A roadmap to improve care of patients with breast cancer in India

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INTRODUCTION

Breast cancer is emerging as the leading cancer among women in India. It has overtaken cancer of the uterine cervix as the most common cancer among urban Indian women in the past decade. This trend of rising incidence is likely to continue because of industrialization and urban development, delayed and reduced fertility, increasing longevity and westernization of lifestyles.

The age-standardized breast cancer incidence rate in India is 19.1 per 100,000 women-years compared with 63.2 per 100,000 women-years in developed countries such as those in North America and Europe, and Japan, New Zealand and Australia. However, there is a wide difference in the rates in the rural and urban areas, with the rate in rural cancer registries being 7.2 per 100,000 and that in urban registries being 33.4 per 100,000. At present, 75,000 new cases occur among Indian women every year. All these data are based on the National Cancer Registry and hospital-based tumour registries, which sample only 3% of the total population. Therefore, it is difficult to estimate the exact load of breast cancer. Over 50%–70% of patients presenting for treatment suffer from locally advanced breast cancer (LABC). The age-adjusted 5-year survival rates for breast cancer are as low as 46% in India, compared with 89% in the West.

CARE FOR BREAST CANCER IN INDIA

The majority of breast cancer patients from the middle and low socioeconomic strata seek treatment in public hospitals, where healthcare is free. However, oncological services at many of these hospitals are very basic or non-existent. Comprehensive care, including radiotherapy and chemotherapy, is available at a few tertiary care centres and the 30 regional cancer centres. In big cities, private sector hospitals, especially large corporate ones, are playing an increasingly important role in breast cancer care for those who can afford to pay.

The type of treatment a breast cancer patient receives depends on where she lives and which institution, if any, she can reach. Half of the Indian women with breast cancer possibly receive no treatment. The majority of the patients are treated by general surgeons and the treatment is primarily surgical, in the form of modified radical mastectomy. However, during the past decade, with increasing awareness and the availability of surgical oncology and breast surgery expertise, a few tertiary care centres have started offering breast conservation therapy and breast oncoplasty procedures. Chemotherapy is largely administered by general surgical teams and is given in both the neoadjuvant and adjuvant settings. However, there is a high default rate, reflecting a lack of information and poor management schedules.

Among the goals set by the National Cancer Control Programme (NCCP), which was initiated in 1975 and subsequently revised, was to reduce morbidity and mortality from cancer in India. To achieve this goal, the NCCP chose the approach of prevention and down-staging, along with better treatment and care for common cancers. However, there are no national consensus guidelines for the treatment of breast cancer. The Tata Memorial Hospital, Mumbai, the leading cancer treatment and research centre in India, publishes guidelines for breast cancer treatment from time to time, but there is a wide variation in the adjuvant treatment that patients receive. The absence of national consensus guidelines may, at times, lead to unnecessary treatment, especially in private set-ups.

CARE FOR BREAST CANCER IN THE DEVELOPED WORLD

In contrast to India, cancer care in the developed world has made rapid strides, leading to an improvement in the outcome following the treatment of breast cancer. This can be attributed to the introduction of population-based mammographic screening programmes, research to develop newer effective therapies, as well as the availability of high-quality specialist breast services.

On the basis of the realization that a service provided by trained specialists is more efficient and more cost-effective, various groups have recommended that multidisciplinary breast clinics be established. These should be staffed by clinicians and other professionals specializing in single ‘anatomical areas’, such as in the breast. The groups include the Breast Specialty Group of the British Association of Surgical Oncology (BASO), European Society of Surgical Oncology (ESSO), European Society of Mastology (EUSOMA), Europa Donna and the American Society of Breast Diseases (ASBD). These groups have also defined the requirements of a specialist breast unit. A mandatory quality assurance programme for breast services has also been implemented by many countries to ensure uniformity of services. Guidelines on the standards of care in separate areas of breast cancer treatment, such as screening, diagnosis, local treatment of the primary tumour, management of risk and reconstruction, endocrine therapy and radiotherapy, have been established by these groups. Fellowship training programmes have been formalized to train doctors in an integrated interdisciplinary management of breast diseases. However, in India the specialty of breast surgery is still in its infancy and requires an impetus from national groups and programmes.

