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## INSTITUTIONAL BASED FREQUENCY OF DIFFERENT TYPE OF NEOPLASIA OF FEMALE GENITAL TRACT.

Zia Ullah<sup>1</sup>, Shehzad Faiz<sup>2</sup>, Muhammad Imran Khan<sup>3\*</sup>, Jawad Farooq<sup>4</sup>, Izaz Ullah<sup>5</sup>, Sibghat Ullah<sup>6</sup>

### ABSTRACT

**Objectives:** To Determine the frequency of different types of female genital tract neoplasia in our local population of KPK, Pakistan **METHODS:** This retrospective study was carried out between January 1, 2014, and December 31, 2018. The information was gathered from the pathology lab's histopathological records at Peshawar Medical College and North West General Hospital in Peshawar. The SPSS 19.0 program was used to record and analyse all pertinent data. **RESULTS:** This study comprised 1039 female patient cases across all age groups. The most often impacted organ was the uterus (83.6%), which was followed by the ovary and fallopian tube. Leiomyoma was the most prevalent benign neoplasia lesion, followed by endometrial polyps, whereas endometrial carcinoma was the most common malignant neoplasm. Ninety-one instances were malignant, while 948 were benign. The age range of 41 to 50 had the highest frequency of neoplasia. Peshawar reported the highest number of cases (33%). **CONCLUSION:** The most frequent benign tumour in the female genital tract, according to our data, is leiomyoma, whereas the most prevalent malignant tumour in our community is ovarian cancer. The study's findings indicate that incidence rises with age.

**KEYWORDS:** Female Genital Tract, Benign, Neoplasia, Malignant, Ovarian Carcinoma.

1. Postgraduate Resident General Surgery Khyber Teaching Hospital, Peshawar, Pakistan.
2. Postgraduate Resident Surgery Department of Surgery Khyber Teaching Hospital, Peshawar, Pakistan.
3. Associate Prof Surgery Department of Surgery Khyber Teaching Hospital, Peshawar, Pakistan.
4. Postgraduate Resident Surgery Department of Surgery Khyber Teaching Hospital, Peshawar, Pakistan.
5. MBBS, Saidu Medical College, Swat, Pakistan.
6. Postgraduate Resident General Surgery, Department of Surgery Khyber Teaching Hospital, Peshawar, Pakistan.

**Corresponding Author:** Dr. Muhammad Imran Khan, Associate Prof Surgery Department Of Surgery Khyber Teaching Hospital, Peshawar, Pakistan. Email: [Imran.khan@kmc.edu.pk](mailto:Imran.khan@kmc.edu.pk)

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### INTRODUCTION

An estimated 9.6 million deaths worldwide in 2018 were attributed to cancer, making it the second highest cause of death worldwide<sup>1</sup>. An estimated 51 million people die from cancer globally each year, and 8.5% of those deaths are linked to cervical cancer; most of these deaths take place in developing countries. Every year, there is over 500,000 new cases worldwide, most of which occur in underdeveloped countries<sup>2</sup>. Cancers of the breast, cervix, colorectal, lung, and thyroid are more prevalent in women, whereas malignancies of the lung, prostate, colorectal, stomach, and liver are more common in men. In terms of incidence, breast

cancer is the most common genital tract cancer in women, followed by cervical cancer<sup>3</sup>.

Based on available data, it is possible to prevent between 30% and 50% of cancer-related fatalities by altering or avoiding major risk factors, such as abstaining from tobacco products, drinking less alcohol, keeping a healthy weight, exercising often, and managing risk factors linked to infections<sup>4,5</sup>. Numerous factors contribute to an elevated cancer risk, such as smoking, having many children, long-term use of hormonal contraceptives, weakened immune systems, certain nutritional deficiencies, and concurrent infections with

