

Dr. Arjundas hails from a family predominantly interested in commerce. His parents were therefore thrilled by his success at the matriculation (with 100% marks in mathematics) from the Loyola School. In those days students passing with mathematics, physics and chemistry (without biology) could claim entry either into the medical college or the engineering institutes. Accordingly, Dr. Arjundas applied for both and was selected to pursue medicine. It was, then, the summer of 1947 - a heady period!

Entry into the Madras Medical College was preceded by a ceremony: each student, wearing a tie for the occasion, ushered himself into the presence of Dr. P. V. Cherian, the Principal. The famous ENT surgeon, immaculately dressed with his pith hat close by, smiled in welcome and sent the student on his medical career in less than a minute. (Madras Presidency then boasted of three medical colleges: Madras Medical College. Stanley Medical College-earlier the Royapuram Medical School conducting courses for the L. M. courses only, and the King George Hospital and Medical College in Visakhapatnam.

As students from the Madras Medical College and Stanley Medical College studied anatomy and physiology together in the former institute, Dr. Arjundas was able to make enduring friendships at both colleges. He recalls an interesting episode from the preregistration course he had to undergo at the Madras Medical College Professor Verghese, conducting this course started off his talk with the injunction "Ladies and gentlemen, if you will look in your drawers, you will find cockroach within". Lest this be interpreted as a jocular statement, he soon followed it with, "We shall now consider their dissection with a view to understanding the anatomy." Needless to say, shudders replaced the aborted smiles. This, incidentally, was also Dr. Arjundas introduction to co-education.

He does, however confess to being one of the key members of the exclusive B. B. B. (Back Benchers Brotherhood). His activities from this part of the lecture room, however did not prevent him from bagging prizes and scholarships. He shone on the fields as well and represented the college in cricket during all but the last six months of his undergraduate career. He notes with pride that all ten members of the B. B. B. are well settled, 7 of them being professors in Tamil Nadu medical colleges and the remaining three flourishing in private practice. Dr. Arjundas specifically refers to Dr. K. S. Mani as one of that honoured band and points to his international fame resting in part on his work on South Indian paraplegia.

His batch was the first to enter the medical college as free Indians. This, however, did not prevent the British professor of physiology from playing a trick on them. The professor would lick a finger after having dipped a digit into a beaker containing urine from a diabetic patient. He would then call upon the students to prove to themselves that the urine was sweet to taste. Hiding the creeping disgust, each student would dutifully perform as commanded. It was only after the last student had confirmed the taste that the professor would point to the need for observation if the student intended becoming a good clinician by showing that whereas he had dipped his index finger into the beaker he had licked his middle finger! Dr. Arjundas recalls with affection a co-student soon nicknamed 'grandpa' by the rest. This person had graduated in engineering to please his parents and then enrolled in the medical college because that was what he had always wanted to do. Dr. Arjundas recalls the 'mortality rate' in the dissections that formed part of the anatomy practicals varied. The suboccipital triangle occasioned 100% mortality whilst the rectus sheath eliminated just 50%. I do not know how I managed the dissection, which fell to my lot," he says, heaving a sigh. Histology, too, provoked unusual responses. During the examination, the student spent more time holding the slide aloft and studying it by the light that filtered through the windows than with the slide under the microscope. The identification and

