



### **Keki Turel, President NSI 2012**

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### **Introduction:**

World War II was just concluding when I was born. Our parents started married life from scratch with nothing to support them except their undying commitment to succeed and do the best for us. They built a strong family of four sons and one daughter. Both mom and dad were from highly respected orthodox families of priests. My father rose from a humble sewing machine salesman-cum-mechanic to an ethical businessman and Chairman of a prestigious Bank.



*Father Edulji and Mother Jalu*

### **Schooling:**

Despite our meager financial resources, we went to the best schools, best colleges, participated in all the Boy Scout camping trips and never had to work to get these privileges. I was the oldest of five siblings, and a 'second father' to the others, in charge of disciplining and guiding them, whilst we worked hard at making two ends meet. We moved to a low-income group chawl, with a tiny room and sleeping in the open passage and used common toilet shared by over fifty families. It was here as a 6 ½ year old, curious and shy but determined boy that I was lured into life-long vegetarianism by an amputee lady who spoke stories of Hindu mythology. No playground, no radio or TV. My schooling was at St. Xavier's. Dad would give us 4 annas each, totaling one rupee amongst us for transport and 'lunch'. As a leader of my brothers, one hungry afternoon we approached the proprietor of a Madras Café near the school to share a Thali priced at Rs. 1 amongst 4 of us. He kindly gestured us to occupy a

remote corner of his restaurant (not to be noticed by other guests), as we ate 'unlimited' food from one Thali, bonding us brothers even more.



*KT as a Scout with Jawaharlal Nehru*

I eventually became a troop leader in school scouts to be a part of Indian Contingent in a World Jamboree in 1961. Due to SSC exams, I could not make the journey and by sheer serendipity, the plane carrying our Indian boys crashed. I was destined to live, a fact borne by my survival through numerous accidents in my later years.

School fees and camps were all subsidized and college and medical university were supported by Parsee Scholarships. I was eventually ordained a priest even conducted some ceremonies. In my later years at school, I joined a cricket club at Parsi Gymkhana, playing with Sunil Gavaskar and



*KT escaping from a major accident*



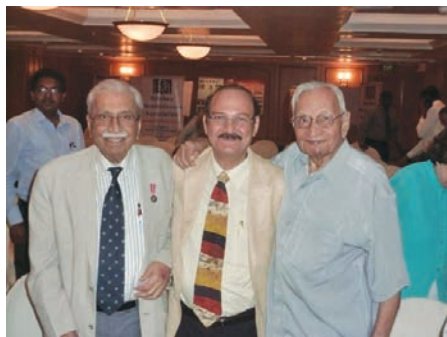
*Ordained as a priest*

Milind Rege. As my father was a sewing machine mechanic, we got to use our hands and I thought I would be an Engineer. I studied a book on Palmistry and understood that I was destined to be a doctor and due to my mechanical skills, a surgeon. Entry to the medical college was easy and straightforward. I chose Grant Medical College (GMC), as I could indulge in socials, games and parties (represented GMC at Cricket and also Boxing, which I gave up after realizing it could damage

my cerebral faculties). Most of us end up finding partners for ourselves from within the Parsi colony where I stayed, as I too did. Slim, fair, tall and pretty, she was still at the high school when I first met her during my medical school days, and later mentored her, goading her to do PG in Psychology.

### **The lure of Surgical Neurology:**

In the final year, we were taught Neurology by Dr. N.H Wadia, who enthralled us with his lectures and rounds and a field that seemed a bug bear to most, appeared to me as an endearing and engrossing subject. Instead of dividing my love between Neurology and Surgery, I got them wedded to the logical field of Neurological Surgery. I was the first student to register for a direct 5 year PG course.



*With Mentors Neurologist N H Wadia (L) and Neurosurgeon Gajendrasinh*

There was no formal or structured residency program and we still followed the conventional two 6-monthly house surgeon posts following by Registrarship of 2 years. This would train us for 3 years for a 5-year course. It was therefore decided that I would do 6-monthly posts as a House Surgeon in General surgery, Urology, Plastic, Orthopedics, Neurology and allied field of Radiology and Pathology followed by 2 years as a Registrar. However, I managed to spend another 2 years as Registrar in Neurosurgery, a year each at KEM and Nair Hospital. This was early seventies, in the pre CT era, when clinical diagnosis reigned supreme and final diagnosis depended heavily on cerebral angiography and ventriculography. We became experts at puncturing the carotid in the neck with both hands, whether it was the right or left of the neck.

