



V. SHANTA

In the 1920s, anyone stricken with cancer in India was at grave risk. One could be misdiagnosed by doctors as having another, less serious ailment. Or even if one were correctly diagnosed, one would be considered “good as dead” by doctors and one’s own relatives, or be regarded as having a disease of the aged “for whom a dose of morphine was all that was needed to help one on the way to eternity.”

Health and development planners gave little importance to the disease. Until the need was pointed out to them, they did not include cancer under “Health” in India’s First Five-Year Plan (1951–56).

Today, the situation has changed. Doctors in the country are aware of the problem. And they know that not only is the disease curable, it is preventable. Today, cancer is a major component of the National Health Plan; anti-cancer drugs are classified as “life-saving” and therefore exempt from customs duty; and all cancer patients can travel free by train or bus to their hospitals or pay only half the rate if they travel by plane. Today, people are told that they should not fear cancer but fear delay in seeking medical attention for it.

All these changes have come to pass because of the efforts of a woman doctor and her doctor-son, and a young and idealistic woman-doctor who joined them in the campaign against cancer that they began in Madras (now Chennai), the capital of the state of Tamil Nadu. The three are Dr. Muthulakshmi Reddy; her son, Dr. Krishnamurthi; and Dr. V. Shanta. Because of them, Madras has the Cancer Institute, a nongovernmental institution established under the auspices of the Women’s Indian Association (WIA) of Madras “to bring to the poorest of the poor the most refined scientific technology and the best patient care possible.”

When the institute opened in 1954, it consisted of a single-story building that housed its outpatient department, an office, the radiotherapy and diagnostic rooms, the operating theater, a small dispensary, a small store, and an eight-bed female ward and four-bed male ward for surgery patients. In the same block were eight huts where patients were housed. These had cement floors, brick walls, and thatch roofs. The staff consisted of three honorary medical officers (meaning, they served without compensation), two auxiliary nurses with no operating theater experience, and an unskilled helper.

Today, the institute is a nine-acre facility, with a 428-bed hospital for cancer patients; a staff of about five hundred, consisting of doctors, nurses and technicians; and state-of-the-art facilities, including those for radiation therapy, chemotherapy, surgery, intraoperative radiation, and 3-D conformal therapy.

The institute has a well-equipped molecular biology laboratory and can develop targeted and monoclonal antibodies. It has strong surgical programs, including brain operations, and multimodal therapy for organ conservation and optimization methods for saving limbs. Its bone marrow and pediatric oncology departments are among the best in India, and its Hereditary Cancer Clinic, which studies the genetic factors related to the disease, is the first in the country. In a survey of hospitals in India, *Outlook* magazine of India ranked the institute as the best in terms of “competence of doctors” and second in all other aspects.

Annually, over 120,000 patients from all over the country pass through the portals of the institute. Sixty percent of them are indigent, with less than 1 percent covered by health insurance. These patients are treated either totally free or at highly subsidized rates.

Because of these achievements, the institute has won national and international recognition as a “center of excellence” in cancer research and treatment.

NONE of these things came easy. From the start and at nearly every turn, the efforts of the institute's three founding doctors were either ignored or rebuffed by bureaucrats in the state as well as in India's union government. But through their boldness and persistence, they overcame all these, with help from more enlightened officials as well as philanthropic individuals and institutions in the country and abroad.

Dr. Muthulakshmi Reddy, who spearheaded the three doctors' campaign, was born to a middle-class family in the very conservative Hindu environment of Pubukottah, one of the princely states of British India. She attended school at a time when it was unheard of for girls to go to school. She was able to enter college only because the wife of the king of the state, an Australian, interceded for her. In college, Reddy had to be separated by a screen from the rest of her class because boys and girls were not supposed to see each other in school. In 1912, she became the first woman medical graduate in the country.

In 1923, Reddy lost her younger sister, Sundaram, to rectal cancer. Sundaram was only twenty-three. Her first symptoms appeared in 1921, but doctors at the time diagnosed and treated her condition only as amoebic dysentery. Because Sundaram was married and living elsewhere, Reddy knew nothing about all these things until 1922. That year, she examined Sundaram for the first time and detected cancer, but it was too late. She stayed by Sundaram's bedside for nearly a year until Sundaram died.

In 1925, Reddy went to London to do postgraduate studies at Royal Marsden Hospital, the first hospital in the world dedicated to cancer treatment and research. There she saw cases of rectal cancer being cured through surgery by Sir Ernest Miles, a pioneer in the treatment of carcinomas. This greatly impressed her because back home no one with cancer was expected to survive. In the United Kingdom, however, both the patient and the doctor were confident of cure and a return to normal life. Reddy vowed to dedicate herself to changing attitudes about cancer back home and to set up a similar hospital in Madras.

In 1926, soon after Reddy returned home, she was nominated to the Madras Legislative Council and shortly thereafter was elected as its vice president, becoming the first woman to be a member of a legislature in India and the first woman in the world to be vice president of a legislature. From that year until 1930, when she resigned following the imprisonment of Mahatma Gandhi, she served in the council and steered into law many acts of social reform dear to her heart. These included the abolition of the iniquitous *Devadasi* system, the Hindu custom which compelled women belonging to a particular caste to be dedicated to the Hindu temples as courtesans and thus to a life of virtual prostitution, the Suppression of the Immoral Traffic in Girls Act, and the raising of the age of consent of girls for marriage.

