



## A STUDY OF PREVALENCE OF CANCER IN VINDHYA REGION.

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**ABSTRACT**

**Introduction:** Cancer is a global problem and is the dreaded disease throughout the world. In the west, cancer is the leading cause of mortality after cardio-vascular diseases, with one out of every five deaths due to cancer. In India, it has become one of the ten top killers of the adult population. Due to its high mortality and morbidity rates, it is not wrong to call present era as the era of cancer. It has become a global problem which is affecting the people and causing death throughout the world.

**Material and Methods :** The present study is a retrospective and prospective study based on the histo-pathological reports of malignant tumours, collected from the records of the pathology department over a period of ten years from 1980 to 1989. This institution caters to the needs of the whole of the Vindhya Region and the data thus is fairly representative of the overall incidence of cancer in Vindhya Region. As incidence of leukemia is very less in Vindhya Region, hence leukemia has not been included in the present study. Statistical analysis of the data was done to find out the relative frequency of cancer lesions encountered in respective of age, sex and site of the cancer lesion of the patients.

**Result :** Comparing the common sites of cancer among males, in the present series with that of other parts of the country, oral cavity was reported commonest malignancy in Lucknow (Central U.P.), corresponding to the observation made in present series. Cancer of oral cavity figured in the five commonest malignancies reported, from Manipur, Uttar Pradesh, Gujarat, Karnataka, Kerala, M.P., Maharashtra, Rajasthan, Andhra Pradesh, Tamil Nadu, Goa, Pondicherry and Orissa. On comparing the common sites of cancer prevailing in females in the present series with that of other parts of India, cervix was found to be the leading most site of cancer in Assam, Punjab, Visakhapatnam, Bombay, Pune, Manipur, Gorakhpur, Andhra Pradesh, Pondicherry, Delhi, Goa, Tamil Nadu, Maharashtra, Madhya Pradesh, Kerala, Karnataka, Bihar, Amritsar corresponding to present series observations. A high incidence of Penile Cancer was observed in present series which is found near similar to that observed in Pondicherry and Punjab.

**Conclusion :** The five common sites of cancer among males observed in the present series are - (1) Oral cavity, (2) Penis, (3) Skin, (4) Prostate, (5) Tongue and the five common sites of cancer among females observed in the present series are - (1) Cervix, (2) Breast, (3) Oral Cavity, (4) Skin, (5) Tongue. Various factors as tobacco chewing and smoking habits, deficient diet, poor oral hygiene, low socio-economic conditions, and easy accessibility of the oral cavity lesions may be the factor for higher frequency of cancer cases in the present series study. Easy accessibility of cervix lesions, multiparty and poor marital hygiene, due to low socio-economic condition (as revealed by personal history of the patients recorded in the prospective study) were few of the risk factors prevalent in the female population in Vindhya region, which may be attributed to the high frequency of the cervix cancer.

**KEYWORDS :** Custom, Habits, cancer Cervix, Oral Cavity, Breast Carcinoma.

**INTRODUCTION:**

The present study was undertaken to evaluate the incidence and pattern of cancer in Vindhya region. For this purpose, the records available in the Histopathology Section of the Department of Pathology, S.S. Medical College, Rewa, during the period from 1980 to 1989, were analyzed. Incidence of cases at specific sites may provide clues for the possible etiology by demonstrating trends of increase or decrease over time and contrast between one geographical area and another or difference between section of communities. Government Medical Institutes form a system of the health care facilities which is an easy access to a large proportion of population. Therefore the material received in Department of Pathology of medical institutes can be presumed to be representative of a real incidence. The study has certain aims and objects to compare the pattern of cancer in Vindhya Region with that of different parts of India and to retrieve the cancer incidence in various anatomical sites of the body in male and female sex.

**MATERIAL AND METHODS:**

The present study is based on the histo-pathological reports of malignant tumours, collected from the records of the department over a period of ten years from 1980 to 1989. This institution caters to the needs of the whole of the Vindhya Region and the data thus is fairly representative of the overall incidence of cancer in Vindhya Region. As incidence of leukemia is very less in Vindhya Region, hence it has not been included in the present study. Analysis of the data was done to find out the relative frequency of cancer lesions encountered in respective of age, sex and site of the cancer lesion of the patients. The Medical College Hospital being the biggest and the only centre having histopathology facilities in the Vindhya Region ultimately remains the main referral centre of the region. Thus it also drains bulk of cancer cases from all parts of Vindhya Region.

