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SPECTRUM OF GYNAECOLOGICAL MALIGNANCIES IN NORTH INDIA : OVERVIEW

Oncology

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ABSTRACT

Background: Gynecologic cancers form a huge burden of morbidity and mortality around the world. This study was undertaken to study the pattern, histopathological types and relative frequencies of gynaecological malignancy cases reported at four major hospitals and pathology centers in Jaipur region. **Method:** Retrospective review of records of gynecologic cancers obtained from four major pathology departments in Jaipur region in which histopathological data of all female diagnosed with the genital tract malignancies for a five year period were included in the study. **Results:** Most common genital tract malignancy was cervical cancer (51.8%) followed by ovarian cancer (24.6%), uterine cancer (17.6%) and vaginal cancer (3.96%). Mean ages for ovarian, uterine, endometrium, fallopian tube, vulva and cervical cancers were 42.79±15.84, 50.93±13.14, 61.21±7.61, 63.50±19.09, 56.05±17.89 and 51.29±11.95 years respectively. **Conclusion & Recommendations:** Cervix carcinoma is the most common female genital tract malignancy followed by ovarian carcinoma and uterine cancer. Squamous type of cervical cancer was the commonest type. Hospital facilities for screening and regular gynecological examinations and well-defined follow-up surveillance system can change disease morbidity and mortality.

KEYWORDS

INTRODUCTION:

Gynecologic cancers form a huge burden of morbidity and mortality around the world. Prevalence of these cancers varies from country to country. Carcinoma endometrium is the commonest gynecological cancer in developed world in contrast to carcinoma cervix which ranks first among gynecological cancers in developing nations. [1]

Lack of reliable screening methods change in the life style and diet pattern may be responsible for the increasing ovarian and endometrial cancers. Increasing diabetes, obesity, sedentary life style, early menarche and late menopause may be some of the reasons for the rising incidence of endometrial cancers. [2] Mortality due to endometrial cancer is less as the stage at presentation is early which is amenable to treatment.[3] Mortality due to ovarian cancers is high, as the symptoms of ovarian malignancy are nonspecific, and the stage is advanced, by the time women presents to the clinician. [3]

Age and parity affect the incidence of gynaecological cancers. Endometrial and ovarian cancers occur mainly later in reproductive life, while carcinoma of the cervix and choriocarcinoma are seen commonly in pre-or perimenopausal women.[4]

As the frequency and distribution of gynaecological malignancies vary from region to region, we aimed to undertake this study to collect comprehensive information from this region of Eastern Rajasthan about gynaecologic malignancies in females. Jaipur is a tertiary care referral center in Rajasthan. A retrospective analysis of gynaecologic malignancies in this region over the past 5 years was done.

MATERIAL & METHODS:

It was a multi centric retrospective observational study done at four major pathology departments in Jaipur region, Rajasthan. Study population comprised of all women diagnosed with gynaecological malignancies and had histopathological reports confirmation by pathology department. Gynaecological malignancies include malignancy of vulva, vagina, cervix, uterine, endometrium, placenta, fallopian tube and ovarian malignancies. All cases with benign tumours were excluded from the study.

The case records of these cases were retrieved from the department of medical records. From that, the information collected were demographic, and histo-pathological data using pro-forma. All cases included for the study had a definite histologic diagnosis made either on biopsy or resection specimens. The demographic and histopathology reports were collected.

Data were analyzed using Microsoft excel and include descriptive statistics for demographic data and expressed in percentage or

mean±SD or median (IQR). Ethical approval for the study was obtained from the ethics and research review committee of SMS Medical College and Hospital, Jaipur, Rajasthan.

OBSERVATIONS & RESULTS

During the study period of 5 years, total 2554 female patients with gynaecological malignancies were recorded Most common genital tract malignancy was cervical cancer (n=1325; 51.8%) followed by ovarian cancer (n=580; 24.6%), uterine cancer (n=450; 17.6%) and vaginal cancer (n=101; 3.96%). Cancer of vulva (n=49; 1.9%), endometrium cancer (n=36; 1.4%) and fallopian tube cancer (n=12; 4.7%) were other genital tract cancers reported at our institute while in 1 case malignancy in placenta was also observed (figure 1).

In cervical cancer, squamous cell carcinoma was most common histological type (n=1184; 89.4%) followed by adenocarcinoma (n=74; 5.6%) while in 38 (2.8%) cases showed other histopathological types. In ovarian tumours different types of adenocarcinoma were common histopathological types seen (adenocarcinoma in 31.7%, serous cyst adenocarcinoma in 33.8% and mucinous cyst adenocarcinoma in 16.7% patients). Among Uterine malignancies, the main histological type of cancer was adenocarcinoma (n=230; 51.1%) followed by endometrial tumor in 75 (16.7%) patients, and squamous cell carcinoma in 19 (4.2%) patients while in 28% patients other types were seen. Squamous cell was the most common histological types in vaginal tumour (74.3%) and vulval malignancies (69.4%) followed by others histological types (24.5% in vulval tumour and 16.8% in vaginal malignancies). Table 1 shows different histopathological types in different genital tract tumours.