In 1928, she publicly launched the move for the establishment of a separate cancer hospital in Madras—the first time that such a move was made in India. Neither the government nor the public, however, showed interest in building a cancer hospital. The public knew little of the disease and regarded it as *karma vyathigal*—a disease destined by fate and from which there could be no escape “except through the gates of death.” Even to medical professionals, it was a remote disease they only read about in their textbooks and which they believed was probably rampant in Europe but was surely rare in India.

Given what seemed like utter lack of support for her cause, Reddy did the one thing she could: educate one of her two sons in her ideas and sentiments so he could carry on if she failed. This was how Krishnamurthi, her second son, became a doctor. After he graduated from medical school in 1942, she tried twice to get him into a hospital for training. Both times, she failed, so although she had very little money, she sent him to the United States for further studies in surgery.

When Dr. Krishnamurthi returned to India from the United States, he found a job as officer-in-charge of the recently established Cancer Unit of the Government General Hospital, the teaching hospital of Madras Medical College. Dr. V. Shanta, then a house surgeon completing medical training as an MD at the Women and Children's Hospital of the Government General Hospital, was assigned to him.

DR. Shanta was born on March 11, 1927 in Mylapore, Madras, to an illustrious and upper middle-class family. A granduncle, C. V. Raman, won the Nobel Prize for Physics in 1930. A maternal uncle, Subramanian Chandrasekhar, studied astrophysics at Cambridge and also won the Nobel Prize for Physics in 1983. They were a source of awe and inspiration for the younger generation in the family.

Shanta was the eldest of seven children, but this, she says, did not mean that she bore more responsibilities. Rather, she says with a laugh, she was “more pampered than others.” Her father, Shr. P. Viswanathan, was a lawyer who did not practice his profession but instead worked as a mid-level officer in claims and inspection with Southern Railways. He was a very strict disciplinarian and insisted that his children do a lot of reading, particularly of English literature, and that they “perform very well.”

Shanta’s maternal grandfather lived with them, along with his other sons and daughters and their children, because his wife had died young. He was a senior officer in the Railways, and studied Karnatic music which everyone in the family learned to sing.

The family residence was a large house in a big compound with lots of trees. It had a big library owned by Shanta’s grandfather, containing classics written by, among other authors, Walter Scott, Charles Dickens, and H. G. Wells. The whole family, including the children, ate lunch and afternoon snacks together, during which they had a lot of conversation about what happened in school and, in later years, what was happening in the country.

Shanta’s mother was Bala Parvath who was, according to Shanta, “an extremely patient person.” She treated all her children, nephews and nieces equally. She would have wanted to become a doctor or a nurse but did not get the opportunity for higher studies. Shanta says Bala Parvath taught her English, writing, arithmetic, and Tamil at home, in her first years in elementary school. When Shanta decided to study medicine, her mother was “very, very happy.”

For high school, Shanta went to the National Girls’ High School (now P. S. Sivaswamy Higher Secondary School), which was run by Helen and Catherine Veal, sisters and theosophists from Ireland. Shanta has very good memories of Helen Veal because she was gentle, wore a sari, and identified herself totally with Indians. Although India at that time was under British rule, the national anthem that they sang in school was “Jana-Gana-Mana” (Rabindranath Tagore’s “Thou Art the Ruler of All Minds”), the Indian national anthem, “not anything else,” Shanta recalls.

After finishing high school, Shanta attended Presidency College in Madras for two years in order to qualify for entrance to a professional college. This was an old and distinguished school where her granduncle C. V. Raman and uncle Dr. S. Chandrasekhar studied.

In 1944, at age seventeen and a half, she entered Madras Medical College. Shanta says she decided to pursue medicine because “it carried a lot of aura about it.” Although gentle and quite shy, she was strong-willed and wanted to be a doctor to be independent. She resented the idea of just getting married and sitting at home as many girls did in those days. At the time, women who pursued a higher education studied to become teachers or nurses. Only a few studied to become doctors. Shanta recalls that, of every one hundred students in medical school during her time, only eight or nine were women. And because only a few students went into medicine, medical schools offered “concessional admission” to attract more of them. This meant they could go through medical school for free. Shanta was in the last batch of students that received free medical education, “not because I could not afford it,” she says, “but because I was a woman who wanted to take up medicine.” Later, as more and more students took medicine, medical schools began charging a 50 percent fee. Today they charge a full fee.

When Shanta decided to take up medicine, no one in the family objected because “education was accepted as a norm [in the family].” And there was no pressure for her to marry, whether before she entered medical school or after.

Shanta never married. “They allowed me to do what I liked,” she says. Their only concern was her build. As a girl, she was very small and thin. They were afraid that she would not be able to stand the rigors

of a medical career. But she not only withstood the strain of her studies but also did so well that she was in the top ten of her class. Shanta took her primary medical education at Madras Medical College, a school about an hour away by tram from her home. She specialized in obstetrics and gynecology mainly because that was what female doctors specialized in. “I don’t think I had much counseling or guidance to go by,” she explains. She graduated with a bachelor’s degree in medicine and surgery (MBBS) from Madras Medical College in 1949 and earned her diploma in obstetrics and gynecology (DGO) in 1952.

Her first posting in the Government General Hospital after graduation was to the newly-established Cancer Unit headed by Dr. S. Krishnamurthi. Shanta recalls that while she was training with Krishnamurthi there were many misconceptions about cancer—that it was a fatal disease, that there was no point in keeping cancer patients, that more people tried to live out the disease than have it treated. But, in fact, she saw cancer patients desperately seeking admission to the hospital but could not be admitted because the demand was great and there was corruption as well. People who had money paid to get admitted, while those who had no money had no hope of ever being admitted.