WHAT NEEDS TO BE DONE

Constitution of guidelines

Oncologists (surgical, medical and radiation), as well as general surgeons who devote a substantial part of their practice to the treatment of patients with breast cancer, should get together to constitute a dynamic group (on the lines of EUSOMA, ASBD,
etc.) and propose national guidelines for treatment, for training specialists and developing the infrastructure required to deliver these services.

The Breast Health Global Initiative (BHGI) guidelines for breast cancer treatment, established after taking into account various resource settings ranging from basic to maximal, can be a useful source of reference in this effort.22 The dynamic group can collaborate with the WHO India office and carry out the required advocacy at various levels to mobilize initiatives for the augmentation and reorganization of healthcare services.

**Defining the role of breast surgeons**

The number of surgical oncologists in India is not sufficient to meet the requirement of the large number of patients with breast cancer. Hence, general surgeons who are interested in the subspecialty of breast surgery and are willing to devote more time to the care of breast diseases, or are already doing so, can be recognized as breast surgeons. They can be encouraged to undergo training by enrolling in fellowship programmes, organized by tertiary care centres in India and abroad, on the integrated interdisciplinary management of breast diseases.

**Strengthening of breast care services**

Breast cancer care services can be added to the existing infrastructure of the public healthcare system without necessarily setting up additional facilities. Only a reorganization of services would be required, with minimal augmentation. Table I presents a possible way of reorganizing these services.

The vast majority of women with breast cancer have access to public hospitals, such as district and sub-divisional hospitals, which have limited resources.22 ‘Cancer detection and prevention clinics’ can be set up in these hospitals. Most hospitals attached to medical colleges have a range of set-ups that offer a limited level of services.22 These hospitals could step up breast cancer care by setting up ‘breast clinics’ to attend to new symptomatic patients, as well as patients with breast cancer who are reporting for follow-up. Regional cancer centres should constitute multidisciplinary breast units with the requisite number of team members and offer comprehensive, enhanced or maximal level of services,22 comprising surgery, chemotherapy and radiotherapy. Other services, such as a genetics clinic, palliative care and psychological counselling, can be added where feasible.

**PRIMARY PREVENTION AND SCREENING**

There are no effective preventive strategies against breast cancer. Unlike other cancers, it is difficult to modulate the risk factors for breast cancer to achieve effective primary prevention. Reproductive factors cannot be reversed to reduce the risk of breast cancer in the present socioeconomic scenario. The only recommendations that can be made are the adoption of a healthier lifestyle (diet, exercise), promotion of breastfeeding and awareness of breast health, etc.

Should India have a screening programme? Given our demographic and economic characteristics, this decision needs to be taken carefully and in a reasoned manner. Randomized controlled trials have shown that screening for breast cancer by mammography is effective in reducing mortality from the disease among women who are ≥ 50 years of age.23 Population-based screening programmes have been implemented in the developed world.24 Screening by clinical breast examination (CBE) alone has not been shown to reduce mortality. A working group of the International Agency for Research on Cancer (IARC) concluded in 2002 that there was inadequate evidence that breast screening by CBE, either alone or with mammography, can reduce mortality from breast cancer.25 However, cancers detected by CBE tend to be diagnosed at an earlier stage than those not detected by screening, suggesting that they can be effective in a setting in which the stage of the disease at diagnosis is generally advanced.26

Mitra et al. estimated that a 55% reduction in the death rate due to breast cancer in India could be achieved in 5 years if tumours ≥3 cm were detected by CBE.27 It, therefore, seems logical to consider CBE as a screening modality in India, where limited resources preclude the possibility of mammographic screening. Using a microsimulation model of breast cancer screening in an Indian setting, to predict the effect and cost-effectiveness of a range of screening policies, including screening by CBE, Okonkwo et al. suggested that biennial screening of women between 40 and 60 years of age by CBE in India would be at least as cost-effective as screening by mammography in developed countries.28 In a randomized trial of screening for cervical cancer and breast cancer using CBE in Mumbai in 1999,29 150 000 women of 35–64 years of age were cluster (group) randomized to a screened arm and a control arm. Compliance in the first round of screening was 76%; 973 women were referred for further clinical follow-up and in the 573 women (61%) who complied with referral, 45 tumours were detected by screening and 16 interval cancers were diagnosed. In the same