The coding system described by W.H.O (9<sup>th</sup> revision) using code numbers 140 to 202, has been for classifying the present data.

**RESULTS:**

Out of total 35,296 biopsies studied during 10 years period, 1657 cancer cases were recorded, giving an overall incidence of 4.68 percent. A lower incidence of cancer cases has been noted in this series. This may be due to referring of large number of suspected cancer cases from the out-door and by the private practitioners to established cancer centers like Indore, Bombay etc., as there is no facility of radio therapy available in the Medical College Hospital of this centre. As the present study was not based on Population based cancer registry, the Crude annual rate & Age adjusted annual rate of cancer (per 100 thousand population) in the Vindhya region could not be determined.

Further, in the present study, carcinoma was found to occur 8 times commoner than sarcoma, their relative frequency being 88.17% and 11.29% respectively. In the present series, highest number of cancer cases were recorded in fifth decade (27.39%) followed by sixth decade (23.35%). Majority of the cases (50.75%) were recorded between 41 to 60 years of age group. Only 5.54 percent cases were recorded below 20 years of age. The present figures were consistent with the observations made in other parts of the state and the country.

Out of total 1657 cancer cases, 52.74 percent cases were found in males and 47.25 percent cases were found in females. Thus the incidence of cancer in males was found higher as compared to females (statistically significant), the sex ratio being 1.16:1. This observation was found consistent to that observed in Central O.P.

In the two main religious groups in Rewa, 95.95 percent of cancer cases were observed in Hindus and 4.05% cancer patients were observed in Muslims. This appeared quite in accordance with the relative strength of the two communities in the total population of this region.

Considering common malignancies prevalent in both the sexes combined, cervical cancer (13.09%) was found to be predominant in the present series, followed by oral cavity (10.79%), female breast (9.05%), Skin (6.33%) and Tongue (5.37%) malignancies, in decreasing order of frequency.

**DISCUSSION:**

Cervix was found to be the most frequent cancer site in India, finding consistent with the observations made in the present series in Rewa. Cervix was reported commonest cancer site in most of the parts of India as - Andhra Pradesh, Pondicherry, Karnataka, Madhya Pradesh, Maharashtra, Manipur, Tamil Nadu, Uttar Pradesh, Goa, Delhi and Orissa. In Bihar, cancer was found to occur most frequent in breast (female) while in Gujarat, Kerala, Rajasthan and U.P., oral cavity was the leading most cancer site. Multiparty and poor hygiene among females could be the considered risk factors for high incidence of carcinoma of cervix (as revealed by personal history of the patients record in prospective study)

Oral cancer was reported the second most frequent site of cancer in the present series. The incidence of oral cancers in the present series is comparable to that observed in Andhra Pradesh, Gujarat, Kerala, Rajasthan, Tamil Nadu, Uttar Pradesh and Orissa. In India the incidence of oral cancer was reported highest from Pondicherry, followed by Madhya Pradesh, Kerala, Goa and Orissa and Uttar Pradesh, its low incidence was reported in Manipur, Bihar and Delhi regions. Tongue was observed as the fifth frequent site of cancer in the present series. Its incidence was found low in Andhra Pradesh, Karnataka, Maharashtra and Rajasthan.

Breast, was the third most common cancer site in the present series where as it was reported fourth commonest cancer in India. Present series figures of Breast cancer is consistent to

that reported in Rajasthan and Uttar Pradesh. The highest frequency of Breast cancer was reported from Bihar, followed by Kerala and Goa. A low incidence was reported in the eastern parts of the country, namely Manipur, Pondicherry and Orissa.

Gastro-intestinal tract cancers below hypo-pharynx were less prevalent in the present study in Vindhya Region. Amongst the other gastro-intestinal malignancies, esophageal cancer had a high incidence in Karnataka, Maharashtra and Tamil Nadu, While gastric carcinoma occurred in highest incidence in Goa, followed by Delhi and Tamil Nadu.