description followed recognition of the slide rather than the tissue on it. Like many others, Dr. Arjundas regrets that such wonder provoking experiments as those demonstratin-g the contraction of a muscle, conduction of a nerve or cardiac function were performed perfunctorily on the notoriously difficult-to handle smoked drums. Pharmacology meant sitting at the feet of Dr. Ishwariah and entry into the wards meant the flaunting of the cherished and long awaited stethoscope. (The B-D stethoscope, popular then, cost Rs. 25-00 as compared to the Rs. 500.00 to Rs. 1,000.00 currently paid for the Tycos or Litman versions). But all these paled into insignificance for Dr. Arjundas as the event of his third year in medical college dawned- and almost didn't! In the second week of that December, he toured Ceylon with the rest of his cricket team. He kept thinking of the 21 st when, in advance of the rest of the team, he would hasten back, home. We know nothing about his performances on the field during the tour but cannot help feeling they must have been somewhat below his average. On the day he was to return the team was scheduled to play against the college eleven of the Colombo University. It was only after he had faced the first delivery as the opening batsman that he realised why his mates had bulldozed him into doing so, for Shaftesbury, bowling to him, was one of the fastest the team had ever encountered. Visions of his bride-to-be waiting for him may have floated past his ken as he avoided decapitation and destruction. He still experiences great joy as he recalls being judged out to a catch and how he hastened to the pavillion ere the umpire changed his mind! Return to Madras was followed by a three day wedding, in honour not only of his escape from Shaftesbury's onslaught but also of the fact that he was the sole survivor of the six children born to his parents.

Of the clinics in the wards, Dr. Arjundas recalls the lowliest of the lowly position in which the third year students served. As the clinics were aimed at the fourth and fifth year students, the third yearlings weremerely tolerated. They formed ready targets for all questions on anatomy and physiology and, their ignorace having been demonstrated to the satisfaction of teacher and senior students, were ignored during the rest of the discussions where impressive and unfamiliar words and phrases were used. Dr. Arjundas recalls one exception to this run of clinician- teachers: Dr. Rathnaswamy. He was the first person to show an interest in neurology and his analysis of neurological disorders based on simple' anatomy and physiology helped dispel the traditional fear of the nervous system. Dr. Arjundas credits Dr. Rathnaswamy with having sown the seed that was to flower into a compelling urge to study neurology. Most other teachers considered neurology a 'dreadful subject', useful only in that it served to fail students at the examination.

Another event focussed his interest. On 15 August 1951, Dr. Arjundas' mother suffered a severe stroke. It is salutary to learn that strokes were then diagnosed as thrombotic if the patient survived and hemorrhagic if the patient succumbed. Hemorrhage was suspected in his mother and treatment cosisted of applying ice packs to her head. As Dr. Arjunclas points out, this must have induced reflex hypertension ! Brain edema was not understood and the only diuretic preparation in use was Mersalyl R. His mother survived with total expressive aphasia, some receptive dysphasia and total right hemiplegia.

The third event irrevokably turning him towards neurology was the arrival of Dr. B. Ramamurhti at the Medical College and Hospital and his classes on neurology. Dr. Ramamurthi also started operating and soon demonstrated results in striking contrast to those hitherto seen. (Dr. Arjundas points out that the earlier surgeons had operated under tremendous handicaps. Dr. C. P. V. Menon had tried to develop surgery of pituitary tumours and Dr. Narasimhan that of spinal cord tumours when open ether anaesthesia and spinal anaesthesia were the only means available for keeping the patient quiet on the table). Dr. Arjundas trained for his M. D. in medicine under that stalwart Dr-. K. S. Sanjivi from 1954-1956. He retains great admiration for his teacher and recalls the encouragement and help offered by Dr. Sanjivi when he learnt of Dr. Arjundas intention to study neurology. Dr. Sanjivi wrote to Dr. McDonald Critchley (whom he knew well), recommending this bright youngster. He also wrote to Dr. McRoberts (who had been a colleague at the Madras General Hospital and then in charge of postgraduate training

programmes for overseas students in London) asking him to help Dr. Arjundas. The upshot was that Dr. Arjundas found a ready seat in the training course at the National Hospital at Queen Square upon landing in London in September 1956.

