

## Histopathological Variations of Endometrial Carcinoma

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### ABSTRACT

**Background:** Corpus cancer is the most frequently occurring female genital cancer. In developed countries, endometrial carcinoma is the most common gynecological cancer; however, in developing countries however, it is much less common. The risk factors for developing endometrial carcinoma are obesity, hormonal replacement therapy, and aging of the population.

**Objective:** to determine the frequency of endometrial carcinoma in relation of the histological subtypes to age groups and stage among all patients recorded in Aden.

**Methods:** Descriptive retrospective study all patients who had biopsies taken from the endometrium diagnosed histological to be carcinoma from January 2013 to December 2018. Data was collected in the archives of Ibin sina laboratory and Algamhuria hospital in Aden governorate for the period of 6 years.

**Results:** Cases of endometrial carcinoma were 55. The age ranged from 25 to 70 years with the median age 60. The most frequent type of endometrial carcinoma was endometrioid carcinoma 50.9% followed by serous carcinoma representing 32.7%, undifferentiated carcinoma 7.3%, choriocarcinoma 5.5% and clear cell carcinoma was among the least 3.6%. The majority of patients presented in early stages 67.3%, while only 7.3% of cases presented in late stages of the disease (stages IV).

**Conclusion:** Endometrial carcinoma was predominant in age 60 and above. The most frequent subtype of endometrial cancer was endometrioid carcinoma followed by serous carcinoma. The majority of the cases were diagnosed early stage .

**Keywords:** Endometrial, Carcinoma, Subtype, Stage

### INTRODUCTION

Globally, uterine cancer is one of the top-ranking cancers that affect women. [1] Corpus uterine cancer sometimes referred to as endometrial cancer, [2] is common gynecological tumor .it is the fifth leading cancer among women worldwide. [3] It is the most common gynecologic malignancy in developed countries and the second most common gynecologic malignancy in developing countries after cervical cancer. [4] North America and Central and Eastern Europe have the highest incidence of corpus uteri cancer in the world. [1, 5] In contrast, some regions in Africa show the lowest incidence rate in the world. [6-7] the variation in uterine cancer incidence rates across the world can be explained by differences in exposure to risk factors and different levels of health care in the different regions. [8] Based on Globocan, corpus uteri cancer is ranked as the tenth most common cancer among women in Egypt [9] in Jordan among the cumulative top ten cancers it is the fifth. [10] Saudi women it is the sixth, [11] in UAE it rank 7. [12] In Yemen corpus uterine cancer is ranked eighth [13] and in here in Aden endometrial cancer is ranked third of gynecology malignancy. [14] Over 90% of endometrial cancers are epithelial malignancies, in other words, carcinomas, arises from the inner layer (endometrium) of the uterus followed by uterine sarcoma that arises from the outer layer (myometrium) (8%) and less frequent types of cancer (2%). [9] We in this study tried to document our experiences regarding different types of epithelial malignancies in endometrium carcinoma in relation to the histological

subtypes, age groups and stage among all patients recorded in Aden

**MATERIALS & METHODS**

This is a descriptive and retrospective study of all patients who were diagnosed with endometrial carcinoma in curettage biopsy followed by radical hysterectomy specimens. Data collected from the case files and histologic reports of endometrial carcinoma according to WHO classification. [15,16] extension of the carcinoma according to the International Federation of Gynecology and Obstetrics classifies endometrial cancer (16) were collected in the electronic health records of Ibin sina laboratory and Algamhuria hospital in Aden governorate for the period of 6 years (from January 2013 to December 2018).

Data processing and analysis were done using the Statistical Package for the Social Sciences. (SPSS - 20). Age, stage of the tumor, and the histologic subtypes were recorded and analyzed using the Statistical Package .Age was expressed as median age and range was stratified into various groups by decade. The frequencies and percentages of variables, age group, histologic variants and stage were calculated.

**Statistical Analysis** We used descriptive statistics analysis to evaluate the difference in the various percentages. P value of .05 was considered statistically significant.

**RESULT**

Cases of endometrial carcinoma were 55. The age ranged from 25 to 70 years with the median age 60. The most frequent type of endometrial carcinoma was Endometrioid carcinoma 50.9% followed by Serous carcinoma representing 32.7%, Undifferentiated carcinoma 7.3%, Choriocarcinoma 5.5% and Clear cell carcinoma was among the least 3.6% .

**Table 1. Frequency of histologic variant of endometrial carcinoma**

Histologic variant	No of cases	Percentage
Endometrioid carcinoma	28	50.9
Serous carcinoma	18	32.7
Clear cell carcinoma	2	3.6
Choriocarcinoma	3	5.5
Undifferentiated carcinoma	4	7.3
Total	55	100.0

The age group is the most frequently affected with endometrial carcinoma is 60 and above representing 63.6% of all case where serous carcinoma was predominantly followed by endometrioid carcinoma 25.5% and undifferentiated carcinoma. 7.3% was which was only diagnosed in this age group

Endometrioid carcinoma was common in age group 40-49 and 50-59 7.3% and 18.2% respectively. Choriocarcinoma was diagnosed only in below 40 years 5.5%. Clear cell carcinoma were 3.6% in age group 40-49. There was a significant relationship between endometrial carcinoma and age groups of patients (p<0.001)

