

The magnitude of cancer breast in India: a summary

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Received: 27 April 2009
Accepted: 15 June 2009
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Oncology 2010

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Abstract

Cancer of breast has emerged as the leading site of cancer in most urban populations of India. For the year 2007, there have been an estimated 82,000 new cases of cancer Breast in India. It is rapidly replacing cancer of cervix as the most important leading site of cancer among women. The data collected over the years from five urban population based cancer registries namely Bangalore, Bhopal, Chennai, Delhi and Mumbai, under the network of National Cancer Registry Programme (NCRP) have shown a statistical rising trend in the incidence rate of breast cancer. In hospital-based cancer registries, cancer of the breast is the leading site of cancer in Mumbai and Thiruvananthapuram, second leading site in Bangalore, Dibrugarh and Chennai. Cancer of breast constitutes 14.3 to 30.0% of all cancers in women in these HBCRs. The report on 'Development of an Atlas of Cancer in India' showed that Chandigarh (39.5), North Goa (36.8), Aizawl (36.2) and Panchkula (34.6) had the higher microscopic incidence rates of breast cancer compared to that seen in Delhi PBCR that had the highest rate among all PBCRs.

Keywords Cancer of breast · Leading site · NCRP · Cancer Atlas · Increasing trend.

The Indian Council of Medical Research initiated a network of cancer registries under the National Cancer Registry Programme (NCRP) in 1981 and data collection commenced in these registries from January 1982. Since then, the registries have provided information on incidence and patterns of cancer that in terms of quality and validity meet international standards. Thus, in India, for cancer, and perhaps for only this disease, we have a systematic programme of data collation so as to have reliable incidence and mortality rates, thereby laying a foundation for scientific research—whether that research be epidemiological, basic, clinical or in cancer control. However, India being a vast country, setting up of new registries throughout the country as in some Western countries would involve enormous cost in establishing and maintaining the same. Therefore, under a project, on 'Development of an Atlas of Cancer in India' a cost-effective design and plan using advances in modern electronic information technology, was conceived, to collate and

process relevant data on cancer so as to fulfill the objectives of obtaining an overview of patterns of cancer in different parts of the country; and, calculating estimates of cancer incidence wherever feasible. The summary given below is based on the reports from both the cancer registries of the NCRP and that from the project on cancer atlas^{1–3}.

Cancer incidence is generally expressed as Age Adjusted or Age Standardised Incidence Rates (AAR) according to world standard population per 100,000 persons. The most recent figures on AAR for the PBCRs under NCRP are given in Table 1. Cancer breast has ranked as a leading site of cancer in all the older PBCRs with the AARs ranging from 22.1 in Bhopal to 29.3 in Delhi, except for the rural registry at Barshi which had an AAR of 9.7. The report of the North Eastern PBCRs⁴ indicate an AAR of 19.6 per 100,000 in Aizawl district of Mizoram state with lower AARs in Kamrup Urban district (17.5) and Imphal west district (14.6).

Table 1. Rank, relative proportion (%) of all cancers in females, crude (CR) and age adjusted (AAR) incidence rates per 100,000 person for cancer of the breast in the population based cancer registries (PBCRs) under the National Cancer Registry Programme of India

Registry	Rank	%	CR	AAR
Bangalore	1	24.6	20.9	27.5
Barshi	2	16.9	8.3	9.7
Bhopal	1	24.9	16.0	22.1
Chennai	1	26.1	26.9	29.3
Delhi	1	25.1	20.5	29.2
Mumbai	1	27.5	23	27.5
Dibrugarh District	2	13.8	7.8	10.4
Kamrup Urban District	1	15.4	13.7	17.5
Silchar town	3	15.7	8.1	7.3
Imphal West District	3	12.6	13.7	14.6
Mizoram state	4	9.7	9.8	14.1
Aizawl District	4	10.5	14.5	19.6
Mizoram State-excl. Aizawl	4	8.8	7.2	10.8
Sikkim State	3	7.2	4.5	6.8

Based on 2004–2005 data for Bangalore, Barshi, Bhopal, Chennai, Delhi, Mumbai, Ahmedabad 2005 data for Kolkata and 2005–2006 data for Dibrugarh District, Kamrup Urban District, Silchar Town, Imphal West District, Mizoram State, Aizwal District, Mizoram State excl. Aizwal, Sikkim State

Thus cancer of the breast has emerged as the leading site of cancer in most urban populations. It is rapidly replacing cancer cervix as the most important cancer in women in India, as in the past two decades, all the older urban Population Based Cancer Registries (PBCR) at Bangalore, Bhopal, Chennai, Delhi and Mumbai have

shown a statistically significant increase in the AARs of this site of cancer.

Since over 70% of the Indian population resides in the rural areas, cancer cervix still constitutes the number one cancer in either sex. However, this will see a rapid change in the coming years. Based on the data of the PBCRs the estimated number of new breast cancers during 2007 in India was 82,000.⁵ The relative five years survival reported some time earlier averaged 49.2%.⁶

In the Hospital Based Cancer Registries (HBCRs), cancer of the breast is the leading site of cancer in Mumbai and Thiruvananthapuram, the second leading site in Bangalore, Dibrugarh and Chennai. This site of cancer constitutes between 14.3% (Dibrugarh) to 30.0% (Thiruvananthapuram) of all cancers in women in these five HBCRs. There is also a marked rise in actual numbers of cancer breast registered in the HBCRs at Bangalore, Chennai and Thiruvananthapuram. The rise in the occurrence of cancer was at an earlier age in Dibrugarh compared to the other four HBCRs. The proportion of patients with regional spread of the disease at the time of presentation, varied from 33.6% in Mumbai to 83% in Dibrugarh.⁷

The data from the report of the project on ‘Development of an Atlas of Cancer in India’ shows that at least four districts have even higher microscopic incidence rates than that recorded at Delhi—that had the highest microscopic incidence rates among the PBCRs in India. These were Chandigarh (39.5), North Goa (36.8), Aizawl (36.2) and Panchkula (34.6) in Haryana state. The rates were also comparable in three districts (Kollam, Thiruvananthapuram and Thrissur) in Kerala state and in the district of South Goa. These rates are internationally comparable to that reported among Singapore Indians.⁸

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