When Shanta and Krishnamurthi tried to control this corruption, their efforts were met with strong resistance. The hospital administration merely said such corruption should not take place. But this declaration was not enough for Shanta. “Something that was not right should not be done,” she says.

At the time, Dr. Reddy had again picked up her campaign to establish a separate cancer hospital. This was in 1949, when India became independent and Reddy was already in her sixties. When Krishnamurthi looked around for someone who could work with him and his mother on her dream, Shanta decided she should be part of it because for her “a lot of things needed to be set right” and “what should be done is not being done.”

Reddy could not set up a hospital by herself, so she got two widely accepted organizations to initiate a Cancer Relief Fund. These organizations were the All India Women’s Conference and the Women’s Indian Association (WIA) of Madras, the oldest and most respected women’s organizations in the state. Reddy was president of both. WIA was founded in 1917 by prominent women theosophists, Annie Besant, Margaret E. Cousins, and Dorothy Jinarajadasa. Reddy was its first Indian member and for many years its secretary and the editor of its journal, *Stri Dharma*. She later became its lifetime president.

The Cancer Relief Fund had two objectives: (1) establish a special hospital for cancer prevention, treatment, and research, and (2) educate people and collect funds for the attainment of these objectives.

The launch of the fund was met with suspicion. The state finance minister at the time insinuated that Reddy was just “trying to find a job for her son.” Neither Reddy nor Krishnamurthi took kindly to this suggestion. The son told the mother that he did not want to stay in India and would instead return to New York where a position was waiting for him. She answered, “No, you’ll not go back. I sent you for training to do this.” He stayed.

Getting support for the fund was difficult. Krishnamurthi writes: “We had to explain to everyone at whose door we knocked, from the education minister of the Tamil Nadu government downwards, what cancer was and justify the need for a cancer center.” It took WIA five years to raise enough money to build the cancer hospital.

Reddy went through a lot of trouble getting a piece of land on which to build the Cancer Institute. More than once, she was told that the land on which she had set her sights was already reserved for other uses. So she used a means available to her: control of the women’s vote. As elections drew near, she hosted a reception during which she told a candidate: “You give me a piece of land. Otherwise, all the women are not going to vote for you at the Congress.” He gave, and she took, the only piece of land that the government said was available—a narrow, three-acre strip of barren land along the eastern bank of the Buckingham Canal in the Adyar district of Madras.

Many years later, when the institute asked the government for additional land on which to build a school for cancer specialists, its requests were repeatedly rejected. The reasons given varied: no land was available, what was available was reserved for other uses, or the institute did not qualify for a land grant. Finally, in 1972, with the help of a sympathetic senior official, the institute was given twenty acres of land in

the Raj Bhavan area. Shortly after the institute started to build on the land, however, government withdrew the donation and ejected the institute from the premises. Sometime later, when a new government had taken over, it gave the land back to the institute.

THE foundation stone for the Cancer Institute (WIA) was laid by Jawaharlal Nehru in 1952. On June 18, 1954, the institute was formally opened.

All kinds of cancer cases were brought to it, cervical, throat, and mouth cancers being the most common. Patients included children and adults aged thirty to eighty. With the training that Shanta and Krishnamurthi had—she in gynecology and he in general surgery, radiotherapy, and pathology—they were able to complement each other at the institute. He taught her what he knew so that both of them could do sections, biopsies, radiotherapy, and surgery. “Between the two of us,” Shanta says, “we could take care of everything.” This meant working not just from dawn to dusk, but for as long as eighteen hours a day.

By this time, Krishnamurthi was serving as scientific director and surgeon of the institute. Dr. P. Arunachalam, a distinguished physician and retired director of Madras Medical Services, was the director of the institute and mainly handled administration. Shanta became the institute’s resident medical officer after completing her MD at Government General Hospital in 1955. For this post, the institute gave her two hundred rupees a month (US\$5.00 in 2007 terms). She picked the job over the post of Assistant Surgeon in the Women & Children’s Hospital in Madras to which she had been selected by the Madras Public Service Commission. She took up residence in the institute’s premises on April 13, 1955, and has remained there ever since.

Shanta is not sure what made her decide to stay and work with the institute. But fifty years after she did, she ventures this answer: “It was probably a stubborn refusal to accept defeat, probably the faith that the patients had in us, probably the belief that we were doing God’s work and that God would not let us down!” That decision was a turning point for the institute because Krishnamurthi would keep telling her later, “Probably your taking the job made the institute possible.” He is convinced that it would have been difficult for just one person to put the work of the institute together.

Shanta lived at the institute in single-room quarters and shouldered the patient care night and day. She would do the rounds of the patients at the institute, dress them, give them the necessary injections, write their case records, and fill up the investigation slips. Krishnamurthi describes the rest of Shanta’s day: “She would then clean up the operating theater, pack the sterilizing bins, and start the sterilization. She would personally supervise the sterilization as we had no trained theater personnel and no big sterilizing machine.”

“We had to operate either early in the morning or late in the evening, whenever an anesthetist working in the other hospitals in the city could spare the time. We could not pay the anesthetist well and, therefore, could not be choosers.”