herpes simplex virus type 2, Chlamydia trachomatis and HIV. In addition, particular genetic and immunological characteristics of the host may also play a role in increasing the likelihood of cancer<sup>6</sup>. Effective and reasonably priced programs for early diagnosis, screening, treatment, and palliative care are required in order to lessen the considerable handicap, suffering, and fatalities brought on by cancer globally<sup>7</sup>. Cancer incidence is rising gradually in emerging nations. Currently, the incidence of cancer in industrialized and developing nations is comparable<sup>8</sup>. Geographic differences exist in the incidence of cancer. Certain types of tumors are more prevalent in specific parts of the world, but other neoplastic illnesses are found everywhere. The pattern of cancer incidence in emerging nations is still unclear since geographic dispersion may give information about the aetiology of cancers<sup>9</sup>. Like other malignancies, gynecological cancer causes a great deal of stress for affected people, families, and communities. Gynecological cancer is becoming more common in developing nations, where it now makes up 25% of all new cancer diagnoses among women up to 65, as opposed to 16% in industrialized nations<sup>10</sup>. The most prevalent gynecological cancer in underdeveloped nations without screening systems is cervical cancer<sup>11</sup>. Gynecological cancer accounted for 19% of the expected 5.1 million new cancer cases, 2.9 million cancer deaths, and 13 million five-year prevalent cancer cases among women worldwide in 2022, according to the International Agency for Research on Cancer's complete global cancer data. With a five-year survival rate of about 30% in the UK, ovarian cancer is not only the most frequent but also the deadliest of the gynecological cancers<sup>13</sup>. The ovaries' deep-seated, mostly inaccessible position and the absence of symptoms in the early stages are to blame for the overall low survival rate. Developed countries have experienced a consistent decrease in cervical cancer cases due to well-established screening programs and effective vaccinations. However, in underdeveloped nations, where 80% of global cervical cancer cases occur, there is a lack of access to such healthcare services. Because it may be detected early and has an excellent chance of recovery, endometrial cancer has been identified as the least difficult kind. Less common types of genital malignancies are vaginal and vulvar cancers.<sup>14</sup>

The absence of a National Cancer Registry in Pakistan causes significant obstacles to cancer prevention, standardized clinical trials, quality assurance and screening through monitoring. Pakistan must quickly put in place a comprehensive cancer registry system.<sup>15</sup> On the other hand, a pathology-based cancer registry that is hospital-based and institution-based is an essential tool for public health that may assist doctors in determining the effectiveness of different cancer treatments, verifying suspected cancer clusters, and providing researchers with useful data. The lack of knowledge of cancer screening programs may be a reflection of the nation's overall health education deficiencies.

Programs that concentrate on specific disorders are therefore probably less beneficial than those that are broad in order to solve this issue. The aim of this study was to identify various forms of neoplasia and to link neoplasia in the female genital tract across age groups and regional distributions.

#### **METHODOLOGY**

From January 1, 2014, to December 31, 2018, an observational study was carried out. The information was taken from patient records at Peshawar Medical College's North West General Hospital and the histology section of the pathology laboratory. The diagnosis complied with global guidelines and the worldwide disease-oncology categorization system. The most recent WHO categorization and recommendations were applied. Since this is a study of patient records through documents, there is no ethical dilemma. Our data gathering tool does not include any personal identifiers. The data was kept private and confidential.

The World Health Organization (WHO) now classifies malignancies of the female reproductive system, therefore the damaged organs were chosen and the tumours were classed accordingly.. The most recent College of American Pathologists (CAP) reporting guidelines were strictly followed for reporting resection specimens (Washington, 2013). Microsoft Excel 2016 was used to capture and further analyse all pertinent data, and SPSS 19.0 was used for the analysis.

#### **RESULTS**

This study comprised 1039 female patient cases across all age groups. Ages 41 to 50 had the highest incidence of neoplasia, whereas age groups 20 and under had the lowest prevalence.

Ninety-one instances were malignant, while 948 were benign.

**Table 1: Correlation of age with type of neoplasia**

Age groups	Malignant % (n)	Benign % (n)	Total N
20 and younger	18.5 (5)	81.5 (22)	27
21-30	8.2 (15)	91.8 (169)	184
31-40	6.1 (21)	03.9 (322)	343
41-50	6.8 (25)	93.2 (345)	370
51-60	19.5 (15)	80.5 (62)	77
61 and above	26.3 (10)	73.7 (28)	38
Total	8.8 (91)	91.2 (948)	1039

Table 2 shows that endometrial polyps and leiomyoma were the most common benign neoplasia lesions, whereas endometrial carcinoma was the most common malignant neoplasm (Table 2).

