

Indian Medical Institutions

The Tata Memorial Centre, Bombay

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In 1930, on learning that his wife Lady Meherbai had leukaemia, Sir Dorabji Tata sent her to England for treatment. He realized, however, that very few Indians could afford the expense that the journey and treatment for this disease entailed. He decided, therefore, that he would help set up a hospital exclusively for the diagnosis and treatment of cancer patients in India. Unfortunately, Sir Dorabji passed away in 1932 while the planning of the hospital was in its early stages. The Tata Memorial Hospital (TMH) was then commissioned with financial assistance from the Sir Dorab Tata Trust.¹ That this hospital recently celebrated its Golden Jubilee (1941–91) and registered over 35 000 patients in 1993 (compared to 1609 patients in 1941) is eloquent proof that Sir Dorab succeeded in achieving his dream. Of the innumerable contributions that the house of Tatas has made to this nation and its people, the TMH must surely rank amongst the most important.

HISTORY

Cancer centres abroad including the renowned Memorial Hospital, New York assisted the doctors in the TMH in its early years. In fact, even today, the two institutes share a close interaction. The Sir Dorab Tata Trust managed the hospital from 1941 to 1957, when the Ministry of Health took over. In 1962, the TMH was shifted to the governance of the Directorate of Atomic Energy, Government of India as a grants-in-aid institution. The Indian Cancer Research Centre (ICRC) was set up under the guidance of Dr V.R. Khanolkar in 1952 as a sister institute devoted to basic research on cancer. In 1966, the Tata Memorial Centre (TMC) was established with the amalgamation of the TMH and the Cancer Research Institute (CRI), as the ICRC is now called. The Radiation Medicine Centre, a division of the Bhabha Atomic Research Centre, devoted exclusively to the medical aspects of radioisotope imaging, diagnosis and treatment is also housed in the same campus.

As is typical of Bombay, with its inflated real estate prices, all available land had been used up for buildings, with only minimal space being devoted to gardens. The buildings that actually comprise the TMC are the original hospital building (1941), the CRI (1953), the Annexe (1978) and two recent additions—the Golden Jubilee Block (1991) and the Service Block (1992). Accommodation for the nursing staff and the resident doctors are provided in these buildings. Residential quarters for the consultant and non-medical staff are outside

the campus. The motto of the TMC is 'Service, Education, Research'.

SERVICE

As the number of patients visiting the hospital has risen over the years, the bed strength for inpatients has been increased periodically from 80 in 1941 to 375 in 1993, making it one of the largest referral cancer centres in Asia. It is the largest tertiary cancer care facility in this country and provides assistance to regional cancer centres elsewhere. Approximately 60% of the new patients seen every year have cancer. Although the hospital, as a rule admits and treats cancer patients only, it is not uncommon for non-cancer patients who pose diagnostic or therapeutic problems elsewhere to be referred to this hospital for management.

In 1991, about 22% of the patients were from Bombay, 32% from other parts of Maharashtra while most of the others were from the rest of the country.² Patients from Southeast Asia, Africa and the Middle East often make use of the services of this institute. The staff and advanced technology of the TMH have helped myriads of patients over the years.

The hospital medical staff consists of about 200 doctors, half of whom are consultants. The nursing staff numbers about 300 and there are about 200 non-medical scientific officers. Apart from the outpatient and inpatient departments, the major departments in the hospital include those concerned with diagnosis and therapy as well as social welfare and maintenance of medical records. The patient services include rehabilitation departments such as physiotherapy, occupational therapy, an ACT (after completion of therapy) clinic, dental care, prosthetics, stoma care and speech therapy clinics for those who have undergone laryngectomy. 'Joint Clinics' where a team consisting of physicians, surgeons and pathologists sit together and discuss individual patient strategies are a special feature. A recently introduced service of outpatient frozen sections on biopsies has also helped save valuable patient time and money. The TMH was among the first institutes in India to start a surgical critical care unit (in 1978), and a division of laboratory medicine which serves as an interface between clinical and laboratory science. It has the newer technologies including mammography machines, linear accelerators, flow cytometers and laser surgery. In 1983, the TMH became the first institute in India to carry out a successful bone marrow transplant. Plans are afoot currently to start a platelet and bone marrow donor registry.

