

Original Article

Prevalence of Gynaecological Malignancies in A Tertiary care Hospital in Rawalpindi: A Three-year Review

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Abstract

Objective: The purpose of this study is to determine the prevalence of gynaecological malignancies at the Fauji Foundation Hospital in Rawalpindi.

Methodology: This retrospective observational study design was conducted at Gynecology department of Fauji Foundation Hospital Rawalpindi from 1st January 2015 to 31st December 2017. All patients confirmed on histopathology for gynecological malignancies were included in the study.

Results: A total of 130 patients were found to have gynecological malignancies. Among these, endometrial cancers were found to be the most common, followed by ovarian, cervical and vulval carcinomas. Compared to women with ovarian (54.5), endometrial (59.3), and vulval (68.5) malignancies, women with cervical carcinomas had a lower mean age (54.2 years). Patients with cervical cancer had a greater mean parity (6.0) than those with ovarian (2.5) and endometrial malignancies (4.7). On histopathology, squamous cell carcinoma was the most common finding in cervical cancers; serous cyst adenocarcinoma was the most common finding in ovarian cancers; and squamous cell carcinoma was the most common finding in vulval cancers.

Conclusion: Most common malignancy was endometrial, followed by ovarian, cervical, and vulval carcinomas in our study population.

Key words: Malignancies, gynecological, endometrial, cervical, ovarian, vulval

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Introduction

Gynecological malignancies remain a significant health problem all over the world.¹ One-third of all cancers in women are gynaecological in nature.² The most frequent gynaecological malignancies among them are cervical, endometrial, and ovarian cancers, while vulvar, vaginal, fallopian tubes, and choriocarcinomas are less common.³ Worldwide the incidences and mortality rates (per 100,000) of cervical cancers are 16.1 and 7.99, endometrial cancers the rates are 6.4 and 1.5, while for ovarian and other gynecological cancers the rates are 6.5 and 3.8 respectively.²

The most common gynaecological malignancy is cervical cancer, mostly affecting women living in developing countries.⁴ Moreover, it is found to be the most common cause of death from cancers in women living in third world countries.⁵ Several risk factors have been documented in the etiology of cervical cancers.⁶ The greatest risk is found to be infection with human Papilloma virus (HPV). Other risk factors are smoking and HIV infection.⁷ In developed countries, the widespread uses of cervical screening programs have dramatically reduced rates of cervical cancers.⁸

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Vaccination against HPV reduces risk of cancer by 93% and it is already in use in many developed countries.⁹

The third common gynaecological malignancy is endometrial cancer, with a higher incidence in developed countries.¹⁰ Risk factors for endometrial cancer include obesity, diabetes mellitus, breast cancer, use of tamoxifen, null parity, late menopause, and high levels of estrogen.^{11,12} The identified risk factors are more prevalent in developed countries.^{13,14} Moreover, there is no regular screening for endometrial cancer.¹⁵

Ovarian cancer is the second most common gynecological malignancy. Null parity, early menarche, late menopause and fertility drugs are the factors that increase the risk of ovarian malignancies, while use of combined oral contraceptive pills and breastfeeding reduces the risk.^{16,17} Epithelial ovarian carcinoma is the most common type of ovarian cancer and it arises from ovarian epithelium. Epithelial ovarian carcinoma has further five subtypes out of which serous type carcinoma is the most common. Germ cell tumors and sex cord stromal tumors are the less common subtypes.⁵ Confirmative diagnoses is done through biopsy of ovarian tissue.¹⁷ Routine screening is not recommended in low risk women as it does not reduce death rates. Moreover, test has high rates of false positive results leading to unneeded surgery, having its own risks.¹⁸

Quality research can provide the basis for making policies and programs that can help to control cancers effectively.¹⁹ However, in developing countries like Pakistan, it is not possible to reliably calculate the incidence rates of various cancers owing to the lack of availability of health statistics. Regardless of fairly high rates of female genital tract cancers in Pakistan, awareness on the issue is scarce. The purpose of this retrospective study was to determine the frequencies of gynecological malignancies in our set up.