These anesthetist-friends never came at the appointed time, so quite often they could begin operating only at 8 p.m. or 9 p.m. and would end at past midnight. At these operations, Shanta would serve both as nurse and surgical assistant. She would group and cross-match the blood, start the blood transfusion, assist the anesthetist, wash up and lay the table, drape the patient, and assist at the operation. After the operation, Krishnamurthi would go home, while she would stay to look after the patient’s postoperative needs.

Krishnamurthi says they carried out radiation therapy in the mornings and histopathological work in the afternoons. “We did the biopsy, carried the tissues to the pathology shed, and put them through the usual processing,” he explains. “The next day we cut the sections ourselves, stained them, and reported them, carried the reports to the wards where we read them again, this time as clinicians.”

Looking back at all these experiences, Krishnamurthi writes, “We had a hard time, no doubt, but the excitement of a new world was there. Moreover, we were doing things in the way we felt they should be done, scientifically and in a spirit of inquiry.”

Indeed, even while doing clinical work, Shanta and Krishnamurthi did research as well. They began with a study of factors that produce the common cancers, such as those that attack the mouth and the cervix. In India, about one million people develop cancer every year, half from tobacco use that affect the mouth, throat, voice box, esophagus, and lungs. In the state of Madras, Krishnamurthi calculates that there are about one thousand cases of cancer per million population per year.

For this study, the two doctors carefully documented and analyzed cases. In particular, they looked at the socioeconomic status of patients, their ages, personal habits, and lifestyle. They found, for instance, that specific details on how a patient used tobacco could provide correlates on whether and where cancer will likely occur. They also found that 50 percent of all cancer in men is tobacco-related. With regard to cervical cancer, they found that a major factor is long-term chronic infection owing to lack of personal hygiene during menstruation and after childbirth.

The importance given by the institute to research is indicated by the fact that over the years, Shanta has published nearly a hundred research papers in national and international journals.

A problem that hounded the three doctors was finance. Krishnamurthi explains: “The number of patients was rapidly increasing. Within a few months, the number of patients had gone up to fifty though bed capacity remained at twelve. Patients occupied every available room and the outpatient clinic was conducted in the corridors.” Where were they to find the money to provide the extra space? More important, how were they going to meet the expense of maintaining the increasing number of poor patients? When the institute started, it did not charge any fees. Costs were met by funds raised every month from local donors and later from the state and the union governments.

What appeared to be the answer came in July 1955 when the institute heard that the government of Madras was considering fund allocations for the Second Five-Year Plan. The institute applied for a grant for the construction of buildings and purchase of equipment. By October that year, it was informed that the government had allocated for the institute five hundred thousand rupees (about US\$12,500), with one hundred thousand rupees (US\$2,500) to be released each year, beginning in 1956.

“We were jubilant and immediately planned an additional ward of twenty-four beds,” Krishnamurthi writes. In December 1955, work on the ward began, but in January 1956, a government order came, holding the first release in abeyance. “The ward was half-built, the contractors were proceeding with the work, but the financial ground was cut away from under our feet at the stroke of somebody’s pen,” says Krishnamurthi ruefully.

The institute immediately made an appeal, begging that at least the first installment of one hundred thousand rupees (US\$2,500) not be withheld so that the ward could be completed. In reply, the government asked the institute to submit all of its accounts for the past five years. It complied, only to be sent this query: “State whether you are a nursing home or a public hospital.”

“We were indignant,” Krishnamurthi recalls. “We were starving for funds and here was a question that seemed to presume that we were wallowing in luxury!” Krishnamurthi and his colleagues were desperate because the contractors had completed the ward and were pressing for payment. In the meantime, the correspondence between the government and the institute dragged. All the letters between them traveled a circuitous route both ways, passing through the Director of Medical Services, the Secretary of Education and Public Health, and Finance. One complete circuit normally took three months at best, and each serial query meant a delay that was reckoned in multiples of three months.

In September 1956, a director of the institute’s contracting company called Krishnamurthi and told him rudely when the doctor pleaded for just a month more, that his company “did not do business to maintain the Cancer Institute.” That night, the doctor met with his mother and she decided she would appeal directly to Shri K. Kamaraj, then chief minister of Madras, who was known to be a very strong and decisive man with a keen sense of justice.

Mother and son, together with Dr. P. Arunachalam, called on the chief minister at his residence. Because he had a high regard for Reddy, he received them immediately. Reddy asked her son to explain their

case and the chief minister told him to be brief. After Krishnamurthi told the story, the chief minister said, “You may be right or you may be wrong in your conclusions. We shall see.” Then he called his personal clerk, “Note down ‘Cancer Institute’ in the diary.” This happened at 9:30 a.m. At 4 p.m. on the same day, the order releasing the grant arrived at the institute by special messenger.

Shortly after that episode, other blessings would come the institute’s way. At a time when the institute was hard-pressed for accommodations (its bed strength by then was only fifty, but its in-patients numbered seventy-five), a man walked into the institute office one evening. He asked Shanta to take him around. At the end of his short tour, he suddenly offered to pay for a new ward in memory of his parents. “I have watched the institution grow,” he said, “I would like to have a share in it.” The man was Shri Rebala Lakshmi Narasa Reddy of Nellore. On December 24 of that year, Shri K. Kamaraj laid the foundation stone for the forty-eight-bed Rebala block.

Then, in November 1956, Krishnamurthi received a call from a man with an American accent. “You have a cancer center at Madras, I hear,” the man said, “I would like to call on you.” He said he was a representative of the Atomic Energy of Canada Limited (AECL), maker of the Cobalt-60 Teletherapy radiation unit used in cancer treatment, and he was going around South Asia to study the need for such units in the region. He had been to all the cancer and major radiotherapy centers in the region and was stopping over at Madras en route home.