A high incidence of penile cancer was observed in present series which is found similar to that observed in Pondicherry and Punjab. Penile cancer was also observed commoner in Maharashtra, Goa, Raipur and Tamil Nadu. The penile cancer was reported markedly less in Delhi.

The incidence of skin cancer in present series was found near similar to that observed in Uttar Pradesh, Maharashtra, Manipur and Vishakhapatnam. The incidence of skin cancer was reported much higher in Bihar and Gujarat while its incidence was found very low in Goa and Pondicherry.

In the present series, a low incidence of respiratory tract Malignancies were reported. Respiratory tract malignancies were reported to have high incidence in Lucknow, Amritsar, Gujarat, Karnataka, Maharashtra, Nagpur, Pune and Mumbai, Manipur, Rajasthan and Uttar Pradesh. Its low incidence was reported in Bihar and Pondicherry.

Lymphoma was reported in low incidence in Vindhya Region. Its high incidence was observed in Orissa, Bihar, Uttar Pradesh, Delhi, Gujarat and Amritsar.

The malignant bone tumours formed more than three percent of total malignancies in about across the country from Gujarat through Rajasthan, Delhi, Uttar Pradesh, Bihar and Orissa. These figures are consistent with the present series figures of Vindhya Region.

Cancers in other sites as testis, bladder, nervous system, Eye, endocrine glands etc. were rarely reported in the present study.

The cancer was more prevalent in males in the present series which was found almost similar with the observations made in Bhopal and Manipur.

Cancer incidence was noted twice commoner in Males as compared to females at Srinagar. The male to female cancer ratio was found exceedingly higher in Assam. Male and female sex ratio was observed to be almost equal in Pune and Visakhapatnam. Cancer in females was noted to be more prevalent in Raipur, Eastern U.P. and Aurangabad.

In the present study, in Males, the incidence of cancer was noted to be highest in oral cavity (14.28%). This was followed by penis (8.58%) cases, skin (7.89% cases), prostate (7.20% cases), tongue (6.75% cases), in descending order of frequency. Amongst females, the highest number of cancer cases were noted in cervix (27.71% cases). This was followed by breast (19.15% cases) oral cavity (6.87% cases), skin (4.59% cases), and tongue (3.83% cases), in descending order of frequency.

The high frequency of cancer of oral cavity among males could be accounted to tobacco chewing smoking habits and poor oral hygiene (as revealed by personal history of the patients recorded in prospective study). More than 80 percent of population resides in rural areas having poor socio-

economic conditions. There were an excess of cancer cases reported of easily accessible parts of the body as many biopsies of deep seated lesions were not possible.

Various risk factors were found to be prevalent among the cancer patients in the Vindhya region, which were revealed by their personal history. They are as follows:-

- (1) Tobacco chewing, smoking habits, poor oral hygiene and low socio-economic conditions were found to be prevalent among patients suffering from cancer of oral cavity and Tongue.
- (2) Multiparty, poor marital hygiene and low socioeconomic conditions were found prevalent among patients of cervix cancer.
- (3) Penile cancer was prevalent among Hindus only. Non practicing of circumcision and bad genital hygiene due to low socio-economic conditions were observed among penile cancer patients.

There were many sources of error in the present study in determining the frequency of malignancy in Rewa region where medical facilities are few and death statistics and other morbidity records are inadequate. The records in histopathology section constituted the only available source of information for the purpose of determining the incidence of cancer in the region. Due to lack of specialized facilities like thoracic and neurosurgery and non existence of cancer unit, many cancer cases were referred to other established cancer hospitals from the out-door and by the private practitioners. Thus lack of specialized medical facilities in maintenance of regular health statistics was revealed in undertaking the present study.

#### CONCLUSION:

Despite of various sources of error and limitations, the frequency data determined from hospital records were found to be useful to have an idea of incidence of site pattern of cancer prevalent in Vindhya region which would be useful for further studies. Appropriate steps should be taken to detect cancer of the uterine cervix in women and oral cancer in both the sexes in the early stages and to provide facilities for an effective cure. Further, an attempt may be made for uplifting the socio-economic condition and general health awareness among the people of Vindhya region, so that the frequency of cancer of cervix and cheek could be brought down. Improved health services and adequate health statistics will allow better prediction of risk of cancer among the population of Vindhya Region.

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