

**Original article:**

## Study of spectrum of neoplastic lesions in North West Maharashtra

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### Abstract

A three year retrospective study to ascertain the histopathological patterns and incidence of cancer was carried out at SMBTMSRC Dhamangaon, Nasik, Maharashtra. Out of 5219 specimens studied, (759, 14.54%) were neoplastic lesions. The malignant (200, 3.8%) and benign lesions (559, 10.71%) had M: F ratio of 0.85:1.0 & 1:2.1 respectively. Carcinoma of oral cavity and cervix were found to have high incidence in males and females respectively. Soft tissue lesions in males and genital tract lesions in females were the commonest benign lesions in our population.

**Keywords:** neoplasm – malignancy- histopathology spectrum

### Introduction

Among various diseases, cancer is a big threat to human beings globally. Cancer is one of the commonest diseases responsible for mortality in India. All types of cancers have been reported in Indian population. Incidence and pattern of cancer is known to vary from region to region. Incidence, pattern, histopathological variants of neoplastic lesions are an important aspect for knowing the magnitude and nature of cancer in a particular area. National Cancer Research Programme has shown geographical differences in patterns of cancer. In view of these facts, the present study was done to know the status of various types of cancers in our rural tertiary care hospital.

### Aims

To study the histopathological spectrum of neoplastic lesions in rural tertiary care hospital.

### Materials and methods

This is a retrospective analysis & a cross- sectional study of neoplastic lesions in the Department of Pathology from September 2014 to February 2017. The basic information of patients, diagnosis, primary site and morphology of neoplastic lesions was done. The basis of diagnosis was histological examination of all specimens received during the study period.

### Results

A total of 5219 specimens were received for histopathological examination and 759 (14.54%) neoplastic lesions were diagnosed. The malignant (3.8%) and benign lesions (10.71%) had M: F ratio of 0.85:1.0 & 1:2.1 respectively. These lesions reported in our study have been enumerated in descending order of incidence as follows: Oral cavity (78), cervix (30), breast (25), thyroid (17), prostate (14), skin (12), endometrium (11), gastrointestinal tract (5), genitourinary tract (5) & soft tissue (3). All cases of carcinoma oral cavity were squamous cell carcinoma - well differentiated (26) & moderately differentiated (52). Carcinoma of cervix were -well differentiated (12), moderately

differentiated (15) and poorly differentiated (3) squamous cell carcinoma. Breast carcinoma -intraductal carcinoma (23) and lobular carcinoma (2). Carcinoma of thyroid -papillary carcinoma (14) and follicular carcinoma (3) with predominantly females (12). All cases of carcinoma of prostate were adenocarcinomas. Carcinoma of the skin - squamous cell carcinoma (10), basal cell carcinoma (1) and malignant melanoma (1). Endometrial adenocarcinoma - well differentiated (3), moderately differentiated (8).Carcinoma of gastrointestinal tract (5) - pancreatic adenocarcinoma (2) and moderately differentiated adenocarcinoma of colon (3).Genitourinary tract carcinoma - renal cell carcinoma (3) & transitional cell carcinoma (2). Soft tissue sarcoma - malignant fibrous histiocytoma (2) and fibrosarcoma (1) (refer table1&2). Benign neoplastic lesions (559) had soft tissue tumors (204) comprising of lipoma-162, hemangioma-29, neurofibroma-11, schwannoma-2. Other common benign lesions were leiomyoma-102, endometrial & cervical polyps- 24, breast lesions-98, benign prostatic hyperplasia- 75, thyroid lesions-33, meningioma-1 & cardiac myxoma-1(refer table3 and 4)

**Table 1:** Sex distribution of malignant lesions (200 cases)

Site	Total	(%)	Male	(%)	Female	(%)
Oral cavity	78	39%	54	27.0%	24	12.5%
Cervix	30	15%	-	-	30	15.0%
Breast	25	12.5%	-	-	25	12.5%
Thyroid	17	8.5%	5	2.5%	12	6.0%
Prostate	14	7.0%	14	7.0%	-	-
Skin	12	6.0%	9	4.5%	3	1.5%
Uterus	11	5.5%	-	-	11	5.5%
Gastrointestinal tract	5	2.5%	4	2.0%	1	0.5%
Genitourinary tract	5	2.5%	4	2.0%	1	0.5%
Soft tissue	3	1.5%	2	2.5%	1	0.5%
<b>Total</b>	<b>200</b>		<b>92</b>		<b>108</b>	