Working in different institutions with a variety of teachers was an advantage as they themselves were trained in vastly different centres abroad. There have been some unforgettable incidents and no amount of hard work seemed to be enough. As residents we had to assume the role

of a doctor, nurse, errand-boy, clerk, attendant, advisor, pacifier, etc. At J.J, we had 2 units, each having surgery on alternate days, emergencies on the other 3 days and an OPD once a week. Often we were tied up in surgery all days of the week, doing planned cases on alternate days and emergency trauma, hemorrhage and shunts on other days. The job demanded supreme physical and mental fitness and balance, and whilst hard work was a necessity, diet and sleep were a luxury. Though we participated in all teaching activities including attending autopsies and brain-cutting sessions with the legendary Darab Dastur, the monthly 2<sup>nd</sup> Saturday afternoon meetings of all neurosciences held in rotation amongst 3 public hospitals was an absolutely regular feature. However there was no time, nor emphasis on publishing papers, though record keeping was strictly adhered to. The only noteworthy publication was preparing the thesis on a subject given by the teacher, usually a retrospective study of cases of a particular disease entity.

M.Ch exams was the culmination of the effort of five gruelling years. The only text book then was the newly-published, extremely readable book by a British Neurosurgeon, Northfield. Youmans (3 volumes) had just come on the scene but I could afford to buy only one of its 3 volumes. We had two examiners from Mumbai, and two from the rest of India. I cannot forget the superficially intimidating Prof PN Tandon screaming at the slightest deviation from what he thought was right. If I quoted a particular reference in the literature, he would call for the original reference and was fair in accepting that even if it had not come to his reading. The examination was a rigorous experience, one full day per candidate.

Three of four brothers had planned to get married at the same time, and all were waiting for my exams to get over. We all got married in January 1975. A long uncertain life lay ahead. I joined Dr. SN Bhagwati (SNB) as his clinical assistant for a year at Bombay Hospital as a stop-gap arrangement, and used the time to communicate with a handful of departments in Europe, UK, and USA. SNB had arranged for me to work at Atkinson Morely in UK where he had trained. Using the opportunity of a free air ticket given to my brother for garment export, a 10 USD/ day grant from my father, and a Euorail pass, I took off on an 8 week tour study trip to various European Hospitals.

Everything was so different. The rich-poor gap was so obvious that my conviction to stay back in India to serve my own people got even stronger. My last stop was London, and the most comfortable location for a variety of reasons (language, food, relatives, many Indians), but not for permanent settlement. Returning to Mumbai and on suggestion of SNB and along with the Registrar and supported by the Research Society of GMC and J.J, we conducted a research project on “An Autopsy Study of the incidence of Intracranial Aneurysms and abnormalities of the Circle of Willis” on over 1,000 consecutive autopsies. In Feb. 1976, I also undertook specialized training in Stereotactic Surgery at a Workshop conducted at the Institute of Neurology in Madras.

Photography had been a part and passion of my life. Years ago I had my own solo photography exhibition at a prominent art gallery in South Bombay.



*KT- the professional photographer*

### **Hon. position in Govt. Hospitals, Mumbai:**

The honorary positions in public hospitals opened up in 1977 and after a short stint at Nair, I joined my alma mater J.J Hospital which I served till 1993. Private practice was allowed but of the few where high-level neurosurgery could be done, none would accept me then. I did private cases in Breach Candy and also introduced neurosurgery at a relatively less known Masina hospital collecting funds from private donors to buy few sets of instruments. Working at government hospitals with virtually no formal ICUs and poor help, I had to do almost everything solo, including record-keeping and subsequent participation/presentation in various meetings and conferences in India and abroad. In the earlier years, income was limited and raising a family whilst pursuing academics was tough. The conditions were even worse outside metropolitan cities and that goaded me to create awareness of this subject outside Mumbai and other less developed countries outside India. I made bi-monthly visits to my hometown Surat, where in entire south Gujarat there was no neuro specialist. My visits were eagerly awaited. From the late seventies to the early eighties, I travelled by overnight trains in second class compartments.

There was no salary in the government hospital, but the work there was its own reward. I spent almost all days of the week working long hours, honing my surgical skills. This stood me in good stead over my future career. The late 1970s saw a rush of patients from Middle East and Africa thronging to Mumbai for expert medical treatment. I started making trips to a few Gulf states establishing direct connections with health ministries. This resulted in a large practice from the Middle East.

### **Lure of Microneurosurgery:**

It was in the late seventies after visits by Prof. Hans Pia and Grote at KEM and later by another young German Biemer at Tata Memorial that I got my first exposure and inspiration to start microneurosurgery. I taught myself by operating on white mice under a primitive laboratory microscope made by an Andhra company. Much later we were fortunate to get Zeiss OPMI 6 and my formal journey in microsurgery commenced. Prof Majid Samii visited India (Delhi and Bombay) in 1982. I followed him very keenly at both places and seeing his revolutionary work on the Brain and Peripheral Nerves humbled me and within a couple of months of his visit, I was already in his Hannover clinic. This completely changed my perspective in Neurosurgery and I felt as if I was reborn. Prof Samii urged me to stay with him for a longer period. Formalities had to be completed to enable me to work in Germany and I joined his department in 1983. With Prof Samii, I co-ordinated and co-moderated the world's first ever "Teleconference in support of Medicine" on May 15, 1984. Twenty neurosurgical centers from all continents of the world were connected to our center in Hannover from where the conference was conducted. The theme of the conference was "Management of Acoustic Neurinoma". We wrote a lot and I almost completed writing a volume on peripheral nerve surgery - a subject I have never been exposed to in India. I was in the meantime summoned by the Ministry of Health in Mumbai to rejoin my position at J.J or lose it forever.