**Table 2: Frequency of different types of Neoplasia**

Lesion	Frequency % (n)
Cervical polyp	1.7 (18)
Benign ovarian tumors	7.1 (74)
Cervical carcinoma	1.6 (17)
Ca Fallopian tube	0.2 (02)
Choriocarcinoma	0.5 (05)
Endometrial polyp	19.8 (206)
Endometrial lymphoma	0.3 (03)
Endometrial carcinoma	1.9 (20)
Hydatidiform mole	0.8 (08)
Leiomyosarcoma	0.2 (02)
Leiomyoma	61.7 (641)
Ovarian carcinoma	2.1 (22)
Vaginal polyp	0.4 (04)
Vaginal carcinoma	1.6 (17)
Total	100 (1039)

The most often affected organ was the uterus (83.6%), followed by the ovary (8.9%), cervix, and vagina. The organ least affected was the fallopian tube (Table 3).

**Table 3: The frequency of various organ types afflicted in the female genital region**

Affected organ	Malignant % (n)	Benign % (n)	Total
Cervix	35.9 (14)	64.1 (25)	39
Fallopian Tube	100 (02)	0 (0)	02
Ovary	26.1 (24)	73.9 (68)	92
Placenta	26.7 (04)	73.3 (11)	15
Uterus	3.3 (29)	96.7 (840)	869
Vagina	81.8 (18)	18.2 (04)	22
Total	8.8 (91)	91.2 (948)	1039

## DISCUSSION

The relative frequency of various forms of neoplasia is reported in our study and other studies from Pakistan. Because such institutionally based studies are vulnerable to several areas of bias, population-based incidence or death numbers are not available. i.e. The availability of specific services at a given institution may be reflected in referral biases.<sup>16</sup>

Age-related increases in the prevalence of neoplasia are consistent with our findings, which demonstrate that the incidence of female genital tract neoplastics is rising in women who are reproductive age or older i.e., age group 41 to 50.<sup>17, 18</sup> According to our study, uterine fibroids account for 61.7% of all cases of gynecological neoplasia. This frequency is similar to studies done at King Abdul Aziz University Hospital in Saudi Arabia by Wilcox LS (75%)<sup>17</sup> and Abbas et al. (21.2%) in the United States..<sup>19</sup>

The results of a study done in Pakistan by Jamal et al.<sup>20</sup> show that ovarian carcinoma is the most prevalent malignant neoplasm. However, the most prevalent cancer of the female reproductive system, according to the World Cancer Report, is cervical cancer. Every year, an estimated 470000 new cases are diagnosed worldwide<sup>21</sup>. There might be a regional variance in the pattern of tumours causing the discrepancy. While certain neoplastic disorders are evenly distributed around the world, many cancers are more frequent in particular parts of the globe<sup>22</sup>. Malignant tumours were more common in Afghan patients than in Pakistani patients; more investigation into the frequency of malignant tumours in Afghanistan may be required.

The study strength is lies in the comprehensive five-year dataset we have amassed. Furthermore, our analysis sheds

light on the implicated organ and the relative incidence rates of neoplasia in the female genital tract. However, our study is limited by its generalizability to the broader population, as it only encompasses patient records from those who attended the histopathology labs at Peshawar Medical College and Northwest General Hospital in Peshawar. Due to the state of the data records, we recommend meticulous reporting of patient data. There is a critical need to establish specialized health care awareness programs. Moreover, the implementation of screening initiatives is imperative for the early detection of cancer and prevention of its proliferation, akin to how Pap smears have significantly reduced mortality associated with cervical cancer. Patients exhibiting simultaneous abnormalities in the urinary and genital systems are more predisposed to developing adenocarcinoma of the lower genital tract. To corroborate our findings, further research is imperative, ideally through prospective studies. It is advisable for women with genital irregularities to receive frequent and thorough gynecological examinations and imaging assessments, as they may have an elevated risk of genital malignancies, especially when accompanied by urinary anomalies.

#### **Conclusion:**

Patients exhibiting simultaneous abnormalities in the urinary and genital systems were more prone to developing adenocarcinoma of the lower genital tract. To confirm our observations, further research is necessary, ideally through prospective studies. It is advisable for women with genital irregularities to receive frequent and thorough gynecological examinations and imaging studies, as they may have an increased risk of genital cancers, especially when accompanied by urinary anomalies.

**ETHICS APPROVAL:** The ERC gave ethical review approval.

**CONSENT TO PARTICIPATE:** written and verbal consent was taken from subjects and next of kin.

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