The prohibitive expense of living in Bombay for long periods often leads to a loss of patient compliance and follow

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FIG 1. The Tata Memorial Hospital, main building

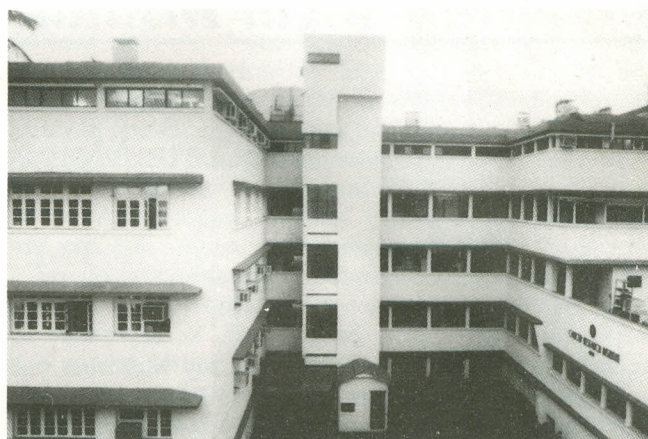


FIG 2. The Cancer Research Institute

up. In order to circumvent this problem, the Dr Ernest Borges Memorial Home was set up in 1990. Patients as well as relatives are provided board and lodging here at minimal cost.

EDUCATION

The TMH has postgraduate training programmes in various disciplines which now include surgery, radiology, pathology, cytology, radiotherapy, anaesthesia, biochemistry, medical oncology, gastroenterology, transfusion medicine and biophysics. The CRI offers doctorates in different aspects of the life sciences. Trainees and observers are also allowed to work and gain experience in the various departments. For the use of the students and staff, the libraries of the TMH and CRI together subscribe to over 210 journals and have about 10 000 books, most of which are devoted to oncology. In 1987, the library was the first in the country to computerize its services. Free on-line literature searches are available not only to members of the library but also to students from other institutes. Further, the Professional Educational Division has published a number of books on cancer diagnosis and treatment.

Journal clubs and clinical meetings are held regularly by the various departments and are well attended. The TMC also regularly organizes seminars and workshops at the city, state and national levels. Lectures by visiting faculty from elsewhere in India as well as abroad are a common feature. The TMC has been largely responsible for the decision of the International Union Against Cancer to hold its quadrennial conference in New Delhi from 30 October to 5 November 1994.

The hospital regularly sends its staff to leading cancer hospitals abroad to keep up with the latest advances. It also offers 6 month to 1 year training programmes in different fields of oncology to Indians who will be able to make use of this experience in their own institutes.

RESEARCH

Clinical research trials are carried out in the TMH while applied and basic research are done in the laboratories of the CRI. A large number of projects are, of course, carried out in collaboration. Emphasis is laid, in both institutes, on studying the cancers common in India, i.e. head and neck

mucosal cancers, lymphomas and cancers of the uterine cervix and breast. Prognostic factors as well as treatment protocols have been established or modified for our population on the basis of clinical and pathological studies. Most of the research in the CRI has been on cancer and includes work on 'lifestyle' cancers, molecular biology, cytogenetics, immunology and endocrinology. Carcinogenesis, electron microscopy, biochemistry and drug development from indigenous plants are the other areas of activity. The institute also supports or has supported non-cancer research that is of relevance to India, viz. the development of the leprosy vaccine, cultivation of Indian isolates of the human immunodeficiency virus, neurolathyrism and Kyasanur forest disease. Some of the pioneering work on glucose-6-phosphate dehydrogenase deficiency and Rh typing in populations was done at the CRI in its early years. Some of these projects have been in collaboration with institutions abroad including the National Institutes of Health, USA. Epidemiological studies are done in the TMC and a National Cancer Registry is maintained.

