The Great Neurosurgeon and Spinal Surgery

Lokendra Singh: A Pioneer Neurospinal Surgeon of Central India and Neurosurgeon par Excellence

EARLY LIFE

Born in a middle class family at Mathura, Uttar Pradesh, in 1957, and soon after birth, his family shifted to Rajasthan, where he spent his initial childhood days and completed schooling. He was the eldest of six siblings with very average performance in studies initially, but changed gear once he reached the formative years of preparation for medical entrance test (premedical test). From early childhood, he was interested in stage and cultural activities and in fact won many prizes too.

PRENEUROSURGICAL MEDICAL EDUCATION

After completing his Bachelor of Medicine, Bachelor of Surgery (MBBS) from SMS Medical College, Jaipur, he did his MS in general surgery from the same medical college. While doing his postgraduate training, he got married to Madhubala, a woman of steely resolve and great understanding. But, soon after passing his MS, life took a very different turn when he joined the Rajasthan state medical services as a civil assistant surgeon. He was posted in a very small village in a dispensary with no surgical or indoor facilities whatsoever. All the pleas and requests to transfer him to a primary health center where some surgical work could be done fell on deaf ears and yielded ridicule, humiliation, and advice to resign, if not happy. Due to family’s financial compulsions, it was not possible to do so, but the fire in the belly to move forward in life and the intense desire to break the shackles made him apply and appear for entrance tests for neurosurgical training all over the country. It was a very hard task to arrange books for entrance tests in a subject he had hardly any exposure to, while working in a very small remote village. He always performed well in theory, but failed in *viva voce*. After completing one full round of almost all national neurosurgical centers, he reached Postgraduate Institute (PGI) of Medical Education and Research Chandigarh for the second time. Professor VK Kak recognized him as a repeater and wondered that he was still not selected! On hearing about the lack of practical experience as the reason, he agreed and commented that he had a vacant senior registrar’s post, but only for 2 months, while the second entrance exam was still 6 months away. In the evening when Professor Kak was in his office, Dr Singh met him and pleaded him for that post. Professor Kak was surprised as the post was only for 2 months and, moreover, Dr Singh was already in a permanent government job! He straight away refused, but on Dr Singh’s repeated pleas and on realization that young man was highly frustrated, he relented and agreed. But, he took a promise that Dr Singh would resign from the government job and would not blame him if he were still not selected. He asked Dr Singh to come back next day morning to confirm on this after he had taken his family in confidence.

That evening, Dr Singh talked to various people, on phone, including his lot of friends and family members about this equation. Everybody except his father and wife were dead against this decision. Medico friends were aware of many people who could not be selected in PGI entrance tests despite working for 2 to 3 years as senior residents, while here the post was on offer only for 2 months! It would be a suicidal step was their opinion in unison. But, Dr Singh’s father was aware of his great frustration, humiliation, and restlessness. He almost ordered him to resign from the job and promised to support him, his wife, and newly born daughter despite his limited means. Madhubala, Dr Singh’s wife, was very clear that she will support him whatever he was up to and will be happy in whatever situation destiny will allot the family. The next day morning, Dr Singh waited in front of Prof Kak’s office from early morning to inform him about the decision of joining the vacant post as the very first thing, before he changed his mind!
NEUROSURGICAL TRAINING

Two months of senior residency was about to finish and so were Dr Singh’s night sleep but somehow the post got extended for 2 months more and then again for 2 months. Now, it was time for the next entrance exams and Dr Singh got selected for the post out of 20 candidates from all over country including the other internal ones from PGI itself.

Training at PGI was certainly the toughest in the country. Apart from very long and difficult duties, one had to study and present cases in the most feared Saturday morning sessions in front of an assorted group of neurologists and neurosurgeons. Neurosurgical residents were expected to be as good as neurologists in the art and science of history taking, clinical examination, and localization. Then, there were seminars and journal clubs and treatment planning sessions. This tough training, though very much disliked by almost all residents then, proved a great boon in later years of practice as independent young consultants.

At PGI, apart from routine laminectomies and discectomies, a number of modern spinal works were done by Prof Khosla who was a perfectionist, hardworking, and an excellent technician. He perfected his approaches on cadavers in anatomy labs. He was one of the pioneers in the country for anterior cervical approaches for decompression and fusion with fixations. This exposure helped the young budding spinal surgeon in Dr Singh a great deal.

