Patterns of Cancer: A Study of 500 Punjabi Patients

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Abstract

The State of Punjab has been in focus because of a perceived increasing rate of cancer. Both print and electronic media have created an impression that Punjab, especially the cotton belt of Malwa Region, has become a high incidence cancer region. Actually the increased number of cancer patients might be at least partly because of increasing population and heightened health awareness and reporting. The purpose of this study is to find out the pattern of cancer amongst patients registered in Mukh Mantri Punjab Cancer Rahat Kosh Scheme (MMPCRKS), under cancer registry at Rajindra Hospital Patiala from the various districts of Punjab. The study covers 500 cancer patients registered under MMPCRKS at Rajindra Hospital Patiala, for free cancer treatment. Information regarding age, gender, religion, method of diagnosis and affected sites was obtained. Results were analyzed statistically. Of the 500 patients, 65% were females and 35% were males. The most affected female age groups were 50-54 and 60-64; while males in the age groups of 65-69 and 60-64 had the highest risk. The leading cancers in females were breast followed by cervix and ovary where as in males they were colon followed by esophagus and tongue. The commonest histological type was adenocarcinoma followed by squamous cell carcinoma. The increasing trend of cancer in Punjab is alarming. Since this study is a preliminary investigation, it could provide a leading role in prevention, treatment and future planning regarding cancer in Punjab.

Keywords: Cancer statistics - breast - colon - Punjab

Introduction

Cancer prevalence vary not only throughout the world but also between different population groups within the same country. Of the 10 million new cases of cancer diagnosed every year worldwide, over half are from the developing countries. Study of the magnitude and pattern of cancer is the first step in determining clues to the causes of cancer and in having a baseline to plan and assess control measures. Until 1964, information on cancer occurrence in India was available from surveys. Initiation of Population Based Cancer Registry at Bombay in 1964, at Pune in 1973, at Aurangabad in 1978, and at Ahmedabad and Nagpur in 1980, started the availability of data on cancer incidence on a continuous basis. However, the boost for cancer registration in India was in 1982, through initiation of National Cancer Registry Program (NCRP) by Indian Council of Medical Research (ICMR). The NCRP began with three Population Based existing Bombay registry, new registries at (Bangalore and Chennai) and three Hospital based registries at Chandigarh, Dibrugarh and Thiruvananthapuram. The data from cancer registries helps in highlighting the magnitude and common sites of cancer in India, and is useful in planning the National Cancer Control Program. Currently there are 28 PBCRs and 9 HBCRs working under NCRP, Bangalore. Over the last few years there have been unauthorized reports of increased occurrence of cancer cases in Punjab, especially Malwa region (Southern Punjab). Hence, “Population Based Cancer Registry” (PBCR) & “Punjab Cancer Atlas” (PCA)Patiala, projects of ICMR were started in June, 2011 & January, 2013 respectively under the auspices of “National Cancer Registry Program” (NCRP) at Pathology Department of Govt. Medical College, Patiala. The main objective of these projects is to assess the magnitude of cancers in the state of Punjab, to provide a framework for assessing the impact of cancer on the community and to prepare strategies for diagnosis and management. The objective of assessing the cancer problem is to aid control of cancer. The community burden, the site pattern and the incidence of disease over time is essential information required for implementing and evaluating cancer control programs.

Government of Punjab is very particular about cancer patients as far as early detection, management and prevention of this disease is concerned. There are various schemes for benefit and welfare of cancer patients like “Mukh Mantri Punjab Cancer Rahat Kosh Scheme” - a scheme from which cancer patients get financial help for their treatment and investigations. Even otherwise
Table 1. Showing Gender wise, Area Wise, Religion Wise, Method of Diagnosis, Pathological Diagnosis & Age wise Distribution of Cancer Cases

|                | No. of Cases | Percentage of cases |
|----------------|--------------|---------------------|
| **Gender wise**|              |                     |
| Males          | 175          | 35%                 |
| Females        | 325          | 65%                 |
| **Area wise**  |              |                     |
| Rural          | 360          | 72%                 |
| Urban          | 140          | 28%                 |
| **Religion wise** |          |                     |
| Sikhs          | 342          | 68.40%              |
| Hindus         | 144          | 28.80%              |
| Muslims        | 14           | 2.80%               |
| **Method of Diagnosis** | |                     |
| Cytology of Primary | 93        | 18.60%              |
| Cytology of Metastasis | 20      | 4%                  |
| Histology of Primary | 360     | 72%                 |
| Histology of Metastasis | 6      | 1.20%               |
| Bone Marrow    | 21           | 4.20%               |
| **Pathological Diagnosis** |         |                     |
| Adeno Carcinoma   | 235         | 47%                 |
| Astrocytoma      | 2            | 0.40%               |
| Basal Cell Carcinoma | 1      | 0.20%               |
| Chorio Carcinoma | 1           | 0.20%               |
| Germ Cell Tumor  | 7            | 1.40%               |
| Glioblastoma     | 3            | 0.60%               |
| Hodgkin Lymphoma | 4            | 0.80%               |
| Leukemia         | 15           | 3%                  |
| Malignant Melanoma | 2         | 0.40%               |
| Medullary Carcinoma Thyroid | 1        | 0.20%               |
| Multiple Myeloma | 6            | 1.20%               |
| Non-Hodgkin Lymphoma | 14       | 2.80%               |
| Non Small Cell Carcinoma | 2  | 0.40%               |
| Oligodendroglioma | 1           | 0.20%               |
| Papillary Carcinoma Thyroid | 2         | 0.40%               |
| Renal Cell Carcinoma | 2          | 0.40%               |
| Small Cell Carcinoma | 2        | 0.40%               |
| Soft Tissue Sarcoma | 7           | 1.40%               |
| Squamous Cell Carcinoma | 181   | 36.20%              |
| Transitional Cell Carcinoma | 11 | 2.20%               |
| Undifferentiated Carcinoma | 1      | 0.20%               |
| **Age wise**    |              |                     |
| Age             | No. of Cases | Percentage of cases |
| 15-19           |              |                     |
| 15-19           | 144          | 28.80%              |
| 20-24           |              |                     |
| 20-24           | 24           | 4.80%               |
| 25-29           |              |                     |
| 25-29           | 35           | 7.00%               |
| 30-34           |              |                     |
| 30-34           | 44           | 8.80%               |
| 35-39           |              |                     |
| 35-39           | 54           | 10.80%              |
| 40-44           |              |                     |
| 40-44           | 54           | 10.80%              |
| 45-49           |              |                     |
| 45-49           | 66           | 13.20%              |
| 50-54           |              |                     |
| 50-54           | 88           | 17.60%              |
| 55-59           |              |                     |
| 55-59           | 54           | 10.80%              |
| 60-64           |              |                     |
| 60-64           | 78           | 15.60%              |
| 65-74           |              |                     |
| 65-74           | 63           | 12.60%              |
| 75+             |              |                     |
| 75+             | 18           | 3.60%               |