Much of this research is published in journals, both Indian as well as foreign. The TMC ranks fourth in the publications list of Indian institutes with an average of 69 citations per year for the period 1980-88.³ Although the TMC does not publish its own journal, a number of its staff members are on the editorial boards of others.

PEOPLE WHO HAVE SHAPED THE INSTITUTION

Since its inception, the TMC has been fortunate in getting the services of far-sighted and talented individuals. The Superintendents or Directors of the Institutes have included Drs J.C. Paymaster, Ernest Borges, Dorab Jussawala, P.B. Desai and R.S. Rao. Dr V. R. Khanolkar, a pathologist was a great visionary, who shaped the ICRC and is the father of cancer research in India. Other people of repute have been Drs M.V. Sirsat, C.V. Bapat, Kamal Randive and Darab Dastur. Dr M.G. Deo is the current director of the CRI.

PROJECTS

Two of the projects associated with the TMH that deserve special mention are the Barsi project and the Indian Cancer Society.



FIG 3. Emblem of the Tata Memorial Centre

Barsi project

Most of India lives in its villages, and as many as 45% of the patients at the TMH are from rural areas. The distances and expense, often result in people presenting to hospital in advanced stages of cancer. To circumvent this problem, the TMC has started a project at Barsi in Solapur District, 300 km away from Bombay. The medical and paramedical staff have been trained at the TMC and since August 1982 have been manning the Nargis Dutt Memorial Cancer Hospital. This is probably the first rural cancer hospital in India.

The Indian Cancer Society

By the late 1940s, it was evident that the TMH would have to restrict its activities to medical services. The Indian Cancer Society, a brainchild of Dr Jussawala, was then set up in 1952 as a non-governmental organization which would undertake public education, co-ordinate research and provide financial assistance to cancer victims. The first Cancer Registry in India was set up in 1963 by the Indian Cancer Society with help from the TMC. In 1963 the *Indian Journal of Cancer*, India's first journal devoted exclusively to this field, began publication. To help in screening for early diagnosis of cancer, a cytology department was set up by the society. This department was later transferred to the hospital.

THE FUTURE

The population explosion and increasing awareness of cancer has resulted in overcrowding in the hospital outpatients and corridors. Patients sometimes have to wait for long periods for admission, diagnosis and treatment. With the additional buildings and increase in the staff as well as improved technology, it is hoped that the problem can be brought under control. Financial constraints affect the TMC though admittedly, not as much as they do other institutions in India.

As the turn of the century approaches, emphasis is being placed on prevention and early diagnosis. With this in mind, the TMC has started a 'Preventive oncology division'. Special efforts are being made to detect aerodigestive tract, breast and cervical cancers. Exhibitions, a public education programme and personal dialogue are made use of to educate the people about cancer.

Space constraints, the ever increasing work load and the need to expand certain key areas of research and treatment have led to acquisition of land in the township of New Bombay. Here, in idyllic surroundings on a 60-acre plot surrounded by hills, a new centre is under construction. Called ACTREC (Advanced Centre for Treatment, Research and Education in Cancer), it will serve the needs of the local rural and urban population, and conduct research with newer modalities of treatment. The CRI will shift many of its activities to newer premises on the site. Educational facilities for professionals and the public alike are one of the main objectives of the centre. Preventive oncology will also be targeted.

The last fifty years have seen a small hospital, devoted to the service of cancer patients, grow into a complex tertiary cancer care centre with research, rehabilitation, educational and preventive activities; the largest of its kind in Southeast Asia. The twenty-first century will no doubt see further expansion.

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REFERENCES

- 1 Lala RM. *The heartbeat of a trust—Fifty years of the Sir Dorabji Tata Trust*. New Delhi: Tata McGraw-Hill, 1984.
- 2 Desai PB, Rao RS, Rao DN, Shroff PD. *Hospital cancer registry annual report 1991*. Bombay: Tata Memorial Hospital, 1993.
- 3 Reddy KS, Sahni P, Pande GK, Nundy S. Research in Indian Medical Institutes. *Natl Med J India* 1991;4:90-2.