Dr. Arjundas thrilled to the teachings of the giants at Queen Square and Maida Vale: Sir Charles Symonds, Dr. Russell Brain, Dr. Critchley, Dr. Dennis Williams, Dr. Meadows, Dr. McArdle, the imperious and limping Dr. Elkington and Dr. Kramer. He recalls with gratitude the help offered unstintingly at Queen Square. He describes one example. "I wished to study at the library at Queen Square after it closed at 8 p.m. in order to prepare for my M. R. C. P. My residence in the new hostel was bitterly cold and I could not afford to keep it heated whilst the library was centrally heated. When I saw the Dean about this matter, he promptly called the front desk janitor and arranged for me to pick up the keys

when I came in to read at night and leave them with the janitor after I'd finished. I was thus able to study up to 2 a.m. in comfort". In addition to the art of eliciting symptoms and signs and their analysis, Dr. Arjundas learnt applied neuro-anatomy, neurophysiology and specialized investigation. In the winter of 1957 Dr. Arjundas successfully appeared for the M. R. C. P. in Edinburgh and then hastened home consequent to the Suez crisis.

In Madras he resumed his appointment as Honorary Assistant Physician. Once again, Dr. Sanjivi stood by his side and helped launch him in his career. He took Dr. Arjundas aside and said, "Now that you are qualified and have specialised in neurology, I will not see any neurological case in my rooms. I shall send these patients over to you." Dr. Sanjivi was then at the peak of his practice and Dr. Arjundas recalls with gratitude this generous gesture. (Dr. Sanjivi resigned his post at the medical college and hospital soon after due to certain disagreements with the government). Fortunately, the new professor, Dr. R. Subramaniam, 'lall, with a fast gait and a singing laughter" continued to encourage the young neurologist. All patients with neurological disorders were placed under Dr. Arjundas' care. A neurology clinic under his care was started on Saturday afternoon. He was encouraged to attend Dr. Ramamurthi's outpatients where he received a warm welcome. Thus neurology started as a speciality in Madras in 1957.

Up to then, all physicians kept patients with neurological disorders unto themselves. References to the Madras General Hospital were rare and when made, were to the department of neurosurgery, not to the neurologists. Dr. Ramamurthi's brilliance drew not only neurosurgery and neurology references but even psychiatric references and patients with ordinary medical and surgical problems. It was only when Dr. Ramamurthi, in turn, started referring his patients with neurological disorders to Dr. Arjundas that the tide started turning.

On his return from England, Dr. Arjundas gradually effected several changes. First, he got the professor of medicine to agree that clinics in neurology be held separately for the 3rd year students, the 4th year students and the final year students. He then made it the practice for the senior most person to teach the subject instead of relegating the task to a registrar or lecturer. Finally, he got the nursing staff interested in neurological illnesses and set up a unit where seriously ill neurological patients were paid considerably greater attention. He also saw to it that paper work was reduced to the minimum so that doctor and nurse alike had more time to look after the patient.

Whilst in England, Dr. Arjundas had become interested in the work of Dr. H. Smith in Oxford on tuberculous meningitis. He retains that interest and has continued to work on this subject. "His early work on T.B. meningitis (with Drs. R. Subramaniam and B. Ramamurthi; resulted in the paper published in Tubercle in 1961.

Soon after his return, Dr. Arjundas was advised to apply for the post of assistant professor in the department of medicine with request that he be permitted to develop a department of neurology. Imagine his surprise when he was appointed assistant in the department of psychiatry. "Perhaps the government thought that neurology was the same as psychiatry", he muses. Although Dr. Subramaniam advised him to accept the full time job and get himself transferred

rater, Dr. Arjundas decided otherwise, "It was a very close call to becoming involved in government service," he recalls. Around the same time, he received an offer of a job at Duke University in the U. S. He was to practice and teach neurology at a salary of 25,000.00 per annum. He was sorely tempted but his mother's ill health argued against such travel. As he pondered his prospects, once again help came unexpected. At the condolence meeting for the late Dr. Guruswamy Mudaliar, he met the Director of Medical Services, Dr. Thayumanswamy. The latter asked him why he had refused the appointment in psychiatry. Gently, Dr. Arjundas explained that whilst he was fully qualified in neurology, he was not interested in psychiatry and had no experience in that field. The director then asked him if he would be willing to organise the medical services for an oil company. On remarking Dr. Arjundas' willingness to do so, he put in a strong recommendation and Dr. Arjundas got the job against stiff competition. The financial independence thus gained permitted Dr. Arjundas to concentrate on the development of neurology at the Madras General Hospital. He continued in the post of Honorary Assistant professor of Medicine and spent more and more time on setting up neurological facilities and services. It was then that an event occurred that was to set him firmly in the neurological saddle.