“I tried to dissuade him from coming,” Krishnamurthi recalls, “for our institute was a sorry spectacle to one accustomed to the magnificent edifices of the North American continent—almost a cottage with meager equipment, overflowing with patients.” But the man insisted on coming anyway and spent almost the whole day with them. He saw how they worked and the difficulties they were working under. But he also saw their uncommon and, in Shanta’s words, “very academic approach” to managing the institute and treating their patients.

He kept telling them that if one center in South Asia deserved a Cobalt-60 unit, it was the Cancer Institute. Krishnamurthi agreed but asked how the institute could pay for the unit when all the money it had in the bank was only eight thousand rupees (US\$200)—just enough to cover the institute’s expenses for a month. A Cobalt-60 (Co-60) unit at that time cost about four hundred thousand rupees (US\$10,000). He also reminded the visitor that the big Tata Memorial Hospital in Bombay and the Chittaranjan Cancer Hospital in Calcutta, both state-owned institutions, were still trying but had not succeeded in getting the same units for themselves under the Colombo Plan. What chance then did an unofficial institution like the Cancer Institute have?

The visitor later invited them for dinner and they did not hear from him again until Christmas eve that year when they were working late. That evening, a telegram came from W. J. Green of AECL. It read, “The Atomic Energy is pleased to donate a Co-60 unit to the Cancer Institute. Would you accept?”

“We were overwhelmed,” Shanta recalls. The offer was so unexpected that they did not know at first what to say. Besides, the unit was offered as a partial donation, meaning, the institute had to pay for part of its cost. But they did manage to answer, “Accept!”

Reddy appealed to three top officials—Union Health Minister Rajakumari Amrit Kaur, Union Health Secretary V. K. B. Pillai, and Health Services Director-General C. K. Lakshmanan—for a grant of the needed money. She immediately got it. In this way the humble Cancer Institute got the first Cobalt-60 unit in all of South Asia. Shanta describes it as “God’s own gift.”

The donation of the unit, however, made government curious—but for a different reason. Shanta says, “They wanted to know, ‘What is this hospital in huts, taking a Cobalt unit when we’ve not been able to get it!’” A government team visited the institute, saw its small hospital, and could not understand why it was given the Cobalt unit.

“But the donation did open avenues for support for the institute,” Shanta says. In February 1957, the institute was given a complex x-ray diagnostic outfit by the Trade Unions of the German Democratic Republic. Thereafter, it received other donations of equipment, including, many years later, two linear accelerators—

high-energy x-ray machines for cancer therapy. The first linear accelerator came in 1974 from the Danish International Development Agency (DANIDA), the second in 1980 from the Netherlands-India Friendship Society. Krishnamurthi writes that getting the first linear accelerator—the first to be installed in India—took “thirteen years of unremitting efforts and many disappointments” with suspicious or even hostile officials in the state bureaucracy.

WHEN the first Co-60 unit from Canada arrived, there was no one at the institute who was trained in its use, not even Krishnamurthi though he had studied radiology and pathology. He did these studies after Dr. Arthur Purdy Stout, a pathologist in New York with whom he did cancer training, told him, “You are going back to India where there are no specialists. You have no use studying only surgery. You must study radiotherapy as well because you have to do both.” Stout also suggested that Krishnamurthi study pathology “and everything else” before returning home because “you cannot have specialists in all the fields when you start your work.” Stout had a soft spot for Indians from Madras because his father had stayed there and he himself started life as a missionary there.

Back in India, Krishnamurthi told Shanta that she, too, should learn radiotherapy. Thus, in 1957, Shanta went to Canada to study radiotherapy for gynecological cancer at the Princess Margaret Hospital of the Toronto General Hospital. For such training, she had to get a fellowship because the institute did not have money for her travel and expenses. The Ontario Cancer Foundation gave her one even though it gave fellowships only to people from Ontario and not anyone else, not even those from other places in Canada. The trip to Canada was Shanta’s first outside India. “I was terribly homesick all the time,” she says. It was also her first time to get on an airplane.

In 1958, Shanta returned to India from Canada. By then, Krishnamurthi had taken over as institute director from P. Arunachalam who was ailing and had retired. Reddy, too, was aging. She passed away on July 22, 1968, at the institute.

Shanta served as associate director and scientific director of the institute from 1959 to 1980, when she took over as director after Krishnamurthi stepped down.

With the Co-60 unit, the institute developed a new method of treating advanced cancers. Although radiation from the unit did not eliminate tumors completely, it reduced their size significantly, so Shanta and Krishnamurthi could operate on the remaining tumor. They found that the operation was successful in nearly 50 percent of all cases of mouth, throat, and breast cancers. With radiation alone, a three-year survival rate came up to only 19 percent. With added surgery, five-year survival came up to 50 percent.

Recognized as “innovative” in foreign medical circles, this multimodal approach enabled the institute to achieve its first target: to demonstrate to people in India that cancers prevalent in the region “were very curable if they were ‘early,’ and not so badly even if they were ‘late.’” Today, multimodal treatment of cancer is an accepted state-of-the-art approach the world over.

After Shanta and Krishnamurthi began using the Co-60 unit, the institute was flooded with patients from all over India, Malaysia, Singapore, Ceylon, and Nepal. Its bed strength continued at fifty but patient demand passed the one hundred mark. Being the only center with the Co-60 unit, the institute could not refuse patients who needed the therapy but had to ask them for payment because demand for the institute’s services was growing and it did not have much money.