Dr Singh, after passing his M.Ch exams, was working as post-M.Ch senior registrar in the department. One day, he met Prof Kak in his office for guidance about the future course of action regarding his career. Incidentally, at the same time, Prof Kak had received an inquiry for a newly trained neurosurgeon from Dr GM Taori, a neurologist, who had started a neurosciences superspeciality institute at Nagpur.

“In my opinion you should learn for 2 years more rather than thinking of earning” Prof Kak had opined. “Dr Taori is a fantastic teacher but a very hard master, so be careful.” Prof had warned. Dr Singh had just smiled and felt amused at the thought of going from a tiger’s den to that of a lion.

“He would not be able to pay you much. In fact will pay very little, are you interested?” Prof Kak had asked Dr Singh. Dr Singh meekly agreed. Where was the question of saying no?

CIIMS AND EARLY LIFE AS INDEPENDENT YOUNG CONSULTANT

The Central India Institute of Medical Sciences (CIIMS) was, as if, yet to be completed a hospital. Dr Taori, trained at Vellore and the world-famous Montreal neurological institute at Canada, was an antithesis of what the young neurosurgeon trained at an institute of national importance had expected. He was wearing white trousers, bush shirt with ordinary leather slippers and the picture was completed with an HMT Janta wrist watch and a cheap dot pen in his pocket. The salary he offered was well below what pool officers used to get in those days. All in all, it was a very depressing scenario for a young professional with stars in his eyes. Still, remembering his mentor’s advice, Dr Singh joined the post of consultant neurosurgeon. It was a namesake consultant’s post, as the working hours, salary, and everything else was the same as the PGI senior residency minus the guidance, safety, and support of seniors. Dr Singh was the only neurosurgeon at that time and rest of the staff was just MBBS general duty doctors! But, the tough training of PGI came in very handy here and he started operating. Dr Taori was a big name in neurology, so there was no dearth of cases.

Dr Taori had already confirmed from Prof Kak what Dr Singh was supposed to be capable of as a newly trained person and would refer cases accordingly while he sent others to Mumbai or invited senior neurosurgeons from the city. This did hurt Dr Singh, a proud individual, a lot, and one day, he fought with Dr Taori the way a majoring son would with his father, for one’s true rights. Finally, Dr Taori relented and agreed to give him his first cervical laminectomy. That day, the whole time, during surgery, Dr Taori kept inquiring from the anesthetist about the proceedings. In the evening, when Dr Taori went for the rounds, which were always combined with Dr Singh’s and were of great teaching value to the latter, he straightway went to the ward where the patient was kept postoperatively as there was no intensive care unit in those days at the CIIMS. He examined the patient in detail and on finding that he was neurologically intact, Dr Taori’s pleasure was obvious and infectious. For the first time, Dr Taori took someone out for ice cream! En route while driving, he confided that most of the cervical laminectomies performed in the past resulted in quadriplegia; hence, he was scared and always referred such cases to Mumbai. That was the last day he had doubts about Dr Singh’s surgical competence and started referring all cases to him.

But, then this created problems of a different sort! There were many cases Dr Singh had not even witnessed, so now he had to refer many to Mumbai and it made a big dent on his professional ego. He pledged to train himself in the best possible manner at the best possible centers in the world. And, a roller-coaster ride of a different kind started! Meanwhile, Dr Singh appeared and passed his DNB in neurosurgery in the first shot.
INTERNATIONAL TRAINING

Dr Singh did not know how to go about it, whom to contact or to write for training! Dr Taori had already tried and had received negative feedbacks from Montreal. Dr Singh started writing letters to various western consultants after taking their addresses from textbooks of neurosurgery. He got invitations from many of them but without financial aid. But, finance was Dr Singh’s Achilles heel! One of the consultants from UK advised him to apply to overseas doctors training scheme (ODTS) run by the Royal colleges. He did try, but was informed that there was already a waiting list for 5 years!