Till then, apart from Dr. Ramamurthi Dr. S. T. Narasimhan (L. M. P.) alone was officially recognised as a neuroscientist. Dr. Narasimhan had been trained in the U. S. A. with Dr. Silverman and had brought the first EEG machine to India. He was also the first in India to attempt sphenoidal EEG studies using enamelled needles. "His geniality and bonhomie far outweighed his academic deficiencies". On 22 July 1959, Dr. Narasimhan was appointed Honorary Electroencephalographer to the Government General Hospital in recognition of his services. In November that same year, this jovial pioneer died of a massive myocardial infarction whilst on a holiday.

Dr. Arjundas was then asked to return to England and train in EEG. He did so, working with Drs. Cobb, Dennis Hill and Driver. This training was spread out between the institute at Queen Square and the Maudsley Hospital. It was a bitterly cold winter but Dr. Arjundas found considerable warmth in the renewed friendship with Dr. Balaparameswara Rao (whom he knew from the time Dr. Rao had trained with Dr. Ramamurthi). Dr. Rao was then training with Professor Murray Falconer at Maudsley Hospital. Dr. Arjundas describes an interesting anecdote. "Dr. Balaparameswara acquired the typical charcoal black suit that Englishmen are so fond of, which accentuated his prominence. He was then a strict vegetarian but permitted himself eggs. The Maudsley canteen then was a self service unit and one had to join a queue and partake of the offerings for the day from what was on display. Dr. Balaparameswara Rao could eat nothing from what was offered and was forced to request an omelette which had to be specially prepared for him. He thus had to stand to one side and let those coming after him serve themselves whilst his order was filled. The supervisor in charge watched this for a few days and felt sorry for him. From then onwards as soon as Dr. Balaparameswara Rao joined the queue, she'd sing aloud to the staff in the kitchen 'One omelette' and by the time he reached the service counter, his omelette would be 'waiting for him. Perhaps this hardship had a salutary effect on him for now, he is a strict non-vegetarian."

When he rejoined the Madras Medical College and General Hospital after this stint in EEG, he was appointed Professor of Electro-encephalography. Thus, on 22 July, 1960, he obtained the coveted civil surgeon's rank. He also joined the department of neurosurgery officially having maintained cordial but unofficial connections with it since 1957. The only other senior contemporary who can claim long fellowship

with Dr. Ramamurthi in the department is Dr. Balasubramaniam. Of the latter, Dr. Arjundas says, "Dr. Balasubramaniam had graduated five years ahead of me in our college. I had seen him going to the dais on college days with regular frequency to collect medals and prizes ever since I joined as a student and admired him for his many qualities. As a student we knew him as a walking encyclopaedia. Later, as a surgeon, he was famous for his operative techniques. clinical acumen, impeccable English and unflinching memory. I also cherish his sense of humour, a fund of above-and-below-the-belt stories and sharp wit. Two incidents illustrate his qualities. when he and I travelled to Tokyo to study

stereotaxy, evoked potential recording, stereo EEG recording, integrated EMG etc., he was a strict vegetarian, eschewing eggs as well. After an especially long and tiring day during the course of which we had consumed a meagre breakfast and lunch both of us were ravenously hungry. We repaired to a Japanese hotel in Nagoya and I chose vegetable soup for both of us. No sooner was it served than we set to it and emptied our bowls. I had noticed pieces of meat mixed with the vegetables but did not have the heart to tell Balu, seeing how famished he was, we completed our meal and it was only as we returned to our hotel that I casually mentioned to him that the vegetable soup had, in fact, contained 'eat. H' looked into my eyes, gave me a wink and said, 'That, too was tasty.,, The other event I shall ever recall with admiration occurred on the day he turned 57. He left his room in the Institute, took leave of all his colleagues and retired from the Institute spontaneously without waiting to be served a retirement order. His contributions to neurosurgery, especially to stereotaxy will remain unsurpassed."