Methodology

A retrospective analysis of all gynaecological operations from 1st January 2015 to 31st December 2017 at the Fauji Foundation Hospital Rawalpindi was done. All those cases having malignancies confirmed on histopathology report were included in the study. Fauji foundation hospital provides health care facilities to the families of retired army persons. Most patients were either perimenopausal or postmenopausal and a wide range of gynecological malignancies are referred and treated in the index hospital.

Patients with benign tumors were excluded from the study. Data was collected from patients having histopathological reports showing gynaecological malignancies who came for follow up visits to OPD. Informed consent was obtained from the patients. The histopathology reports were analyzed in detail. The case record of all cases was retrieved from MedixTM. The data obtained was analyzed by SPSS version 21. Absolute numbers and simple percentages were used to describe categorical variables. The frequencies were calculated from simple percentages.

Results

In our study period, a total of 130 cases of malignancies were reported. The most common cancer was endometrial cancers (26.1%) followed by ovarian (29.2%), cervical (26.1%) and vulval (14.7%) cancers. Distribution of the histological types of gynecological cancers in the study population is shown in Table I. Distribution of age and parity of patients with gynecological cancers is shown in Table II.

Table I: Frequencies of histological patterns of gynecological cancers in the study population

Site of malignancy and histological types	N	%
Ca cervix		
Squamous carcinoma	31	91%
Adenocarcinoma	2	6%
Adenosquamous carcinoma	1	3%
Ca endometrium		
Adenocarcinoma	30	77%
Clear cell carcinoma	4	10%
Papillary serous carcinoma	2	5%
Leiomyosarcoma	3	8%
Ca ovary		
Serous cystadenocarcinoma	15	39.6%
Mucinous cystadenocarcinoma	6	15.8%
Endometrioid	2	5%
Granulosa cell tumor	4	10.5%
Sex cord stromal tumor	3	8%
Dysgerminoma	5	13.1%
Others	3	8%
Ca vulva		
Squamous cell carcinoma	13	68.5%
Malignant melanoma	4	21%
Verrucious carcinoma	2	10.5%

The mean age of women who had cervical, ovarian, endometrial, and vulval carcinomas was 54.2, 54.5, 59.3, and 68.5 years, respectively. A malignant germ cell ovarian tumor was seen in 4 patients at a younger age i.e. less than 25 years of age. However, cervical, endometrial and vulval cancers were not identified in patients less than 25 years of age. The mean parity for

patients with cervical cancer (6.0) was higher than those of ovarian cancer (2.5) and endometrial cancer (4.7).

Table II: Age distribution of gynaecological cancers.

Age	Cervical	Endometrial	Ovarian	Vulval
<25	0	0	4	0
25-49	16	6	9	0
49-65	14	24	19	9
>65	4	9	6	10

Based on histopathology, the most common cervical cancer (91%) was squamous cell carcinoma, followed by adenosquamous (6%) and adenocarcinoma (3%). Serous cystadenocarcinoma (39.8%) and mucinous cystadenocarcinoma (15%), mucinous dysgerminoma (13.1%), granulosa-cell tumour (10.5%), sex cord stromal tumour (8%), and endometrioid (5%), were the most prevalent histopathologies for ovarian cancer. Regarding endometrial cancer, the predominant type was endometrioid adenocarcinoma (77%) followed by clear cell carcinoma (10%), leiomyosarcoma (8%) and papillary serous carcinoma (5%). The most common histopathological type for vulval carcinoma was squamous cell carcinoma (68.5%) followed by malignant melanoma (21%) and verrucous carcinoma (10.5%) in descending order. Figure 1 below is depicting the prevalence of different gynecological cancers in three years of study.

