in neurosurgery.

The NIMHANS Influence

Thus, Dr Jain left at MS General Surgery course, the KGMC, Lucknow, India midway after one and a half years to pursue the 5-year MCh degree course at NIMHANS, Bengaluru. The vision that this trio provided helped Dr Jain get exposed to the latest teaching and training methods at NIMHANS, Bengaluru; otherwise, in his own words, "he was quite content to continue as an MCh trainee at KGMC, Lucknow."

Those were the days when all neuroradiology procedures, including angiography, ventriculography, and myelography, were performed by neurosurgical residents. The clinical evaluation of the patients was a very important aspect to decide about the need and type of investigation to be performed. Dr Jain learnt a lot of clinical

neuroscience under the tutelage of Professor GNN Reddy, who used to discuss the clinical findings in each patient and the relevant investigations required, and the students were supposed to think about the "What, why, and how?" of every clinical situation. His thoughts in neurosurgery were also shaped by Professor other members of the neurosurgery department, all of whom became luminaries in their respective areas, namely BS Das, AK Reddy, AS Hegde, KVR Sastry, and B Chandramouli. He learnt to speak fluent Kannada so that he could interact with and understand the history of his patients well. After completing his 5-year MCh course, he joined the same institute as a faculty member and continued as an Assistant and subsequently as an Associate Professor. The shortage of senior neurosurgeons in the department at NIMHANS, Bengaluru, at that time helped him to take independent decisions regarding his patients, right from the beginning of his career and also directly exposed him to all the complex micro-neurosurgical cases.

The International Training at Fujita Health University, Japan

In 1985, he got an opportunity to go for a fellowship to Fujita Health University, Nagoya, Japan. He worked there for a year with Prof T Kano and Prof H Sano. The aim of working there was to pick up the nuances of cerebrovascular neurosurgery. Professor Sano was a craftsman, exclusively pursuing the masterly art of surgery for aneurysms and arteriovenous malformations. It was a privilege and pleasure for Dr Jain to be his first assistant during surgery.

Prof Kano was a great neurosurgeon specializing in neuro-oncology, and a very hard-working person. He was a great researcher also. He taught Dr Jain how to be disciplined, hard-working, inquisitive, and at the same time be able to to enjoy life to its fullest. Professor Y Kato was also a faculty member during his stint there with whom he interacted closely. The inspiring influence of all these faculty members paved the path for his lifetime passion in cerebrovascular neurosurgery. While in Japan, he came to know that a new institute was going to be established in Lucknow by the name of SGPGI, which seemed to be having a great potential. Therefore, he applied for a faculty position at this institute from Japan itself.

The SGPGI Years: The Initial Decision Dilemma

He came back in November 1986 from Japan and got a call for an interview for the faculty position at SGPGI, Lucknow, in February 1987. He was then selected to the post of Associate Prof (equivalent to that of Additional Professor at present). SGPGI was offering him a higher position and the opportunity to be in a critical place to establish a new department in his home state. To join SGPGI was, therefore, intuitively a logical decision for him. However, changing tracks was not so easy. He was very well settled in Bengaluru in an established institute and had also learnt fluent Kannada. Therefore, it was indeed a very difficult decision for him to join at a new place where even the hospital building was not ready.

He visited SGPGI, Lucknow, at least five times between February and September 1987, while contemplating his final decision. During these visits, he used to discuss with Prof Chhabra (who had already joined the department) the equipment that would be required for the department. With each visit, he had the growing conviction that this institute had the potential to become one of the best in the country. Finally, he joined SGPGI, Lucknow, at which time there were no patients and a lot of time was spent in the planning of the department.

The SGPGI Years: The Establishment of the Department

The patient services and the MCh course were started in the department in 1989. The neurosurgical team in the initial years consisted of four neurosurgeons, Drs DK Chhabra, VK Jain, Piyush Mittal, and Deepu Banerji, who were also doing spinal work. Dr Isha Tyagi was the neuro-otologist and Dr Kumudini Sharma was the neuro-ophthalmologist. Dr Jain's special interest lay in especially establishing micro-neurosurgery protocols for vascular diseases, cerebellopontine angle tumors, intraventricular tumors, and pineal region surgery, besides the entire spectrum of neurosurgery. He was the Head of the Department of Neurosurgery for nearly a decade. During this time, the department expanded considerably to increase the bed strength and the number of MCh students, new operation theaters were added, and an expanded intensive care unit was established. The department shifted from the general hospital of the institute to the main building. Establishment of protocols for every aspect of the neurosurgical operation theater, intensive care unit, and wards, which has withstood the test of time, was a special forte of the team that included Dr Jain. This has made SGPGI neurosurgery one of the most systematically running departments of the country. There are three aspects of the patient-related protocols that were established in the early 1990s during Dr Jain's tenure, which have been so successful that several institutes have been trying to emulate

them. One aspect is related to the conduction of the preoperative session at 8 am in the department that every faculty member and resident of the department has been unfailingly attending for the last 25 years. The second aspect is related to the patient medicine distribution system that was initiated in the Department of Neurosurgery and is now being implemented systematically in the whole institute and in several other institutes, so that no patient admitted in SGPGI ever needs to buy a single medicine from the outside market, and every subsidized medicine is accounted for and billed directly to the account of the patient. The third aspect is related to the retrieval of records from the departmental computer of every single patient admitted to the department since its inception till today, which is coded according to the International Code of Diseases. Therefore, it is very easy to retrieve and use this patient database, both for patient care and for research.[1-36]

