

## GYNECOLOGICAL MALIGNANCIES IN ADEN, YEMEN: AN OVERVIEW OF 4 YEARS

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**ABSTRACT**

**Background:** Gynecological cancers are common and are among the leading causes of cancer - related death worldwide. **Objective:** The objective of this study was to determine the pattern of gynecological cancers registered and treated in National Oncology Center, Aden Yemen. **Material and methods:** A 4 year retrospective study of female genital tract malignancies was carried out in woman Care Unit in National Oncology Center (NOC), Aden, Yemen between January 2013 to December 2016. The data analyzed using statistical package for social science (SPSS), IBM SPSS statistics Version 20, IBM incorporation and licensors 1989, 2011 New York USA and the results expressed in descriptive statistics by simple percentages. **Results:** A total of 1646 women were seen and diagnosed as malignancies in NOC, Aden during the study period , while 224 were found to have gynecological malignancies, most (54.4%) have ovarian cancers, followed by cervix cancer (18.8%), endometrial cancer (15.2%) and the choriocarcinoma (11.6%). The mean age of endometrial and ovary cancer patients ( $48 \pm 14$  years) was higher than that of choriocarcinoma ( $33 \pm 12$  years), but lower than cervix cancer patients ( $56 \pm 12$  years). **Conclusion:** Ovarian cancer was the most frequent malignant tumor and the least was choriocarcinoma.

**KEYWORDS:** Gynecology cancer, Pattern, Aden, Yemen.**INTRODUCTION**

Gynecological cancers are among the leading causes of cancer related deaths worldwide and the distribution and frequency vary from one region to the other. It accounts for about 11.7% of all cancers diagnosed in women.<sup>[1]</sup> Gynecological cancers include cancers of the ovary, fallopian tube, uterine body (corpus uteri), cervix, vagina and vulva as well as choriocarcinoma.

Incidence rates remain highest in more developed regions, but mortality is relatively much higher in less developed countries due to a lack of early detection and access to treatment facilities.<sup>[2]</sup>

In developing countries like Yemen, routine cervical cancer screening is rudimentary; hence there is a high rate of cervical cancer due to lack of awareness of cervical cancer among the population and absence or poor quality of screening program.

Ovarian cancer is the most common female genital cancers and a major cause of death from female genital tract malignancies. Most of the patients with ovarian cancer present with advanced stages due to nonspecific symptoms of the disease. Ovarian cancer has the highest mortality rate in developing countries because as two-third of the cases present at advanced stages.<sup>[3]</sup> There are more than 204000 new cases of ovarian cancer per year

worldwide, including about 43000 new cases in Europe and 22000 in the US.<sup>[4]</sup>

In Africa and Indian studies, cervical cancer is the second most common type of cancer in women, following breast cancer. Cervical cancer occurrence is related to the human papilloma virus (HPV). HPV infection is transmitted through sexual activity and the possibility of transmission is associated with multiple sexual partners and high risk sexual partner.<sup>[5]</sup>

Age and parity affect the incidence of gynecological cancers. Endometrial and ovarian cancers occur mainly later in reproductive life, while carcinoma of cervix and choriocarcinoma are seen commonly in pre or perimenopausal women.<sup>[6]</sup>

Endometrial carcinoma is the most common female genital tract malignancy of women in the United States and the fifth most common cause of cancer in women worldwide.<sup>[7]</sup> Despite its prevalence, the molecular events involved in the development and progression of endometrial carcinoma remain poorly characterized. Both endometrial and cervical cancers are more likely to be diagnosed in the early stages because of their symptoms and the availability of effective screening tools.

## MATERIAL AND METHODS

A 4-year retrospective study of female genital tract malignancies was carried out in women care unit in National Oncology Center, Aden, Yemen between January 2013 to December 2016. The clinical record of all patients was reviewed with factors including name, age, sex and type of cancer. All cases had histopathological diagnosis of gynecological malignancies. The cases of choriocarcinoma were also investigated by BHCG.

The data were analyzed using Statistical Package for social Science (SPSS), IBM SPSS statistics version 20, IBM incorporation and licensors 1989, 2011 New York USA and the results expressed in descriptive statistics by simple percentages.

The aim of the study to determine the frequency of gynecological malignancies in National Oncology Center, Aden, Yemen and to determine the characteristics of gynecological cancers in Aden, Yemen.