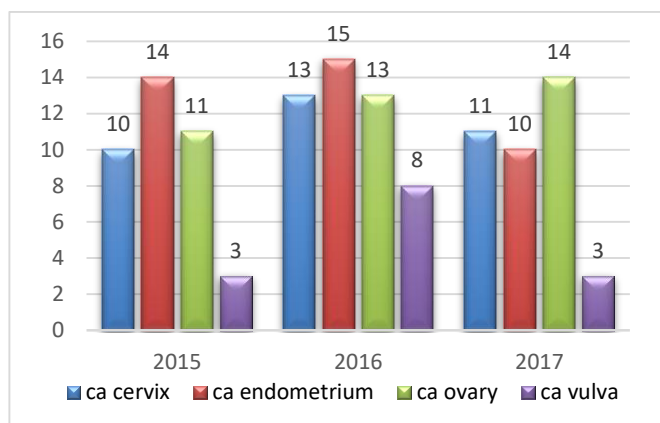


Figure 1. Trend of the prevalence of the gynecological cancers in the study population

Discussion

The most common cancer in our study was endometrial cancer (30%), followed by ovarian cancer (29%), cervical cancer (26.1%), vulvar cancer (14.7%). Although the distribution of gynecological malignancies varies in different geographical areas depending upon ethnicity and race, cervical carcinoma is considered to be the most frequent cancer of female genital tract in developing countries.¹ The observation in our study was

different and the three years data showed cervical cancer to be the third common cancer after endometrial and ovarian cancer which was in contrast to other studies of Yakasai. In Yakasai study cervical cancer was the commonest gynecological malignancy comprising 48.6% of cases while in our study, cervical malignancies comprise 26% of total cases.²⁰ Similar to Yakasia another study conducted in Africa showed cervical cancer to be the most common gynaecological malignancy with a frequency of 57.58%.²¹ Although widespread screening is not available in our country yet cervical cancer was less frequent in our study population. Farhat et al in her study showed ovarian cancer to be the most common gynecological malignancy, followed by cervical cancer.²² One study in England looking at the incidence of gynaecological malignancies in different racial groups migrated to England showed cervical cancer to be lower in subcontinent population²³ and this is attributed partly to sexual behavior i.e. Fewer sexual partners and old age at first intercourse.²⁴ This study also showed that ovarian cancer age standardized risk is lower in Asian than in whites²³, and these differences are attributed to higher parity, longer duration of breast feeding and lower HRT use. However, among Asian Pakistani population has high incidence of ovarian cancer which may be attributed to lower use of oral contraceptive and early initiation of breastfeeding in Pakistanis.²⁵

Endometrial cancer risk in whites and South Asians was found to be similar, with the South Asian immigrant Pakistani population having a higher risk than the Bangladesh population. Obesity, diabetes mellitus and hypertension are increasingly as an epidemic in our population which increases the risk for endometrial cancers. One study showed that 60% of cases of endometrial cancers had these risk factors.²⁶

The mean age for vulvar cancer was higher than the mean age for all other cancer and this was consistent with other studies. Mean age for cervical cancer was higher, while mean age of ovarian and endometrial cancer was slightly lower in our study than described by Yakasia et al.¹⁹ However, a study in CMH showed the mean age for cervical, ovarian, and endometrial cancer to be 52.40, 51.18 and 58.75 years respectively, which is similar to our study.²⁷ Regarding Parity; mean parity for cervical, endometrial and ovarian cancer was 6.0, 4.7 and 2.5. While Yasakai showed that mean parity for cervical cancer was 7; for endometrial cancer 4 and for ovarian cancer 3 which are similar to our study.²² Another study also showed the highest parity for cervical

cancer patients among cancer patients.²¹ Most common histopathology for cervical, endometrial and ovarian cancer was similar to that described in another study by Nasreen in her study.²² It is recommended that endometrial cancer can be prevented by timely tissue biopsies of suspected cases. Carcinoma of cervix by doing regular pap smear and carcinoma ovary with careful family history.

Conclusion

According to this study, endometrial cancer is the most common, followed by ovarian, cervical and vulval carcinomas. Risk factors for endometrial cancer can be modified by public awareness programs about weight reduction and control of diabetes. Reliable screening methods for endometrial and ovarian malignancies are needed to reduce their incidence. Furthermore, strengthening cervical screening programs, such as regular pap smears and HPV vaccination, would reduce the risk of cervical and vulval carcinomas even further. By strengthening the health programs and provision of health care services to women for early diagnosis and treatment, we will reduce the morbidity and mortality associated with gynaecological malignancies.

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