

# Patterns of Gynaecological Malignancies at a Tertiary Care Hospital

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## ABSTRACT

**Objective:** To study the clinicopathological pattern of gynaecological malignancies including the frequency, age distribution, clinical presentation, stage at diagnosis and histopathological types.

**Study design:** Descriptive observational study.

**Place and duration of study:** The Gynaecology and Obstetrics Department of Combined Military Hospital Rawalpindi from January 2009 to December 2010.

**Material and methods:** A total of 10,799 women were admitted during the study period. All patients having genital tract malignancies were included by purposive non probability sampling. All benign tumours were excluded. Relevant details regarding histories, physical examination and investigations were obtained. Necessary surgical procedures were performed. Cancers were staged clinically and surgically as required and confirmed histopathologically.

**Results:** The frequency of gynaecological cancer was 35(0.32%) cases out of the total 10,799 admissions at our institution. Ovarian cancers were the most frequent 22(62.86%), followed by uterine 8(22.86%) and cervical cancers 5(14.29%). Ovarian cancer presented mostly in the 50-75 years while uterine cancer in 60-75 years and cervical cancer in 40-49 years age groups respectively. Serous cystadenocarcinoma was the most frequent among ovarian cancers, 12(54.55%); whereas endometrioid adenocarcinoma, 6(75%) and sq. cell carcinoma, 3(60%) were the prevalent types among uterine and cervical cancers respectively. Abdominal distension, 13(37%), gastrointestinal upsets, 11(31%), irregular vaginal bleeding 9(26%), post menopausal bleeding 11(31%) and vaginal discharge 11(31%) were the most common symptoms. Most ovarian cancers presented in advanced stages, 21(95.4%), while uterine cancers were mostly in early stages at diagnosis, 5(62.5%).

**Conclusion:** Ovarian cancer in advanced stages was the most common gynaecological malignancy encountered. Awareness regarding early symptoms in women and a further detailed study about epidemiology and effectiveness of screening modalities needs to be carried out to reduce the burden of gynaecological malignancy.

**Key words:** Gynaecological malignancy, ovarian cancer, endometrial, staging.

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## INTRODUCTION

Cancer is the major cause of death and misery in developed and developing countries. Gynaecological cancer like other cancers, place tremendous strain on individuals, families and communities. Quality data is essential for effective cancer control and is the basis upon which policies and programs are developed<sup>1</sup>. The comprehensive global cancer statistics from the international agency for research on cancer indicate that gynaecological cancer accounted for 19% of 5.1 million estimated new cancer cases, 2.9 million cancer deaths and 13 million five years prevalent cancer cases among women in the world in 2002<sup>2</sup>.

Ovarian cancer is not only the most common of the gynaecological cancers but also the most lethal, having an overall five year survival of only 30% in the

United Kingdom<sup>3</sup>. This overall poor survival is due to lack of symptoms in early stages and the deep seated and relatively inaccessible location of ovaries. The incidence of cervical cancer in the developed countries has fallen steadily because of the well established cervical screening programmes<sup>2</sup> and effective vaccination but there is a paucity of these services in the developing countries, where 80%<sup>4,5</sup> of the world's cervical cancer cases occur. Endometrial cancer has been regarded as the least challenging because of early detection and high cure rates<sup>3</sup>. Vulval and vaginal cancers are rarer forms of genital malignancies.

One major problem in developing countries is the absence of accurate population and health statistics. It is therefore not possible to reliably calculate incidence rates of various cancers. In such circumstances, reliance has to be placed on relative frequencies in hospitals as a measure of tumour incidence. The estimation of cancer burden is

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valuable to set up priorities for disease control. Despite the relatively high frequency of female genital malignancy in Pakistan, there is still a paucity of awareness on this subject. To achieve these goals, this prospective study was carried out to determine the clinicopathological pattern of gynaecological malignancies including the age at presentation, symptoms, stage, relative frequencies of different cancers and their histopathological types. This in turn will help to devise strategies for effective screening, early diagnosis and timely management to reduce the mortality and suffering from these cancers.

**MATERIALS AND METHODS**

This prospective study was conducted at the Gynaecology and Obstetrics Department of Combined Military Hospital Rawalpindi from January 2009 to December 2010. During this period all admitted patients with gynaecological malignancies, whether diagnosed clinically, radiologically or surgically were included. All benign tumours were excluded from the study. All relevant data regarding the ages, clinical presentation, physical examination, investigations, necessary surgical procedures, staging (clinical, surgical or histopathological) and final histological type of cancer were entered on a pre designed proforma. The diagnosis was confirmed by histopathology of the samples taken at surgery or in the cases of chorio carcinoma by beta HCG levels. SPSS 14 was used to analyze the data. Frequencies and percentages were used to describe the data. Means, median and standard deviation for ages were calculated.

**RESULTS**

Total admissions during this two years period were 10,799. The frequency of gynaecological cancers was 35/10,799, (0.32%). The proportion of ovarian cancers was the highest among these 22/35(62.86%), with uterine 8/35 (22.86%) and cervical cancers 5/35 (14.29%) being second and third respectively. There were no cases of primary vaginal or vulval cancers, although one woman had a vaginal growth from a primary chorio carcinoma and three other women had secondary vaginal involvement from primary ovarian, endometrial and cervical cancers respectively.