**Table 2: Age group distribution of patients with gynecological cancers.**

Age group	Ovary	Cervix	Endometrial	Chorio carcinoma	Total/%	P value
20-29	5	3	2	12	22(9.8)	<0.01
30-39	17	3	3	5	28(12.5)	
40-49	32	13	7	5	57(25.5)	
50-59	28	8	7	4	47(21.0)	
60-69	30	8	12	0	50(22.3)	
70-79	10	7	3	0	20(8.9)	
Total	122	42	34	26	224(100)	

**Table 3: Range and mean ages of gynecological cancer.**

Site of cancer	Range (Years)	Mean age (Years)	St. Deviation
Ovary	20-70	48	14
Cervix	27-77	56	12
Endometrium	28-75	48	12
Choriocarcinoma	15-56	33	12

## DISCUSSION

Gynecological cancers accounted 13.6% of all malignant tumors diagnosed during the same period of total female malignancies. This is high compared to 2.8% and 4.7% reported in Ghana and Nigeria.<sup>[8,7]</sup>

Ovarian cancers were the most frequent, comprising 54.4% of all gynecological malignancies. It is similar to other studies in Libya (Ibrahim Larbah et al 2009),<sup>[9]</sup> and in Pakistan (Dawood et al 2009).<sup>[10]</sup> While Nnadi et al,<sup>[11]</sup> and Sarkar et al,<sup>[12]</sup> found that ovarian cancer was the second common gynecological malignancies. The age distribution of ovarian cancers showed that the majority of the cases (74%) occur in women between 40-69 years of age and mean age of 48±14 correlate to study by Jamal et al (2006),<sup>[13]</sup> where mean age for ovarian cancer reported 46 years. This data are correlated with other studies.<sup>[14]</sup>

Cancer of the ovaries has the highest mortality rate among gynecologic cancers, in developed and

## RESULTS

A total of 1646 women were seen and diagnosed as malignancies in NOC, Aden during the study period, while 224 were found to have gynecological malignancies, most (54.4%) had ovarian cancer, followed by cervix cancer (18.8), endometrial cancer (15.2%) and the choriocarcinoma (11.6%). The mean age of endometrial and ovarian cancer patients (48 ± 14 years) was higher than that of choriocarcinoma (33±12 years) but lower than cervix cancer (56±12 years).

**Table 1: Relative Frequencies of gynecological cancers in National Oncology Center, Aden (January 2013- December 2016).**

Type of cancer	No	%
Ovary cancer	122	54.4
Cervix cancer	42	18.8
Endometrial cancer	34	15.2
Choriocarcinoma	26	11.6
Total	224	100

developing nations.<sup>[15]</sup> Advanced stage diagnosis requires long, complex, very aggressive and costly treatment; thus, the management of ovarian cancer in low income countries poses a great challenge.<sup>[16]</sup>

In our records, not only in this study, but in our previous analysis as well and other studies. Cervical cancer, which is the most frequent in most western studies, was the second most frequent in this study and made up of 18.8% whereas in India and Africa between 60-80%.<sup>[11-12]</sup> While the low rates are observed in western Asia and Muslim countries.<sup>[17-18]</sup> Peak incidence at presentation of cervical cancer was in the 40-49 years age group. Similar result with 45 to 49 years by Stewart et al (2003).<sup>[17]</sup> Squamous cell carcinoma was found in 90% of cases.<sup>[9,13]</sup> Late diagnosis occur due to lack of National Cancer program for screening in Yemen.

A previous study indicate that even the educated population of Yemen has no basic knowledge about HPV, cervical cancer and its screening test and absence

role of ministry of Public Health to support cost of HPV vaccine.<sup>[19]</sup>

Endometrial cancers were the third common gynecological cancers. The incidence is higher in the more developed countries and lower in Africa and Asia.<sup>[15]</sup> In our analysis it constituted 15.2% of gynecological malignancies. The same or lower frequency is reported in other observations.<sup>[20-21]</sup>

Choriocarcinoma is a disease of younger women as shown in this study and most cases associated with pregnancy and is the least common malignancy of gynecological malignancies and common at the age group 20-39 years. In comparison with other studies, may be the disease more common in Yemen due to low socioeconomic and poor education status. A previous study reported that the highest incidence in Asia is generally due to low socioeconomic status and poverty.<sup>[22]</sup>

### CONCLUSION

1. Ovarian tumors were the most frequent, comprising 54.4% of all gynecological malignancies.
2. Cervical cancer was the second most common gynecological cancer made up 18.8%, whereas in an Indian study it comprised up to 80%.
3. Endometrial cancers were the third common gynecological cancers. The incidence is higher in the more developed countries and lower in Africa and Asia.

### RECOMMENDATIONS

1. Establishment national strategy for early detection of gynecological malignancies.
2. Support programs of free regular PAP smear examination for early detection of cervical cancer.
3. Improvement of primary prevention programs and support free charge of vaccine of HPV.

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