Once a person is diagnosed as having cancer, everything (investigations and treatment) is free in all government hospitals of the state.

Our institute caters mainly to Malwa region of Punjab, UT Chandigarh and other states like Haryana & Himachal Pradesh. All types of cancer patients right from neurological, head & neck, opharynx, gastrointestinal tract, genitourinary tract, lungs, breast, cervix, ovary and hematological malignancies like leukemias, multiple myeloma & lymphomas are diagnosed & affective treatment is provided.

**Materials and Methods**

The study comprises of 500 microscopically diagnosed cancer patients who came to pathology department for verification of their histopathology/cytology/haematology reports. Record of each patient was noted like name, age, sex, religion, residence, date of diagnosis and type of cancer etc. Record was tabulated and analyzed statistically. The measure used in this study is relative frequency. The study period was from August, 2013 to August, 2014.

**Results**

Out of the total 500 Cancer cases, males were (175, 35%) and females were (325,65%). Majority of cancer cases, (360,72%) were from rural area & (140,28%) cases were from urban area. Maximum cases (342,68.40%) belonged to Sikh community followed by Hindus (144,28.8%) and Muslims (14, 2.80%). This is because 70% of population of the Punjab is living in villages and Sikhism is the commonest religion followed by people of Punjab.

Among the male and female cancer cases confirmed microscopically, histology of primary (360,72%) was the commonest method of diagnosis followed by cytology of primary (93,18.6%). According to distribution of cancer cases on the basis of pathological diagnosis, Adenocarcinoma (235,47%) was the commonest followed by Squamous cell carcinoma (181,36.2%). Maximum number of cancer cases among males were observed in the age group of 65-69, (28,5.6%) followed by 60-64 (24,4.8%). Among females maximum of cancer cases occurred in the age group 50-54 were (56,11.2%) followed by 60-64 (54,10.8%).

Colon cancer was the most common cancer amongst males followed by Oesophagus, Tongue, Urinary Bladder and Lung. Amongst females Breast was the commonest cancer site followed by Cervix, Ovary, Oesophagus and Endometrium.

**Discussion**

Of the 500 cancer patients included for analysis, 325(65%) were females & 175 (35%) were males. The rate of cancer was higher in females than in males in our study.

According to the study by Thakur etal, there were 107 histologically confirmed cancer cases at Talwandi Sabo, out of which 27 (25.2%) were males and 80 (74.7%) were females. There were 71confirmed cancer cases at Chamkaur Sahib, out of which 25(35.2%) were males and 46(64.7%) were females.3 In this study also rate of cancer was higher in females than in males.

This is in contrast to the study done by Sambasivaiah etal.in the Rayalaseema region of Andhra Pradesh where cancer rates were higher in males(588, 53.99%) than in females(501, 46.01%) out of total 1089 cancer patients4.

In our study cancer rates are comparatively higher in
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the Oesophagus was the leading site as per registries in Gujrat and Maharashtra states and Bhopal PBCR had registry and Thiruvananthapuram registry. All the PBCRs Delhi registry, Kolkata registry, Tripura registry, Kollam registry and Thiruvananthapuram registry. All the PBCRs in Gujarat and Maharashtra states and Bhopal PBCR had Mouth cancer as the leading site of cancer. Cancer of the Oesophagus was the leading site as per registries in the states of Assam and Meghalya. Stomach cancer was the leading site in registries of Sikkim and Mizoram while cancer of the Nasopharynx was the leading site in Nagaland registry. Among females cancer of the breast and cervix were the leading site of the cancer in 18 of 25 PBCRs in India. Cancer of the Gall Bladder and cancer of the Oesophagus followed cancer of the Breast as the leading site in Dibrugarh and Kamrup respectively. Lung was the leading site in Manipur and Mizoram. Cancer of the Oesophagus lead the list of cancers in Meghalya. Cancer of the Thyroid followed by cancer of breast in the two PBCRs at Kollam and Thiruvananthapuram.

In conclusion, breast cancer was the most common among all the cancers. The most common cancer among males was colon cancer and females were breast cancer. Maximum number of cancer cases was observed between the age group of 50-54. Youngest cancer patient was of 8 years suffering from Hodgkin’s Lymphoma. Oldest cancer patient was of 90 years suffering from Acute Myeloid Leukemia. Adenocarcinoma was the commonest histological type of cancer followed by Squamous Cell Carcinoma.

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