. In 1961, the hospital could perform few special investigations for the neurologically ill patients : a) angiogram, ventriculogram and pneumoencephalogram b) myelogram and c) EEG. Angiography was performed with considerable difficulty, one person struggling to hold the patient down whilst the other tried to puncture the carotid artery. Private practice, in those years, revolved around clinical examination, plain xray studies and lumbar punctures. EEG was not easily available.

Being in charge of the EEG lab, he obtained a second unit in 1961. In 1964, he added the Medelec EMG machine and still later, two more EEG units. By 1960 he had already started sphenoidal EEG studies in patients with temporal lobe epilepsy. Following Gastaut's work, he studied epileptics using stimulation techniques, injecting megitimide intravenously. If the seizure was induced, intravenous pentothal was administered to cut off the attacks. After 1964 (when stereotaxic surgery was introduced), almost every patient had stereo EEG studies.

Dr. Arjundas recalls a meeting in the department in 1965 when a crisis was being discussed, "We did not have any EEG paper and there was little prospect of getting any. As various aspects of the problem were being discussed. I suddenly had a brainwave and surprised 'BRM' by saying that I did not need any paper. In fact, I pointed out, I had paper for another ten years. When asked to explain I said that I would henceforth record on the reverse, blank side of old EEG records. This was how we started saving on EEG paper and reduced the bulk that was accumulating in our department. "Dr. Arjundas was then specially interested in temporal lobe epilepsy and epilepsy produced by brain tumours. Although he was in charge of patients with purely neurological disorders. the department was still known as the department of neurosurgery. In 1961. Dr. K. Jagannathan returned after training in Britain and joined Dr. Arjundas as fulltime Assistant Professor. Around 1970, Dr. Arjundas' designation was changed to Honorary Professor of Neurology and Electroencephalography,

Dr. Arjundas' first attendance at the annual conference of the Neurological Society of India was at the joint meeting with the Association of Physicians of India in Madras.(1961) About 25 neuroscientists attended and Dr. Arjundas presented his first paper to the Society on intraspinal compressions. (The first paper he published was on cervical spinalcord compression by arachnoiditis, successfully operated upon by Dr. B. Ramamuthi.) Asked about his own contributions to neurology. Dr. Arjundas turns . modest. "I have not contributed very much. But I have enjoyed every moment of the development of neurology in Madras-my child in a sense. This child was begotten by BRM and nurtured by me and an array of brilliant. highly trained colleagues."

Of the current scene he says, "There has been a geometric progression in the development of the various aspects of the neuro-sciences in India. Naturally, clinical neurology and neurosurgery are best developed. Training in neurology is available in several excellent centres.

I have no hesitation in saying that our boys are more complete neurologists than those trained abroad simply because our boys have to do everything themselves. we need to develop our neurochemistry, neurophysiology and neuropathology."

Looking into the future, he pleads for continuing interaction between neurologists and general medicine and insists that neurological centres must form part of general hospitals. Thus and thus alone can neurology interact with cardiology or the study of diseases of the lung, for example. Isolated neurology institutes will miss out on many interesting neurological problems. He also argues for providing a strong background in general medicine to any candidate intending to specialise in neurology. The current trend towards dilution of training in general medicine to be deplored. He emphasises the role of frequent workshops to update knowledge and enable the practitioner and student to keep up with advances in knowledge, techniques and instrumentation. Such workshops, however must concentrate on the practical aspects, leaving theoretical seminars and discussions to the journals and books. Finally, the youngsters must be helped visit topflight centres in India and abroad so that we continue to infuse the best from everywhere in them.