Mean ages for ovarian, uterine, endometrium, fallopian tube, vulva and cervical cancers were 42.79±15.84, 50.93±13.14, 61.21±7.61, 63.50±19.09, 56.05±17.89 and 51.29±11.95 years respectively.

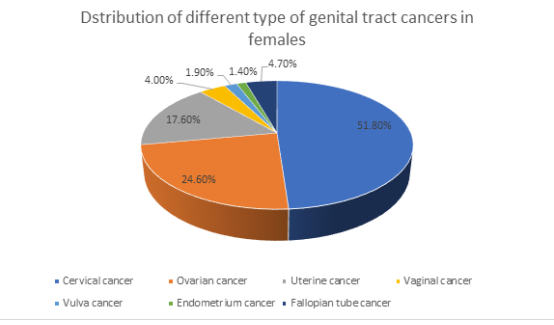

Figure 1: Distribution of different types of genital tract cancers

Table 1: Histological types of different gynaecological malignancies

Histological types	No.	%
Vulva (n=49)		
Squamous cell Ca	34	69.4
Adenocarcinoma	3	6.1
Others	12	24.5
Vagina (n=101)		
Squamous cell Ca	75	74.3
Adenocarcinoma	9	8.9
Others	17	16.8
Cervix (n=1325)		
Squamous cell Ca	1184	89.4
Adenocarcinoma	74	5.6
Adeno-squamous cell Ca	7	0.5
Baso-squamous cell Ca	22	1.7
Others	38	2.8
Endometrium (n=36)		
Adenocarcinoma	12	33.3
Others	24	66.7
Fallopian tube (n=12)		
Adenocarcinoma	2	16.7
Squamous cell Ca	5	41.7
Others	5	41.7
Ovary (n=580)		
Serous cyst adenocarcinoma	196	33.8
Mucinous cyst adenocarcinoma	97	16.7
Adenocarcinoma	184	31.7
Others	103	17.7
Placenta (n=1)		
Choriocarcinoma	1	100.0
Others	0	0.0
Uterus (n=450)		
Squamous cell Ca	19	4.2
Adenocarcinoma	230	51.1
Endometroid Ca	75	16.7
Others	126	28.0

Table 2: Mean age of different tumours

	Mean age
Vulva	56.05±17.89
Vaginal	51.73±10.94
Cervix	51.29±11.95
Endometrium	61.21±7.61
Fallopian tube	63.50±19.09
Ovary	42.79±15.84
Placenta	-
Uterus	50.93±13.14

DISCUSSION:

Cancers are one of the most common dreadful diseases with significant morbidity and mortality affecting the life of women. Gynecological cancers have shown an upsurge in recent times and are an important health issue now. Because of lack of awareness and screening facilities among the masses in our country, patients usually report at advanced stages of disease. All this has lot of bearing on the final outcome and prognosis of the disease. [1]

Cervix was the commonest site of affliction among gynaecologic malignancies in our study. It is also the leading site reported from other registries in India and South Asia. [5,6] In hospital based registries in India, including a consolidated report from the National Cancer Registry Program (NCRP) as well as rural institutes, cervical cancer remains the commonest gynaecologic cancer and among the two most common cancers overall in females, rivaled only by breast cancer. [7,8] Another study by Agarwal S et al [9] from Delhi also reported cervix as the commonest site for genital tract malignancies in 71.47% of cases. Joseph A et al [10] from Nigeria also reported commonest gynaecological cancer as cervical carcinoma, which constituted almost 60.6% of the cases. Sharma RG et al [11] from Jaipur also reported cervical cancer as the most common cancer of female genital tract forming 10.25% of all cancers in females. This is quite understandable with early marriage and high number of live birth in our region and low awareness in rural population so only sporadic screening of women who come for gynaecological consultation in the hospital, cervical carcinoma is bound to be high. In contrast our study Bhardwaj B et al [1] from North India reported Ovarian cancer (40.5%) as commonest genital tract cancer at their centre followed by cervical cancer (30.2%) and endometrial cancer (21.6%). Jeph V et al [12] from Haryana also reported cervical cancer (67.2%) as the most common cancer. Bang BA et al [13] also reported cervical malignancy as most common genital tract malignancy from Jaipur followed by Ovarian cancer. According to ICMR cancer registry report cervical cancer is most common genital tract cancer in females in Delhi as well as Mumbai. [14]

Ovary was the second leading site (24.6%) among gynaecologic malignancies at our centre. It is also the leading site reported from Tehran.[15] Data from Globocan 2002 also shows a relatively higher incidence of ovarian malignancies in the West as compared to data from our registry, the NCRP and other cancer registries in India.[7,8,16]. Previous study by Sharma RG et al [11] also reported ovarian cancer as 2nd most common genital tract malignant tumour in Jaipur region. Joseph A et al [10] from Nigeria also reported ovarian cancer (19.2%) as second most common cancer. The low incidence of ovarian cancer in our study may be associated with early marriage and high family sizes of most families as pregnancy and breast feeding are known to protect against ovarian cancers.