One day, Dr Panda, a neurosurgeon who was working at Newcastle-upon-Tyne, visited the institute as he wanted to relocate to India. Out of courtesy, Dr Singh invited him for dinner. During discussions, he confided that Prof Lindsey Simon from Queen Square London takes every year one student through ODTS but of his choice and not necessarily following the waiting list. He gave Prof Simon’s postal address too.

Dr Singh wrote a letter to him and bang came a reply in 3 weeks that he was looking for a student for training in neurosurgery from the Asian subcontinent. That year, it was the chance for the Asian continent by rotation as he rotated the training post among five continents to be fair with all! Dr Singh was offered the post with regret that he will be able to pay only 3,000 British pounds per month as salary! The conversion rate of pound to rupees was one pound for 90 rupees while Dr Singh was getting only 20,000 rupees per month, that too after an astronomical salary raise from the CIIMS standards. He, obviously jumped for it. Money for air ticket was raised by selling few personal articles. Dr Singh proceeded to the UK promising Dr Taori that after training, he will rejoin CIIMS, though he did not believe it at that time. In the UK, he trained himself at Queen square, Great Ormond Street Hospital for sick children, Maida Vale Hospital where Lord Brain used to work, Manchester Royal Infirmary, and Hope Hospital Salford, Lancashire. He honed his spinal surgery training under the watchful eyes of Allen Crockard, Richard Cowie, Peter Richardson, Richard Lye, etc.

This particular visit to the UK where he worked for slightly less than 3 years proved as a key for his international training. He passed his FRCS (surg. Neurology) exam in flying colors. Prof Simon was very happy with his dedication and arranged for his 2 months training at Nagoya Japan with Prof Kenichiro Sugita on Sugita scholarship and for skull base training at Chicago, USA. Later on, Dr Singh went to various hands-on workshops on spinal and cranial surgeries all over the UK and Europe, i.e., Rotterdam in Holland, Leon in France, and Bologna in Italy.

Even after coming back to India, he had continued his training spree. In 1997, he spent 1 month at the UAMS, Little Rock Arkansas, USA. Here, he watched giants like Prof Gazi M Yasargil and Prof Ossamma Al-Mefty from very close quarters for cranial work and Glenn Pait for advanced spinal surgeries. Later, he visited Prof Evandro De Oliviera at Sao Paulo, Brazil for learning techniques of micro-dissection, vascular anastomosis, and white fiber dissection. Dr Singh was a pioneer to start Ozone therapy for spinal problems in the whole of Maharashtra, which he learnt at Bologna, Italy.

BACK TO NEST

The Singh couple had two lovely daughters and, by this time, the elder one had started attaining early teenage. The observant mother started noticing some European traits in her and that was the time she blew the whistle for
returning back to India. Dr Singh had to resign as his long tenure was still remaining. It did create a flutter in the administration as it was very rare for an Indian to resign as against their constant effort to get extensions. After an interview with the HR department and them getting convinced that it was not a case of racial discrimination or harassment, he was allowed to resign.

Dr Taori was certainly surprised to get back an internationally trained neurosurgeon at his very poorly equipped charitable trust hospital, but he promised to give him whatever was needed to develop a modern neurosurgical setup as and when the financial condition of the institute allowed. He kept his promise and so did Dr Singh. In spite of getting very lucrative offers from big corporate hospitals in Mumbai, he stayed at the charitable trust hospital in a small city. The fruits were borne later in the form of a state-of-the-art neurosurgical setup equipped with latest equipment. The department, since then has earned a respectable name all over the country in the field of neurosurgery.

DEVELOPMENT OF NEUROSPINAL WORK

Apart from routine laminectomies and discectomies, he introduced cervical micro-discectomies and corpectomies with fusion and/or fixations, cervical expansive laminoplasties, cervical replacement laminotomies, transarticular screw fixation for AAD along with various other techniques for CVJ, anterior odontoidectomies with posterior fusion and fixation, Megerl’s techniques of lateral mass plating, retroesophageal approach for high cervical region, screw reconstruction for odontoid fracture type II and transmandibular hemiglossectomy approaches for high cervical spine.