**Table 2. Frequency of histologic variant of endometrial carcinoma according to age group**

	Endometrioid carcinoma	Serous carcinoma	Clear cell carcinoma	Choriocarcinoma	Undifferentiated carcinoma	Total
below 40	0 0.0%	0 0.0%	0 0.0%	3 5.5%	0 0.0%	3 5.5%
40-49	4 7.3%	0 0.0%	2 3.6%	0 0.0%	0 0.0%	6 10.9%
50-59	10 18.2%	1 1.8%	0 0.0%	0 0.0%	0 0.0%	11 20.0%
60 and above	14 25.5%	17 30.9%	0 0.0%	0 0.0%	4 7.3%	35 63.6%
Total	28 50.9%	18 32.7%	2 3.6%	3 5.5%	4 7.3%	55 100.0%

There was a significant relationship between histopathologic types of

endometrial carcinoma and age groups of patients (p<0.001).

Stage I presented 50.9% of all case and the majority of the cases were endometrioid carcinoma and serous carcinoma. All cases of undifferentiated carcinoma where in this stage at the time of diagnosis.

Stage 111 was the second most frequent in which serous carcinoma was predominant 14.5% and all cases of choriocarcinoma

were in this stage at the time of diagnosis followed by stage II 16.4% Endometrioid carcinoma was common.

Stage IV was the least frequent representing 7.3% mostly serous carcinoma. There was a significant relationship between histologic variant of endometrial carcinoma and stage of patients ( $p < 0.052$ ).

**Tables 3** revealed the clinical stage of the cases documented. Fifty percent of patients presented in stage 1, while only 7.3% of cases presented in late stages of the disease (stages IV).

Stage	Endometrioid carcinoma	Serous carcinoma	Clear cell carcinoma	Choriocarcinoma	Undifferentiated carcinoma	Total
Stage 1	11 20.0%	12 21.8%	1 1.8%	0 0.0%	4 7.3%	28 50.9%
Stage 11	5 9.1%	4 7.3%	0 0.0%	0 0.0%	0 0.0%	9 16.4%
Stage 111	3 5.5%	8 14.5%	0 0.0%	3 5.5%	0 0.0%	14 25.5%
Stage 1V	1 1.8%	2 3.6%	1 1.8%	0 0.0%	0 0.0%	4 7.3%
Total	20 36.4%	26 47.3%	2 3.6%	3 5.5%	4 7.3%	55 100.0%

Table 3 shows that there was a significant relationship between histologic variant of endometrial carcinoma and stage of patients ( $p < 0.052$ ).

## DISCUSSION

Incidence of endometrial cancer is on the rise approximately 3%, [17,18] increases with age and life expectancy [19] occurs during the reproductive and menopausal years. [20] Historical observations have suggested that endometrial carcinomas vary in histopathologic appearance and clinical features. [21] In 1983, Bokhman proposed that endometrial cancers could be divided into two broad types based on fundamental differences in endocrine and metabolic functioning and accepted endometrial cancer risk factors. [22] Following Bokhman's seminal contribution, clinicopathologic studies led to the view that the predominant form of endometrial cancer (referred to as Type I) corresponds histologically to endometrioid adenocarcinomas, whereas other forms (Type II) encompass most non-endometrioid histologic types, with serous carcinoma representing the prototype. [21]

The most frequent type of endometrial carcinoma in our study was endometrioid carcinoma followed by serous carcinoma similar to the results of Imrana. [22] The majority of our cases were in age 60 and above and this age group was also reported to be frequent affected by endometrial carcinoma is similar to the report of Saad Alshahrani [9] in Egypt whose the results showed that the highest incidence was observed in the age group of 60-64 years and the lowest incidence in the age group under 40 years Alghamdi in Saudi [19] and Brinton. [24] It is documented that diagnosis is usually made early while the tumor is confined to the uterine corpus due to the nature of the disease and incidence of uterine and/or vaginal bleeding and these patients generally have a good prognosis. [3][25] Majority of our cases were in stage I similar to the series of Muhammad [26] And Lee. [27]

Choriocarcinoma is a very rare neoplasm. [28] It is a highly malignant tumor that primarily occurs in women of reproductive age. [29] All our cases were diagnosed in below 40 years in accordance with Dauda [30] who reported the majority of their cases were in 20-39 . Choriocarcinoma have tendency to widespread dissemination

metastases [31] tend to develop early during the course of the disease. [32] All cases in this series were diagnosed in stage III.

Clear cell carcinoma was the least frequent endometrial carcinoma 3.6% in our series and it is lower than the results of Imrana [23] 5% Mohammed. [26] 8%.

Undifferentiated endometrial carcinoma is a relatively uncommon neoplasm. [33] It represents a recently recognized and rare diagnosis that is commonly misclassified on histopathologic evaluation. These cancers account for less than 10% of carefully reviewed series of endometrial cancers from academic medical centers. [34] Undifferentiated carcinoma. In our series were 7.3% lowered that the report of Silva [35] represents 9% of all endometrial carcinomas of his series, it is documented the median age at presentation ranges between 50 and 59 years. [33] All our cases were in age group 60 and above. All our patients presented with early stage disease stage I while Altrabulsi reported only 46% of their series were in early stage. [36]

## CONCLUSION

Endometrial carcinoma was predominant in age 60 and above. The most frequent type of endometrial cancer is endometrioid carcinoma followed by serous carcinoma. The majority of the cases are diagnosed early stage .

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