The SGPGI Years: The Seminal Contributions to Spinal Surgery

Dr Jain had a great interest in surgery for the CVJ. In the field of spinal surgery, the team headed by Dr Jain laid protocols for cervical traction; the classification of reducible atlantoaxial dislocation; the hypermobile type of atlantoaxial dislocation where the thecal compression occurs in both flexion and extension of the neck; the genetic and radiological differences between reducible and irreducible atlantoaxial dislocation; the surgical management and problems associated with transoral surgery; the concept of focusing on the facet joints for bringing about reduction of atlantoaxial dislocation; the protocols for tuberculous atlantoaxial dislocation and delayed odontoid fractures; and the protocol for atlantoaxial dislocation with Chiari malformation where one should focus on the anterior cervicomedullary compression. Dr Jain also initiated transthoracic procedures for anterolateral decompression and fusion of thoracic spinal anomalies as well as the 360° fusion of the spine. His procedure of creating an artificial arch on the occipital bone for carrying out an occipitocervical fusion in patients with an occipitalized atlas has been a very popular method of bringing about a craniocervical posterior fusion. There existed a very good collaboration with neurosurgeons from Japan during his tenure. His rapport with and his desire to teach his postgraduate students are legendary.

The SGPGI Years: Awards and Recognition

Dr Jain has won several recognitions and awards. He has delivered many invited lectures organized by various international societies on treatment of CVJ anomalies, some of them being the International Society of Paediatric Neurosurgery, World Federation of Neurosurgery, Asian Congress of Neurosurgery, Asian Australasian Congress of Neurosurgery. He had organized the first and only workshop on CVJ anomalies held in the country in 1997. He has coedited a multiauthored book on CVJ anomalies, which is considered as a good reference book for students interested in this entity. He has several publications and book chapters to his credit focusing on this disease. He has received the "Lifetime Achievement Award" in recognition of his outstanding contribution toward the management of spinal ailments in October 2012 by the Spinal Cord Society. He has been the office bearer and President of several neurosurgical societies, including being the Vice President of Asian Australasian Society of Neurological Surgeons, Vice President of Asian Congress of Neurosurgery, President of Neurological Society of India, President of Skull

Professor Vijendra K Jain with the President of India, Dr APJ Abdul Kalam

Base Surgery Society of India, President of Indian Society of Cerebrovascular Surgery, President of Neuro Trauma Society of India, and President of UP Neuroscience Society. A newly constructed operation theater in the Department of Neurosurgery, SGPGI, Lucknow, has been named after him.

Post-retirement Professional Responsibilities

After working tirelessly at SGPGI, Lucknow, until February 2010, with brief stints as a senior consultant at Saudi Arabia and at Fortis Hospital, Chandigarh, India, he took voluntary retirement and came to Delhi. He has been active ever since in private practice initially at Ganga Ram Hospital and presently as Senior Director, Department of Neurosurgery, Max Hospitals, Delhi, and National Capital Region. He expresses great surprise at the number of patients with CVJ anomalies who still come to him for treatment, even in the private hospital where he is working, despite the expense involved, repudiating his long-lasting belief that this was a disease only the poor class.

END NOTE

Life's decisions are often intuitive and the outcome serendipitous. In Dr Jain's case, his decision to leave an established and well-reputed institute, NIMHANS to join a fledging institute, SGPGI, where the clinical work had not even started, was a bold one with its outcome unforeseen. The decision, however, became a challenge for him, as for other members of the team, to work hard to bring the newly formed department at par or to even make it better than the existing departments at the long-established medical institutes of the country. He feels that his greatest achievement is in helping to establish, along with Dr DK Chhabra, a neurosurgical department at SGPGI, Lucknow, that is considered as being among the best training institutes of the country in the field of neurosurgery.

"A good teacher can inspire hope, ignite the imagination, and instil a love of learning." – Brad Henry

One of Dr Jain's greatest yet understated achievements has been the training of several young and bright students on the technical aspects of micro-neurosurgery. These students, many of whom are now senior professors and heads of departments themselves, have got placements across the country and abroad, and have been imparting valuable neurosurgical care to patients, based on the protocols and techniques taught and established by him.

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Sanjay Behari
Professor
Department of Neurosurgery
Sanjay Gandhi Postgraduate Institute of Medical Sciences
Lucknow, Uttar Pradesh, India