### **BIODATA OF DR. G. ARIUNDAS**

MD, FRCP Edn, FAMS

Born on 7th September 1929

Honorary Assistant Professor, Department of Medicine, Madras Medical College 1955-1960

Honorary Professor of Neurology, Govt. General Hospital and Madras Medical College. Since 1960

Consultant Neurologist to Southern Railway Hospital, Madras and Kilpauk Medical College Hospital, Madras.

President - Indian Association of Occupational Health.

Chief Investigator for ICMR Scheme on Epilepsy (PL 490)

ICMR Scheme on Peripheral Neuropathy.

Co-Investigator

ICMR Scheme on epilepsy (PI 480)

ICMR Scheme on stroke (PL 480 and WHO)

ICMR Scheme on spinal cord complications in Pott's Disease

Member, World Federation of Neurology Neuromuscular commission

### **Awards**

Ardeshar Dalal Memorial Lectureship

IMA Hyderabad-Memorial Lectureship

### **TEN IMPORTANT PUBLICATIONS OF PROF. G. ARIUNDAS**

1. Arjundas G, Tuberculous meningitis. Experiences with different types treatment, The journal of Association of physicians of India, 9, 1 855-857, 1961 .
2. Arjundas G and subramaniam R, Tuberculous meningitis, A review of cases in Madras, Tubercle (London), 42, 187 -194, 1961.
3. Arjundas G, Intraspinal compressions Review of 184 cases, The Journal of the Physicians' Association of Madras. 2, I. 18\_28, 1963.
4. Arjundas G, Role of a physician in a modern integrated occupation health programme, The Antiseptic, 67,2, 85\_91, 1970.

5. Arjundas G, Louis Bar syndrome, The Journal of the Association of physicians of India, 18. 8, 701, 1970.
6. Arjundas G, Barasubramaniam v, Reddy K. c, and Ramamurthi B. Hypothalamus and its effects on the viscera, Journal of the Association of physicians of Indian, 19,7 , 477 -481 , 1977.
7. Arjundas G, Ramamurthi B, and Chettur L, Familiar spastic paraplegia (review with four case reports). Journal of the Association of physicians of india 652-657, 1971.
8. Arjundas G, sharmila, Ramamurthi B, and subramanian R, clinical and electroencephalographic correlation in hepatic incepharopathy in 15 cases, The Journal of the Association of physicians of India. 20, 6, 423\_428, 1972
9. Arjundas G, Tuberculosis, cranial and spinal, in Tuberculosis of the Nervous System, Ed. by Kapila C. G, Dastur D. K. Singh B. and Tandon p. N. Indian Academy of Medical Sciences. New Delhi. 23\_24. 19.73.
10. Arjundas G, Usefulness of depth electrodes. Studies in epilepsies. In proceedings of National Seminar on Epilepsy. Bangalore. 75-77. 1975.

Editor's note:

The above write up about prof'. Arjundas was taken from the publication of prof. Sunil landya and Prof. S. Kalyanat'antan. Prof'. Arjundas is still quite active both in the academic field and also in practice. when I requested him to complete his biography till date, he readily agreed and sent me the following write up. Mrs. Arjundas was a pillar of strength for him. Both of them entertained even very junior colleagues at their house. I still remember with fondness that they have lavished their kindness to me even when I was a young DM trainee in New. Delhi His son Dr. Deepak has taken up Neurology and is doing exceptionally well in Stroke research and management. Even now prof. Arjundas is the most active worker in any neurological conference organized in Tamil Nadu.

**K. R. Nair**

### **1983 Onwards - Prof. Arjundas**

1983 was a memorable year in more than one way. My peers blessed me with fellowship of Indian Academy of Medical Sciences where I was honoured with a scroll from the illustrious scientist Prof. Menon.

I was allowed to attend this only, for two hours by Dr. Badrinath who had ordered rest and surgery for my detachment of retina, discovered incidentally during a routine check up. I mention this to indicate the excellence of ophthalmic facilities available in Madras.

