The National Cancer Grid of India

Cancer is expected to be a major problem in developing countries like India. The International Agency for Research on Cancer GLOBOCAN project estimated that the burden of cancer in India is likely to almost double with an estimated incidence of 1 million cases in 2012 to about 1.7 million in 2035.[1] Importantly, the number of cancer deaths is expected to rise from 680,000 in 2012 to 1.2 million in 2035.[1] The mortality: incidence ratio of 0.68 in India is far higher than that in very high human development index (HDI) countries (0.38) and high HDI countries (0.57).[2] Although some of this discrepancy might be because of overdiagnosis due to screening in developed countries, part of it is because of inequitable distribution and inaccessibility of healthcare resources to vast parts of the country.[2] Decreased survival in developing countries is likely due to a combination of advanced stage at diagnosis, limited access to quality cancer care and the inability of patients to afford optimum treatment. These issues need to be addressed on multiple fronts: Increasing awareness of cancer as a treatable disease amongst patients and primary care physicians, making cancer care available to patients at their doorsteps and identifying innovative, cost-effective methods of diagnosis and treatment.

There are wide variations in the incidence and mortality related to cancer in different parts of India.[3] Standards of cancer diagnosis and treatment vary considerably between institutions, states and geographical regions.[4] There is a lack of uniformity in criteria set for prevention, early diagnosis, evidence-based treatment and follow-up of patients with cancer. This disparity has manifested primarily because of a lack of an established network of cancer centers across the country to implement common standard management guidelines. Though regional cancer centers exist in all parts of the country and geographically cover the population, they too have varying standards of care. One of the biggest challenges and needs for effective cancer control in India is for uniformly high standards of care to be provided throughout the country. Dissemination of high-quality cancer care across the country and ensuring uniformity of standards would eliminate the need for patients to have to travel long distances for optimal medical care.

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The National Cancer Grid (NCG) was formed in August 2012 with the mandate of linking cancer centers across India.[3,5] A modest initiative, which originally had 14 cancer centers, has rapidly grown now to include 52 major cancer centers virtually covering the entire length and breadth of the country and is amongst the largest cancer networks in the world. Funded by the Government of India through the Department of Atomic Energy, the NCG has the primary mandate of working towards uniform standards of care across India by adopting evidence-based management guidelines, which are implementable across these centers.[5] It is also intended to facilitate the exchange of expertise between centers and to create a ready network of centers for collaborative research in cancer.[5] There have been four meetings to date attended by the leadership of the participating NCG centers with unanimous support for the concept of the network. The overall functioning of the NCG is best-understood when broken up into its components.

PATIENT CARE

The NCG attempts to reduce disparities in the standards of patient care in various geographic regions of India. Short-term steps undertaken to address this issue include the adoption of implementable evidence-based management guidelines for common cancers that are developed by different groups within the network. These guidelines are deliberately kept simple and in algorithmic form to facilitate easy uptake by the constituent centers. Other short-term steps include a systematic method of data capture of every patient being treated at a cancer center — this serves the dual purpose of assessing patterns of presentation (including common cancers, stages of presentation, etc.) and needs assessment of individual centers. Medium and long-term steps include a voluntary process of audit and peer review. While some centers have already gone through a formal peer review or are planning it in the near future, other centers have realized the importance of this process and were initiating steps towards what is clearly a difficult, but critical process of self-evaluation. Two major policy papers identifying the burden of cancer in India and the delivery of affordable and equitable cancer care in India have already been published by the NCG.[2,6]

EDUCATION AND TRAINING

Creation of trained human resource is an important mandate of the NCG. Immediate steps toward this goal

include exchange of expertise and mentoring between the centers — this has already started in few areas including surgical pathology, bone marrow transplantation nursing and surgery. The success of this endeavor depends on the different centers complementing each others' strengths and weaknesses, ensuring that all centers benefit from the process. Longer term steps include reservation of specialized oncology degree courses for candidates sponsored by the recognized government-run and regional cancer centers, thereby augmenting their trained manpower. Another need felt by the participating centers was to have varying durations of training in oncology for different cadres of physicians and paramedical staff depending on their existing experience and training. The creation of a "National Cancer Library" is an important step toward ensuring free access of high-quality cancer journals and other educational resources to all the constituent centers. In addition, there are e-resources like Ecancer and OERC-India, which are planned to be important sources of knowledge and education to cancer professionals in India.

COLLABORATIVE RESEARCH

One of the biggest lacunae in Indian cancer research (and probably all healthcare research in India) is the lack of established research networks, which facilitate high-quality cancer research aimed at addressing India's unique problems. Although there have been excellent research studies being conducted in individual centers in India, cooperative research on the lines of the ECOG, SWOG, RTOG, ACOSOG etc., have been lacking. The NCG provides a unique opportunity for the creation of this network, which is aimed at focusing on multicentric studies in basic, translational and clinical cancer research, with the emphasis on cancers common or unique in India; efforts will aim at identifying cost-effective management strategies which can be implemented in all centers and accessible to the poorest of society. The NCG has recently published a comprehensive paper on research priorities in cancer for India.[7]

CANCER POLICY

The NCG is uniquely positioned to shape cancer policy in India — the leaders in cancer care, education and research in India are primarily members of the NCG, reflecting in a major contribution to a Lancet Oncology commission on challenges to effective cancer control in India, China and Russia.[8] With the strength of 52 cancer centers behind it, which caters to a large proportion of India's cancer patients, the NCG has the natural ability to identify the burden of cancer real-time and plan strategies to address specific problems. One of the longer term targets of the NCG is to come up with a national cancer plan which would have the formidable task of improving the mortality: incidence ratio from the current level to that of the higher HDI countries. The real success of the NCG will be apparent when overall cancer outcomes in India improve considerably, parallel with patients getting the highest quality cancer care at their doorsteps.

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