**Table 2:** Age and site wise distribution of malignant lesions (200 cases)

Age (yrs)	Oral cavity	Cervix	Breast	Thyroid	Prostate	Skin	Uterus	GIT	GUT	Soft tissue	Total
11-20	-	-	-	01	-	-	-	2	-	-	03
21-30	04	-	03	03	-	-	-	-	-	-	10
31-40	17	-	02	10	-	-	-	-	-	-	29
41-50	17	-	08	03	-	-	-	-	-	-	28
51-60	26	02	10	-	02	04	02	-	01	-	47
61-70	09	25	02	-	09	05	09	02	03	01	65
71-80	03	03	-	-	02	03	-	01	01	02	15
81-90	02	-	-	-	01	-	-	-	-	-	03
<b>Total</b>	<b>78</b>	<b>30</b>	<b>25</b>	<b>17</b>	<b>14</b>	<b>12</b>	<b>11</b>	<b>05</b>	<b>05</b>	<b>03</b>	<b>200</b>

**Table 3:** Sex and age distribution of benign neoplasms (559)

Site	Total	Males	females	Age Groups	No of cases	Percentage
Softtissue	204	92	112	0 - 10	2	0.35 %
Leiomyoma	102	-	102	11-20	33	5.90%
*Polyps	24	-	24	21-30	75	13.41%
Ovary	21	-	21	31-40	182	32.55%
Breast lesions	98	-	98	41-50	141	25.22%
BPH	75	75	-	51-60	80	14.31%
Thyroid lesions	33	12	21	61-70	42	7.51%
Meningioma	1	-	1	71-80	4	0.71%
Myxoma	1	1	-			
<b>Total</b>	<b>559</b>	<b>180</b>	<b>379</b>	<b>Total cases</b>	<b>559</b>	<b>73.64%</b>

\*Polyps - endometrial and cervical polyp

### Discussion

The present tertiary care teaching hospital is a referral centre and the study population is mainly from the rural areas around Dhamangaon from places like Pimpalgaon, Ghoti, Sanganner, Chincholi, Devlali, Bhagur, Niphad, Lasalgaon, Manmad, Dindori etc with patients of low socioeconomic group. Incidence of malignancy (3.83%) is comparable with Malhotra et.al (8.36%)<sup>8</sup> and Mehrotra et al (5.4%)<sup>17</sup>. The minimum age of presentation was an 18 year old female with pancreatic adenocarcinoma and maximum age was of 87 year old male with prostatic

adenocarcinoma. In our study, female preponderance is sound due to addition of cervical and thyroid malignancies along with high incidence of oral cancers which is comparable with other studies<sup>8, 12, and 14</sup> as well. In our study, carcinoma of oral cavity (39%) had a minimum age of presentation of 26 year old female. Higher incidence and early age of presentation in our scenario is due to tobacco abuse in one form or other like panmasala, mishri and gutkaas starting at an early age which is comparable with other studies<sup>14, 19</sup>. Carcinoma of cervix and breast constituted 27.5% in our study which are leading cancers in females, comparable with other studies<sup>14,7,17,8,17</sup> too. Due to increased awareness and education of families at grass root level, regular Pap smear examination of perimenopausal women and health camps arranged by SMBTMS&RC has immensely helped to reduce the incidence of carcinoma of cervix in our scenario. Endometrial adenocarcinoma comprised of (5.5%), comparable with study by Lee-may Chen<sup>2</sup>. History of hormone replacement therapy (postmenopausal estrogen therapy) was noted in 9 out of 11 cases which is an important risk factor. Carcinoma of thyroid (8.5%) with female preponderance and papillary carcinoma as most common histopathological finding is comparable with other studies<sup>3, 6, 18</sup> also. Carcinoma of prostate (7.0%) and skin (6.0%) with squamous cell carcinoma (83.33%) are comparable with other studies<sup>19,27</sup>. Darkly pigmented skin, chronic scarring and areas of chronic inflammation seen in farmers could be the cause for higher incidence in our setup<sup>10</sup>. Genitourinary tract carcinoma (2.5%) with M: F ratio 4:1 is comparable with other studies<sup>1, 16</sup>. Association of bladder carcinoma with tobacco smoking, pesticides, and fertilizers is observed in our study too.

### Conclusion

In our study, oral and oropharyngeal malignancies are the commonest malignancies in males associated with habits such as tobacco chewing in one form or other while carcinoma of cervix is frequent in females. Commonest benign lesions in males are lipomas and in females leiomyomas was seen most frequently. The prevalence of cancer in our study is due to the combination of lack of awareness among people, self neglect, late presentation, prevalent tobacco and alcohol use and limited resources. Properly structured data is an essential indicator in understanding the magnitude and pattern of cancer problem. Understanding cancer magnitude, risk and trends will be of help in cancer control in future.

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