Shanta recalls, “In the beginning, nobody knew us. No paying patient would come.” Those who had money all went abroad, to the United Kingdom or the United States where there were more facilities. But as the institute grew in reputation, people started coming in. “We realized it would be wiser to start charging patients, even in a small way,” Shanta adds.

The two doctors, however, were unnerved because most of the institute's patients were so poor, they could not even afford to buy their own meals. "It seemed to us that to decline admission to the poor and the needy was a gross betrayal of the very principle of our existence," Krishnamurthi says. So the institute took what appeared to be the only course: propose to government that it take over the institute.

The government of Madras said it would consider doing so, but on one condition: the institute would be integrated into the radiology section of the Government General Hospital. The institute's leadership unanimously opposed the proposal. Krishnamurthi says of it, "We did not struggle over three decades, amidst a hundred heartbreaks and adverse circumstances, to create a separate cancer hospital, only for it to finally and ignominiously disappear as part of a radiological wing of a general hospital."

In the end, the Madras government decided it would not take over the institute but instead subsidize the institute's hospital section, and the government of India would subsidize its research section. This did happen although from time to time these subsidies were released with some difficulty, even withheld, by some bureaucrats in the union and state governments.

For example, a new Director of Medical Services once ruled that an amount originally allocated for the institute was "not a government commitment and that the institute should specifically apply each time for any new building it desired to build or any equipment it wanted to purchase, and nothing new should be undertaken unless specific permission was granted." The same official said the institute had been "lavish" by having the operating theater airconditioned and by buying an electrocardiograph unit. Never mind the recommendation of international health authorities that, in the interest of sterility and patient comfort in the tropics, the operating area should be airconditioned.

Reddy replied, saying that the airconditioning unit in the operating area was a gift from Volkart Trust. She also said the institute would comply with the ruling on the need to make an application for every new building or equipment. This, however, did not ease the difficulties the institute had and often, Reddy had to seek the intercession of higher-level officials in the state or in the union government.

THE difficulties the institute had with state bureaucracy can be illustrated by some cases. By 1959, the bed strength of the institute had grown to 102, but its patient load was over 140. The lone Co-60 unit was working round the clock, yet there were always twenty to twenty-five patients waiting for treatment. And the unit's Canadian engineer had reported that the unit was "showing in one year the wear and tear of four." What was the institute to do if that one unit broke down?

The institute applied for a second unit under the Colombo Plan but was told that the first units available under the Plan had already been committed to Vellore, Bombay, and Calcutta. As the influx of patients kept rising, Krishnamurthi and Shanta thought of writing John Wilson McConnell, Canadian businessman and philanthropist who had donated the first Co-60 unit to Britain, appealing to him for the gift of a unit. They thought the worst that could happen would be that McConnell would say no. Their letter described in detail how the institute began, its struggles, the patients and their poverty, and the long waiting list at the institute's Co-60.

Within a month they received McConnell's reply: he would give the institute a unit but they must obtain clearance from the government of India. This made the two doctors nervous because the gift could be quashed—or diverted. Then came to them this sudden inspiration: why not ask McConnell to write Prime Minister Jawaharlal Nehru? They had faith in the prime minister's sense of justice and equity.

McConnell did as the doctors suggested. In a month's time, he wrote the institute again, saying that the prime minister had expressed his pleasure and happiness at McConnell's gift to the institute, that a Picker C. 500 unit costing US\$81,500 was on its way, and that this unit would arrive in Madras by January 1961.

But another problem came up. India's customs would not exempt the Picker C. 500 unit from duty, which amounted to sixty thousand rupees (US\$1,500), an amount the institute did not have. Government could not be expected to help, such a large amount could not be collected on short notice, and an application to the government for a grant could lead nowhere. Again, Shanta and Krishnamurthi thought, only one man—Nehru—could and would act at such an emergency “with justice and vision.” They wrote an appeal to him but he sent no reply. Within five days, however, the institute received a copy of an order addressed to all collectors of customs in India, instructing them to clear the institute's Picker C. 500 unit of duty and to release the equipment within twenty-four hours of its arrival.

In October 1961, the unit and the McConnell Radiation Wing which housed it at the institute were declared open by Nehru. And in 1962, when Krishnamurthi visited Canada, McConnell gifted the institute with its third Co-60 unit, the Eldorado-6, which was installed in January 1964.

The construction of a children's wing at the hospital also proved to be a struggle. For two years, the institute had pleaded with the governments of Madras and India for donations for the construction of a children's wing because the number of children at the institute had grown. There were always about ten or twelve of them, most below age ten, who were suffering from leukemia or lymphoma.

At first, these children were mixed with the adult patients. As a result, they were not spared from seeing the suffering and the disfigured faces of adult patients stricken by tumors, bearing the foul smell of women patients with cervical cancer, and hearing the talk of adult patients. “I felt [the children] should not be there,” Shanta says. “[They] should not know what they are suffering from. Of course they don't know. But when they see and when they are mixed with older patients, they are likely to be emotionally disturbed.”