In this study, uterine carcinoma accounted for only 17.6% cases which is higher then Joseph A et al [10] from Nigeria who reported as 10.1% of gynaecological cancers. Endometrial cancers were the most common cancer among female genital cancers in the European

countries [17,18]. Bhardwaj B et al [1] from Haryana reported endometrial cancer in 21.6% cases among different genital tract malignancies in females. The incidence of vulval carcinoma in this study was only 1.9% among all genital tract malignancy which is lower compare to Nigeria (7.1%), and higher than 1.5% reported in Uyo [19]. Mean age for ovarian, uterine, endometrium, fallopian tube, vulva and cervical cancers were 42.79±15.84, 50.93±13.14, 61.21±7.61, 63.50 ±19.09, 56.05±17.89 and 51.29±11.95 years respectively in our study. The median age of occurrence of cervical cancer in our series and SEER data was similar. In study by Agarwal S et al [9], mean age of patients with cervical cancer was 50.1 ± 12.9 years (median = 50 years; range = 14 to 90 years) which was also collaborated with our study. In one previous study by Sharma RG et al [11] from Jaipur, age distribution of genitourinary tract cancers in females revealed a peak between 41 to 60 years of age group. The majority of cases of carcinoma cervix and ovary fell into 41 to 50 years of age group while the commonest age group for uterine cancer was 51 to 60 year. Bhardwaj B et al [1] from Haryana reported Majority of patients with median ages of ovarian cervical and endometrial cancers as 52 years, 50 years and 54 years respectively so mean age of ovarian tumour in our study was lower compare to their study. Ethirajan S et al [20] from Tamilnadu reported median age of cancer cervix, ovary, and corpus uteri was 50, 48 and 48.5 years respectively.

In our study among cervical cancer, squamous cell carcinoma was most common histological type (n=1184; 89.4%) followed by adenocarcinoma (n=74; 5.6%) while in 38 (2.8%) cases showed other histopathological types. Sharma RG et al [11] also from Jaipur region also reported squamous cell cancer as most common histopathological type for cervical cancer in 89.3% cases followed by adenocarcinoma in 5% cases. Bhardwaj B et al [1] from North India also found 94.2% of the cervical cancers were of squamous variety barring 2 cases which had adenocarcinoma. In ovarian tumours different types of adenocarcinoma were common histopathological types seen (adenocarcinoma in 31.7%, serous cyst adenocarcinoma in 33.8% and mucinous cyst adenocarcinoma in 16.7% patients) in our study. From Jaipur region previously Sharma RG et al [11] also found that adenocarcinoma was present in 63% cases followed by poorly differentiated cancer in 9.26% cases and malignant epithelial neoplasm in 6% ovarian cancers cases. In study by Bhardwaj B et al [1] from North India, all cases of advanced carcinoma ovary were epithelial in origin with majority serous variety (74.4%) and a few advanced mucinous types (8.5%).

Among Uterine malignancies in present study, the main histological type of cancer was adenocarcinoma (n=230; 51.1%) followed by endometrial tumor in 75 (16.7%) patients, and squamous cell carcinoma in 19 (4.2%) patients while in 28% patients other types were seen. Similar to our study, in study by Sharma RG et al [11] from Jaipur region, histopathological analysis of uterine cancer revealed adenocarcinoma in 64.4% cases and squamous cell cancer in 18.6% cases. Bhardwaj B et al [1] from North India also found that majority cases of carcinoma endometrium were early stage endometroid variety (76.9%) while 3 cases had mixed Mullerian tumor and 2 patients with advanced disease had serous papillary variety of carcinoma endometrium. Squamous cell was the most common histological types in vaginal tumour (74.3%) and vulval malignancies (69.4%) followed by others histological types (24.5% in vulval tumour and 16.8% in vaginal malignancies). In Bhardwaj B et al [1] study there were very few cases of vulval and vaginal tumour which were only squamous cell type of histology. Finding of our study were also corroborated by Ethirajan S et al [20] from Tamilnadu.

Limitation:

The data presented in our study may not be a representative of community prevalence rates. Another limitation of our study was lack of Clinical and Radiological information.

CONCLUSION & RECOMMENDATIONS:

From our study we can conclude that cervix carcinoma is the most common female genital tract malignancy in Jaipur Rajasthan, followed by ovarian carcinoma. The importance of health education on routine screening and treatment of premalignant lesions of female genital tract malignancies cannot be overemphasized. Visual inspection with acetic acid (VIA) and visual inspection with Lugol's iodine (VILI) will help in down staging cancer cervix especially in low resource setting. Morbidity and mortality from these cancers can be reduced by increasing hospital facilities for screening and regular gynaecological examinations with well-defined follow-up surveillance system. For reduction of incidence of gynaecological cancers reliable screening method for endometrial and ovarian cancers should be on priority.

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