He is a very keen observer and by the virtue of his skills used them to develop new innovations. Once during cervical corpectomy, intraoperatively, the patient had some cardiac issue because of which the case was finished without fixation. The patient had horrible postoperative course and after 1 month got discharged. To the surprise of Dr Singh, the patient came walking after 6 months. Similar type of incidences occurred in three more cases and he came to conclusion after detailed radiological studies that one can get away without fixation in cervical corpectomy by doing median corpectomy.

In thoracic spine, he introduced anterior transcavitory approaches, posterolateral extracavitory approaches, posterior decompressions with fusion with fixation initially using Harrington rods and later using pedicular screws and Steffee plates and further again modern screw and rod systems. He started, first of all, the modified costotransversectomy approaches and annulotaxis–ligamentotaxis procedures for plain concertina fractures of vertebral bodies.

In lumbosacral spine microlumbar discectomies, PLIF, posterior pedicular screw plate/rod fixations for traumatic unstable spine and lumbar/lumbosacral listhesis including percutaneous approaches in some cases.

He does lumber discs using microscope with only 2 cm incision with great ease. His use of chisel and hammer for undercutting in lumbar canal stenosis is like a craftsman working on a sculpture.

To his credit, there are many cases of spinal hydatid tumors, a disease which is common in Vidarbha region.

It will be unfair to him if I fail to mention the skill of dissection of his dorsal median raphe approach for cervical intramedullary tumors because of which postoperative outcome were far much better. He had done almost all types of intramedullary and intradural tumors till date.

He specially visited Bologna, Italy for a week to learn the nuances of ozone therapy and introduced it perhaps for the first time in the whole of Maharashtra. Incidentally, he also did the first cases of far lateral approaches for foramen magnum lesions mobilizing the vertebral artery.

INNOVATIONS

Dr Singh is a very innovative surgeon who has developed few surgical techniques too. These were published once I joined the department as his colleague, many years after he had performed those. His innovation for large brain tumors after resection to prevent brain fall as balloon catheter is also patented.

He developed channel retractor, which is very cheap and very easy to use for intraventricular tumors. This was highly appreciated in the journal in which the article was published. He dislikes writing papers. Instead, he enjoys writing prose and poetry. That’s why many techniques could not be published. As coauthors, we have written papers on surgical techniques which were published in Acta Neurochirurgica, Journal of Neurosurgery, and World Neurosurgery. Apart from these, he wrote papers in the British Neurosurgery Journal with Prof Simon and in JOSS also, his work on ozone therapy was published. He has two national patents on his name for developing neurosurgical devices.
BEYOND NEUROSURGERY WITH SOCIETY AND LITERATURE

He is a medical doctor, an innovator, a poet, a stage artist, a writer both in English and Hindi, a philanthropist, and a crusader for the promotion of Hindi. He has a unique achievement of getting invited to deliver lectures in refresher courses for university teachers at the Nagpur University under the auspices of the university grant commission. On the contrary, he regularly chairs many sessions conducted for young writers in English. An accomplished stage and radio artist, who has presented many literary programs on television and is a recipient of many awards in these fields.

He has a strong cultural and literary inclination. He is a well-known Hindi poet and his anthology of poems “Bunde Jivan Ki” published by Vani Prakashan, a renowned Hindi publisher at New Delhi, was awarded first prize (Sant Namdeo Puraskar) for poetry instituted by Maharashtra Rajya Hindi Sahitya Academy for the year 2009–10. His many poems are published in renowned Hindi newspapers like Dainik Bhaskar, and he has a regular Hindi poetry column in Lokmat Samachar, the highest circulating Hindi daily in central India.

His two novels in English have been published and two more novels are under publication. He regularly writes prose in English on nonmedical subjects, and these are published in renowned English newspapers. Till now he has published more than 60 such articles. He has also written travelogues and medical articles for lay persons in many series forms on various topics of public interest.

He is regularly invited as an orator and motivator to schools, colleges, social clubs, and National Youth festivals. He has been invited as a role model for young medicos at Pandit Ravishankar University, Raipur, during medicon-2015.

He is an excellent teacher and mentor to many young neurosurgeons in the Vidarbha region, which has helped many including myself.

CONTEMPORARY ENGAGEMENTS

He is a senior consultant of neurosurgery and Director of CIIMS controlling both medical and research wings. The research wing has gained national importance and is a well-respected lab with a large number of international publications and clinically usable test kits in its kitty.