After uneventful recovery, I refocussed my clinical interest in strokes. I must thank Dr. C.Vaz, then medical director in E. Merck & Co for this. During NSI Meeting in Vizag he casually asked me whether I would be interested to take research work in stroke, funded by the company.

Both of us were sitting in a seaside restaurant for a cup of tea. Since we had no paper, I got series of paper napkins on which I quickly worked out the possible format of study. This formed the basis of an excellent, satisfying and very productive study for 2 years. A double blind study in the setting of Govt. General Hospital I This is something I never believed was possible. For any successful epoch, nature always creates necessary means.

At that time I had an excellent colleague, Dr. Natarajan. V. There were 2 brilliant MD Postgraduates who had to write a thesis for MD course. I had my classmates who were physicians in General hospital, who were willing to surrender to my control all their strokes, admitted to their unit for next 2 years!

A team was put together with Dr. Natarajan, Dr. Rangarajan.(who unfortunately died in his prime of glioma) Dr. Mani, Neurophysiologist, Physiotherapist, speech therapist, Prof. of Biochemistry and Neuro imaging. Every stroke admitted went through a protocol of examination and gamut of assessments at onset, after 4 weeks and again after 8 weeks. The therapist was double blinded to the drug offered by the company for trial but we expanded the project for lot more information.

Two excellent theses, about 30 papers on various aspects of strokes and follow up, came out of this careful study and the material was

presented at Bali at Ocean Asian Congress of Neurology and at other National International congress, with one invited paper on Intracerebral Hematoma - Indian experience in 1989 at the World Congress of Neurology held in Delhi.

After I have been associated with stroke unit until date. On any particular day we have 20 to 25 strokes under our care, one of the largest stroke units at least in Asia, run by Neurologists. My son Deepak has built up this unit with hard work and has rightfully gained recognition in this field in India and abroad.

There are 1.5 to 2 admissions every calendar day. The patients are seen twice a day by two experienced Neurologists. Several innovations have been set up in therapy, rehabilitation and preventive application. Part of this was presented at Bangalore at NSI meetings in honour of Dr. Baldev Singh. We continue to present various aspects and changing ideas of stroke management even now. The present direction is:

- (1) Targeted preventive treatment in patients at risk including carotid artery endarterectomy, angioplasty.
- (2) Community education in risk factors prevention and prophylaxis.
- (3) Experimentation with neuro protective concepts to prolongs therapeutic window for treating penumbra.
- (3) Try out Thrombolysis in acute ischemic stroke.

The mortality of ischemic stroke is down to 3% in IBI and 7% in ICH giving a mean of 5%.

Good function in both limbs has been possible in T5Vo. Functional recovery of leg only in about 15% and poor recovery only in 10%.

It has also been possible to study those with no definite known risk factors (about 16% in this series) with Trans-sophageal echo for silent right to left shunt; vegetations on valves antiphospholipid syndrome and mitochondrial diseases. Further work on homocysteinemia, protein C and S studies, are being installed and I hope in my limited time left, I will see some completeness of study and treatment of this disease which struck down my mother early in her life.

In the meantime, my official retirement from institute as professor on 30th. Sept 1987 went almost unnoticed. I have been going back to institute on 2 days in a week to teach and take part in scientific meeting and have been honoured by Dr. MGR Medical University, with title of Prof. Emeritus. I continue to take interest in clinical meetings in the Institute



and cherish the love and respect of my students who also have retired after me! ! I have continued to be active in delivering orations and taking part in CME programmes and had the recent honour of delivering the 1998 Udayar oration at SRMC Porur in Dept. of Neuro-sciences.

The one person who moulded my personality, stood behind my successful march in my profession, has been my wife Shobha. What I am today is because of her care, love and devotion to take care of growing family. However I did not get a chance to repay her for all she did for me and whole family because unkind death snatched her away on 19th July 1998. Now I find it is far more difficult to live than to die. Among the mental debris after this catastrophe I am looking for pieces to put together some motivation to go on and prevent another disaster and unbearable pain on my children and grand children.