The mean age of all the patients was 53.09±11.82 years collectively; while the mean ages for ovarian, uterine and cervical cancers were 51.18±13.12, 58.75±8.80, and 52.40±8.02 years respectively. Among the ovarian cancer patients, the highest number of patients fell in the 50-75 years age group 15(68.1%). The youngest patient was only 14 years old and presented with Dysgerminoma with malignant ascites. In the uterine cancer group, most

patients fell in 60-75 years age group 6(75%). The youngest patient in this group was 38 years old .She had chorio carcinoma and died of multiple metastatic lesions. Cervical cancer patients were mostly in 40-49 years age group 3(60%).The youngest patient being 45 years old. A very important and interesting finding was that 40% of all the patients presented below the age of 51.

Table 1: Age distribution of patients with gynaecological malignancies.

Age Range (Years)	Ovary	Uterus	Cervix
Less than 40	3	-	-
40 – 49	4	1	3
50-59	8	1	-
60 and above	7	6	2

Table 2: Range, median and mean ages for different gynaecological cancers

Site of cancer	Range (Years)	Median age (Years)	Mean Age (Years)	Std. Deviation (Years)
Ovary	14-75	53.50	51.18	13.12
Uterus	42-70	60.50	58.75	8.80
Cervix	45-70	49.00	52.40	8.02
<b>Total</b>	<b>14-75</b>	<b>55.00</b>	<b>53.09</b>	<b>11.82</b>

Table 3: Clinical Presentation of Different Gynaecological Cancers

Presenting Symptoms	Ovary	Uterus	Cervix	Total
Irregular vaginal bleeding	5(23%)	1(13%)	3(60%)	9 (26%)
Post menopausal bleeding	3(14%)	6(75%)	2(40%)	11(31%)
Vaginal discharge		7(88%)	4(80%)	11(31%)
Abdominal distension	13(59%)			13(37%)
Abdominal mass	4 (18%)			4 (11 %)
Abdominal Pain	4 (18%)			4 (11%)
Gastro intestinal upsets	11(50%)			11(31%)
Loss of weight	2(9%)			2 (6%)

The most frequent clinical presentations are given in Table 3. Ovarian cancers mostly presented with abdominal distension, gastro intestinal upsets and mass abdomen while uterine and cervical cancers mostly presented with abnormal vaginal bleeding and vaginal discharge. There was a significant overlap between the different clinical presentations among these cancers. 21(95.4%) patients with ovarian cancer presented in advanced

stages (FIGO<sup>6</sup> stage 3 and 4), while 5(62.5%) patients with uterine cancer presented in early stages of disease (FIGO<sup>7</sup> stage 1 and 2). 3(60%) patients with cervical cancer presented with advanced stage, while 2(50%) presented in early stage. Serous cyst adenocarcinoma was the commonest ovarian malignancy encountered 12(54.55%). Endometrioid adeno carcinoma of endometrium was the most common uterine malignancy detected 6(75%). Of the cervical cancers 3(60%) were squamous cell carcinomas while 2(40%) were adenocarcinomas. The different histopathological types are given in Table 4.