Krishnamurthi says he and Shanta acutely felt the need to isolate these children but could not convince anyone of this need, not until Shri Pandit Govind Vallabh Pant, the union home minister, came to open a new block at the institute. The minister saw the problem and said in his speech, “I would suggest that the government of India and the government of Madras each make a contribution of fifteen thousand rupees (US\$375) so that thirty thousand rupees (US\$750) may be donated by the two governments and ten thousand rupees (US\$250) may be raised from the public. The amount is not very much and it should be possible for us to see that the children's wing is added soon.” By January 1960, the children's wing did become a reality. Completely isolated from the main hospital, it was situated in a garden that had a playground of its own, a nursery, and a place for indoor games.

Access to vital drugs was another problem. New drugs for leukemia came of age after 1975, but getting these drugs in India was difficult because they had to be imported. When the institute placed its first orders for these new drugs from the United States, it found out that Indian customs slapped a nearly 100 percent duty on the drugs—a cost no poor Indian could afford because he would have to pay virtually two times more for them than the richer American. The institute's doctors then worked to have these drugs declared as “life-saving” and therefore exempt from customs duties. But they knew that getting approval for this would not be easy. Whatever letters and memoranda they would send the government could land nowhere.

Then, one day, while wondering what to do, Shanta read in the papers that Shri Chavan, the union finance minister, was arriving in Madras the following afternoon. She immediately called Shri C. Subramaniam, union minister for industrial development in Delhi, and begged him to request Shri Chavan to spare at least thirty minutes for the institute during his visit. Subramaniam did not only speak with Shri Chavan but also called back Shanta, instructing her to meet Shri Chavan at the airport.

For the minister's visit, Shanta organized a welcome delegation of bright-looking children who had suffered from malignant lymphomas and leukemias but had now been given a new lease on life because of the institute. The cheerful welcome so moved the minister that he quickly acceded to the request for the duty-free import of anti-cancer drugs. The exemption from duties was given in 1979.

SHANTA says that as early as 1962 she and Krishnamurthi felt that the best of treatments for cancer would not be able to achieve anything really substantial unless doctors got what the World Health Organization (WHO) calls the “early disease.” To do this, she says, they “could not just sit at the clinic” but had to go out into the field and seek the disease in the community.

Shanta organized and led a series of surveys of cancer, starting with one at a hospital in Chingleput area, about fifty-six kilometers south-southwest of Madras. There they saw all the people who came. Shanta paid particular attention to the women, examining almost eight thousand of them for gynecologic cancer, particularly cancer of the breast. The doctors did detect cancer among women who were asymptomatic for cancer, meaning, these women did not come to the hospital because they felt symptoms of cancer but because they were suffering from other ailments like diarrhea, dysentery, or fever.

This finding excited Shanta because the survey showed just the reverse of what they found in the institute hospital. There, from 75 percent to 80 percent of cancers were late cancers; only about 20-25 percent were early. At Chingleput, 80 percent of the cases were early.

Shanta expanded the research by extending it to other places with the help of the World Health Organization and the Norwegian Agency for Development Cooperation. The findings from these research efforts provided the basis for the institute’s emphasis on preventive oncology, which has two components: prevention and early detection of cancer. Its preventive oncology clinic works with nongovernmental organizations and government hospitals in conducting cancer screening camps and Pap smear tests in various districts. And its research unit is relentlessly working to increase not only the survival rate of cancer patients but, more importantly, to prevent the occurrence of the disease. Shanta says, “From saving one out of three patients, we are now aiming at two out of three patients.” But she adds that this is possible only when patients seek and receive medical assistance early.

In treating cancer, the institute practices balanced treatment and supportive care, with special emphasis on sensitive support. It seeks to be sensitive to patients’ emotional needs because many cancer patients, most of them poor and vulnerable, suffer from depression and in some cases have suicidal tendencies. For this, the institute set up a specialized support group. Named Sanctuary, this group plays a crucial role in the patients’ recovery. Over the last ten years, its ten volunteers have worked with patients and their families.

Ranga Kumar, who has been with the group since its formation, says, “It is a protracted journey for the patients and their families—confusion, disbelief, grief, and anger. Only then begins the treatment, which is also a long-drawn-out process—chemotherapy, radiation, surgery, and medicines.” Patients need good listeners, he adds. Telling them not to worry because everything is all right is lethal “because the patients know, as much as we do, that this is not true. Saying this only closes all communication channels to the patients.”

Three cured patients are now part of Sanctuary. They and the volunteers meet almost everyone in the outpatient department and visit the wards every day. They organize educational activities, do group therapy, and offer individual counseling. Gita Das, a cancer survivor who was in the hospital for over a year, has this to say: “More than the treatment, it was the affection, comforting words and the sensitivity shown by the institute’s staff that gave me courage and saw me through the stressful and anxious period.”

Sanctuary does work with children affected by cancer. It ensures that children are not traumatized by the disease. At any given time, the institute has forty such children, who are away from their families, schools, and friends. Sanctuary identifies these children’s talents and conducts workshops in music, mime, science, acting and writing, and arts and crafts. Sanctuary also does outreach in schools and colleges, educating students on the dangers of tobacco use and teaching them to identify symptoms, especially of breast cancer.

According to estimates, curbing tobacco use can reduce the incidence of oral cancer among all forms of cancer from 29 percent to 4 percent. To help get this message through, the institute has set up a Tobacco Cessation Clinic which seeks to help people, particularly youngsters, get rid of the tobacco habit. Many of this clinic’s beneficiaries have joined hands to form an antitobacco association. Prominent film artists have helped in creating awareness about cancer and dispelling common myths about it. One prolific producer even

promised that none of his films would show an artist smoking. Because of the institute's antitobacco campaign, smoking in Tamil Nadu today is prohibited in all public conveyances, public places, advertisements, and films; the stocking of tobacco in shops is restricted; and the sale of cigarettes to minors is a penal offence. Tobacco Cessation Clinics are now found all over the country.