<table>
<thead>
<tr>
<th>Healthcare centre</th>
<th>Personnel</th>
<th>Services</th>
</tr>
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<tbody>
<tr>
<td>Taluk/sub-district hospital</td>
<td>Medical officers and health workers</td>
<td>Clinical breast examination (CBE), health promotion, including advice on diet, exercise, breastfeeding, etc.</td>
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<tr>
<td>District hospital: surgical units, cancer prevention and detection clinics</td>
<td>Medical officers, specialists</td>
<td>Screening and early detection: CBE, ultrasound (US), fine-needle aspiration cytology (FNAC), treatment (surgery and chemotherapy), health promotion and education</td>
</tr>
<tr>
<td>Hospitals with medical college: general surgical units and breast clinics</td>
<td>Staff (general surgeon with special interest in breast diseases, radiologist, pathologist, breast care nurse)</td>
<td>Treatment of benign breast disease, early detection and screening by CBE, FNAC/core biopsy, US, treatment, health promotion, training of medical officers/paramedical personnel, data collection and research, follow-up care</td>
</tr>
<tr>
<td>Regional cancer centre: multi-disciplinary breast units</td>
<td>Surgical oncologist/breast surgeon/plastic surgeon, radiologist, pathologist, medical oncologist, radiation oncologist, breast care nurse, clinical geneticist</td>
<td>Comprehensive cancer treatment and follow-up, palliative care/pain relief, screening programmes, basic and applied research, training of all categories of personnel, cancer registries, etc.</td>
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**Table I. A possible distribution of breast care services**
period, 55 women in the control arm attended the hospital with symptoms of breast cancer and 20 cases were detected. Although the final results of this trial are not yet available, the preliminary report shows that it is possible to implement a screening programme.

It is important not to forget the responsibilities associated with screening an asymptomatic and healthy population. Screening for breast cancer by any modality will result in false-positives that will require further investigation, with possible surgery to confirm the diagnosis. These will entail financial costs and also increase anxiety. Besides, the implementation of breast cancer screening programmes must be considered in the context of economic realities. The introduction of CBE screening in India will pose a big economic challenge. Hence, the costs of a screening programme need to be considered against other health interventions, such as those to reduce maternal mortality, which is over 100 000 a year.

At present, the most pragmatic approach may be to lay stress on increasing awareness of breast health in general and the signs and symptoms of breast cancer in particular, and promoting breast self-examination for early detection. Information on breast self-examination can be propagated through the print and electronic media, as well as healthcare personnel. In hospital settings, opportunistic screening can be used to provide targeted education that encourages CBE among at-risk groups and diagnostic ultrasound and/or diagnostic mammography.

IMPLEMENTATION AND AUDIT

Once there is consensus about breast cancer screening and management guidelines and the general framework of the desired infrastructure is in place, the implementation of these guidelines should be ensured by a national regulatory body, possibly under the NCCP.

It is possible that every hospital may not be able to implement every guideline immediately. Mechanisms could be put in place to evaluate the care provided against the guidelines, and find the reasons for any differences and address those.

DIRECTED RESEARCH IN BREAST CANCER

It is imperative that before launching any major national programme to improve the care of patients with breast cancer, operational research be done to test the programme’s efficacy, applicability and cost-effectiveness in our milieu. More importantly, since most of the existing and supposedly effective approaches are not amenable to simple and affordable implementation at the national scale, there is a need to conceive of, support and test novel methods in the hope that at least some of them would be effective and feasible for large-scale implementation. The research required can be coordinated and funded either by the NCCP or other governmental agencies in synchrony with the NCCP. Support can also be sought from WHO and other international agencies.

SUPPORT AND ADVOCACY GROUPS

A network of breast cancer support groups can be integrated with those delivering breast cancer care to provide social and emotional support to patients, funds to subsidize rehabilitation, support for family and children’s education, etc. Various local as well as international advocacy groups can be mobilized for advocacy activities aimed at the creation of general awareness.

REFERENCES