Chart-1 Relative frequency of genital tract malignancies

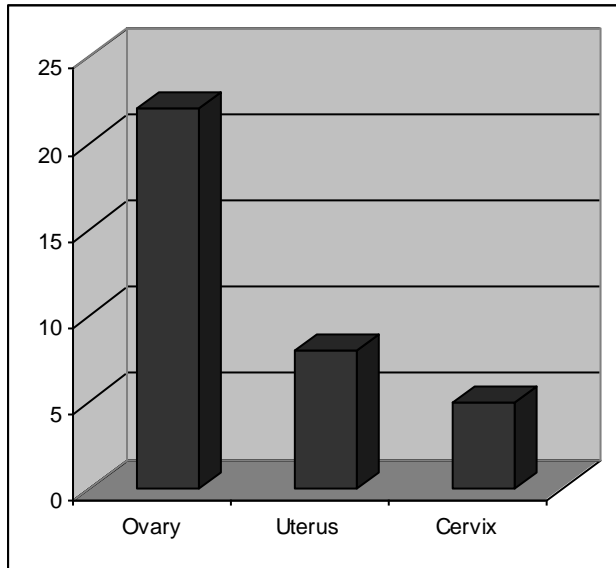


Chart 2: Stages of gynaecological malignancies

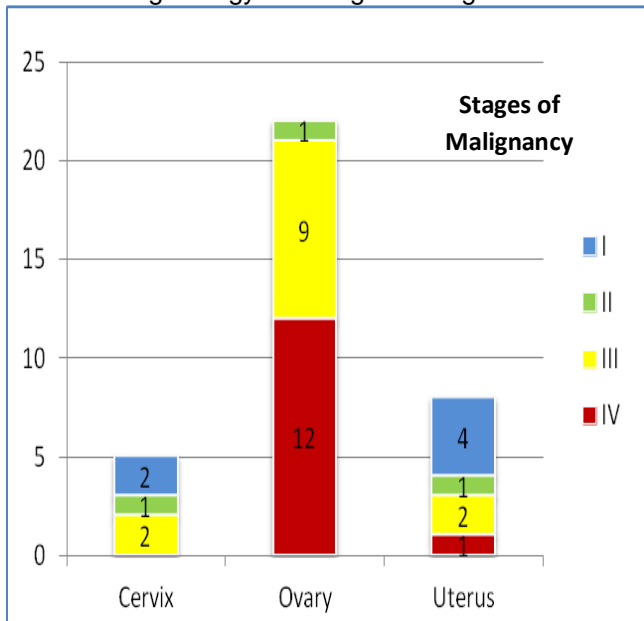


Table 4: Histopathological types of gynaecological cancers

Histopathological Types	Cervix	Uterus	Ovary	Total
Adenocarcinoma cervix	2			2
Choriocarcinoma		2		2
Clear cell ca			2	2
Dysgerinoma			1	1
Endometrioid adenocarcinoma		6		6
Endometrioid ovarian carcinoma			1	1
Malignant non hodgekin's lymphoma			1	1
Mesothelioma			1	1
Mucinous cyst adenocarcinoma			3	3
Serous cyst adenocarcinoma			12	12
Squamous cell ca	3			3
Transitional cell ca			1	1
Grand Total	5	8	22	35

## DISCUSSION

Gynaecological cancers formed 0.32% of all obstetric and gynaecological admissions at our tertiary care set up, which is low as compared to 4.18-4.7% in Nigeria<sup>8</sup>. Ovarian cancer being the commonest in our study is consistent with what has been reported in other studies from Pakistan<sup>9,10,11,12,13</sup> while studies from Africa report cervical cancer as the most common genital tract cancer<sup>14,15,16</sup>. Cervical cancer was also reported to be the commonest female genital tract malignancy in one study at Karachi<sup>17</sup>. Many publications from developed nations have shown uterine cancer to be the commonest gynaecological malignancy<sup>1,18</sup> because of widespread cervical screening programs and Human Papilloma Virus vaccination which has tremendously reduced the burden of cervical malignancy and tilted the balance in favour of uterine malignancy. Low prevalence of cervical cancer in our study may be due to less smoking in ladies, adherence to social norms, religious practices and male circumcision<sup>19</sup>.

Most ovarian tumours are said to arise from the surface epithelium. Similarly, in our study 90.9% of ovarian cancers were of epithelial origin, which correlated well with a study in Peshawar<sup>20</sup>. Serous cyst adenocarcinoma was the commonest cancer encountered by us as well as by other researchers in Pakistan<sup>10,20</sup> and India<sup>21</sup>, whereas Ahmed et al<sup>9</sup> found mucinous cyst adenocarcinoma to be the commonest variety. 30(85.7%) out of 35 gynaecological cancers occurring in the 40-69 years age group is quite higher compared to 72.2% reported by Briggs<sup>8</sup>. However, ovarian cancers were mostly detected in the fifth to seventh decades of life in our study 15(68.1%), which

correlates well with an African study at Ghana<sup>22</sup>. 14(40%) of all the malignancies occurred below the age of 51 years signifying the need to examine the ovaries as much as the need to visualize the cervix at every opportunity like ultrasound of the abdomen and pelvis and during procedures like laparoscopy, sterilization and caesarean section. Endometrial evaluation is a must in patients with menorrhagia, infertility, post menopausal and irregular vaginal bleeding. The mean age at presentation for cervical cancer 52.4±8.02 years in our study differs from the much lower mean ages of 42 and 47 years reported from Africa<sup>14,15</sup>.

The symptoms of abdominal distension and vague gastro intestinal upsets in ovarian cancer patients and irregular or post menopausal bleeding among endometrial and cervical cancer patients correlates well with other studies<sup>23,4</sup>.

It is a recognized phenomenon worldwide that most women with ovarian cancers present with advanced disease. This was clearly demonstrated in our study, where 95.4% of women presented in stage 3 and 4 disease, which is higher than the 79.5% in Zimbabwe by Kasule et al<sup>15</sup>. This may be due to the asymptomatic early stages and non availability of early and effective screening methods. Our study also shows consistency with the general observation of early stage at presentation with uterine cancer; 5(62.5%) of our patients were in this category. This result is comparable to that found by Nkyekyer<sup>22</sup>.

## CONCLUSION

This study gives us base line data about the most prevalent gynaecological malignancies at our institution. Need of the hour is to concentrate our efforts to create awareness among women to address these cancers. Most ovarian cancers occurred in the fifth to seventh decades of life in advanced stages, whereas most uterine cancers were in early stages at presentation. Cervical cancers occurred in relatively younger women. There is a need for a larger, multi centre, collaborated study to determine the risk factors, preventive strategies, screening modalities and management guidelines to reduce the mortality from these cancers.

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