### **Return to India:**

Coming back to India, and working with others not exposed to microsurgery was frustrating requiring patience and perseverance. I had a record of operating 26-27 hours non-stop without a break on three occasions. My assisting staff and anesthetists would often get exhausted and some even complained, suggesting doing surgery in stages. With my ENT colleagues, we conducted a Skull Base Workshop and Live surgery



in Pondicherry in 1987, the first of its kind in India. Along with my Plastic surgery colleagues we did Microsurgery Training and Live Workshops in 1988-89 in Mumbai. The good word of microsurgery had started spreading steadily to various centers in India. I promoted microsurgery by continuous education through slides and video recording of every operative procedure amounting to over 15,000 operations and hundreds and thousands of slides and videos. This is an ongoing effort that I still pursue, through lectures and cadaveric and live demonstration spread all over India and 60 countries worldwide. A seventeen-year-old commercial sex worker was dying of AIDS, and was referred to me with post TB Meningitic hydrocephalus. It was J.J hospital's first-ever encounter with such a patient and there was fear, apprehension and a tendency of the staff to avoid treating her. I had to take the lead in organizing safety measures for the team and perform the first ever such operation on a patient suffering from AIDS in 1989.

### **Spine Surgery:**

I had a special interest in Spine surgery and did my first ACDF as a resident in 1974, carefully co-relating symptoms and signs with clinical radiology whilst preparing a paper on Cervical Canal Stenosis. I realized this entity to be easily diagnosed by viewing 3 lines in the sagittal view: 1. Posterior Vertebral bodyline 2. Facet joint line 3. Spinolaminar line. Normally these 3 lines are easily separately seen. In canal stenosis, the 2<sup>nd</sup> and 3<sup>rd</sup> lines overlap. This was unequivocally seen in every patient with this entity. This was presented at an 'International Seminar on Cervical Spine' in NIMHANS wherein the legendary Ralph Cloward appreciated this observation. This was eventually published as Turel's Sign of Cervical Canal Stenosis. We also discovered the 'oblique lie' of facet joints on plain X-rays of Lumbar Canal Stenosis. Yet another original contribution was a "management-based Algorithm" for the treatment of Congenital Atlanto Axial Dislocation (CAAD) and presented as an Invitation Guest Lecture with several illustrative cases and film at the 10<sup>th</sup> JCNS in Tokyo in March 1990. Having a mechanical engineering family background, it was a second nature for me to develop new surgical instruments or modify the existing designs developing several such instruments, one of which has been accepted by and its prototype made by Asculap.

In fact, some of the earliest spinal implants for stabilizing patients with trauma and de-generation were conducted in the early 90s. Thanks to a

strong physique and a determinant and perseverate mind, I had performed many surgeries for brain and spine tumors lasting well over 16 hours. Teaching has been a passion for me and have presented papers at National and International conferences. I have now given over 600 lectures, TV shows, operative procedures and workshops in more than 60 countries across the world. Such participation has helped attract international attention and recognition conferring Presidentship of the Asian Oceanian Skull Base Society (AOSBS) 1997-99, Bombay Neurosciences Association (BNA) 2007, MASSIN 2007-11, Academia Eurasiana Neurochirurgica (AEN) 2008-10, Neurological Society of India 2011-12, International Conference on Complications in Neurosurgery (ICCN) 2017. Landmark conferences were organized as President of AOSBS in 1999 and AEN in 2010.

The fiftieth Golden Jubilee Conference of NSI was also another landmark wherein a 28- minute edited film of “The development of Neuroscience in India” was shown at this inaugural ceremony. This film was made by my personal team of filmmakers who visited 20 leading centers and did live recording of the doyens of Neurosciences in our country including the likes of Jacob Chandy, B Ramamurthi, A Bagchi, PN Tandon, NH Wadia, etc. Several illustrious past office bearers of NSI (Presidents and Secretaries), who attended the meeting were honored.

New innovations and ideas and successful approaches and procedures often appear to project surgeons’ vanity. I organized the first International Conference on Complications in Neurosurgery, a 3- day event which highlighted anticipation, prevention and management of

Complications and an open forum of our failures and what we learnt from them. This truly unique educational initiative has attracted international attention and interest. ■



*With Wife, Sons Burgese, Mazda & his wife  
and 2 granddaughters at Burgese’s  
wedding in New York - 2016*