BETWEEN 1970 and 1985, tremendous progress was made internationally in the understanding of cancer—its genesis, the factors that promote its spread, the need for treatment based on the needs of the patient.

A major contribution of the institute to cancer medicine in India is the adoption of oncology as a medical specialty. Shanta recalls that, early on, doctors treated cancer as just a cancer—a single disease. “There was no integrated understanding of the process of cancer as an extremely difficult, extremely heterogeneous biologic phenomenon,” she explains. “It is like life itself: if we do not understand life, it will be difficult to understand cancer.”

Shanta was responsible for the creation of a separate Medical Oncology Division at the institute in 1970, the first of its kind in the country. Then, in 1971 Shanta and Krishnamurthi broached to the Medical Council of India the idea of setting up a specialty in cancer medicine. At first, members of the Council would not hear of it. “There are so many specialties,” they said. “You’re overloading the medical curriculum.” But Shanta was convinced the specialty was necessary because there were so many advances in cancer medicine. Finally, after a lobbying that lasted for almost fifteen years, the Council agreed in 1984 to accept oncology as a specialty. It drew up the curriculum with suggestions from the institute. In the same year, the first specialty course was offered at the institute’s Dr. Muthulakshmi Reddy College of Oncological Sciences—a name that Krishnamurthi said his self-effacing mother would not have wanted. Established in 1984, the college is the first in the country to offer postgraduate degrees in oncology.

Participants in the speciality program today are fairly senior, being consultants or specialists themselves with MD or MS degrees. They come from all over the country and are provided by the institute with a small stipend and housing in its hostel. The training lasted for two years at first, but this was raised to three when the institute found that two years was not enough. The college faculty includes Shanta, Krishnamurthi, and doctors from the institute’s radiotherapy, medical oncology, diagnosis, biochemistry, pathology and immunology departments.

About 150 doctors have gone through the college. Shanta says they are “all over now, developing oncology in other institutions.” About 15 percent have gone abroad, and only seven or eight have stayed at the institute. Shanta says she would very much like ten or twelve to stay with the institute to meet the increasing demand for its services.

Despite the difficulties it faced, the institute has chalked up a remarkable record. In India, it has many firsts to its credit: a nuclear medical oncology department in 1956, a pediatric oncology department in 1960, mammography to diagnose occult breast tumors in 1965, a linear accelerator in 1976, and a hereditary cancer clinic in 2002. It pioneered in combination therapies for oral cancer with radiation, surgery, chemical sensitizers and cytotoxic drugs, raising the cure rate from 19 percent to 60 percent. It is the first in the country to offer hyperbaric oxygen therapy (1978), hyperthermia (1984), endoscopic laser surgery (1985), and intra-operative electron therapy (1992). The institute designed and fabricated a fully indigenous Brachytherapy unit for cancer treatment in 1995.

Despite its growth as a comprehensive cancer center, the Cancer Institute (WIA) has not lost sight of its social mission. While treating a patient, the institute’s basic concern is not whether the patient can pay for it, but whether the patient needs the treatment. Cancer treatment often takes a long time and is expensive. But at the institute, about 20 percent of patients are not only treated for free but also provided free accommodation

and food during the treatment period. About half are treated at highly subsidized rates. On the average, it costs about six hundred thousand rupees (US\$15,000) to treat a patient.

To help meet these costs, the institute has launched a novel fund-raising campaign. Named “Iruvadhu varai iruvadhu,” or “20 till 20,” it seeks to collect twenty rupees (US\$0.50) from anyone who can afford it, to raise two hundred million rupees (US\$5,000,000). Shanta says of this campaign: “This is not just about collecting money, it is a way of creating awareness and generating hope and positive action among people about cancer.”

Delli Rao, a patient with leukemia since 1987, says the institute spent from four hundred thousand to five hundred thousand rupees (US\$10,000 to US\$12,500) on his treatment. He says, “I have been put on the danger list thirty-six times and I have had fifty-six blood transfusions since 1987–88.” Because he earned only six hundred rupees (US\$15) a month working for a garment exporting firm, he would not have been able to afford the treatment. “I owe my life to Dr. Shanta,” he says.

To this Shanta answers: “When the sick approach the gates of the institute, weak in body and spirit and full of fear, there is only one response. You have to become part of them.”

DR. V. Shanta served as the institute’s director from 1980 until 1997, when she turned seventy. Thereafter, she became its honorary executive chairperson. Krishnamurthi continues to serve as director emeritus and adviser in research and development.

For over fifty years, Shanta has played a pivotal role in building one of the best cancer hospitals in Asia and a model of civic initiative and public service. For her achievements, she has received numerous honors and awards and citations, including the Padma Shri award (1986) and recognition from the International Network for Cancer Treatment and Research (INCTR) in Belgium for “Outstanding Work in a Country with Limited Resources.”

Seventy-eight-year-old Shanta still sees patients, still performs surgery, and is still on call twenty-four hours a day. She continues to live and work out of a spartan office and a small dwelling unit in the institute. Her greatest satisfaction comes from her work. She says, “Every obstacle I have overcome, every patient I have cured, every child I have treated who had grown, got married and come back to see me with his or her children have made my whole life memorable.”

Vicente G. Tirol

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