





Factors Affecting Disease Recurrence and Overall Survival in High-Grade Endometrial Cancer Patients

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ABSTRACT

Objective: The main objective of present study was to determine the factors affecting disease recurrence and overall survival in patients with high-grade endometrial cancer.

Methods: The study retrospectively included women who underwent primary surgery between January 2017 and December 2021 and were diagnosed with serous, clear cell, carcinosarcoma, mixed type, grade 3 endometrioid or DE/undifferentiated endometrial cancer histology as documented in postoperative pathology reports. The data set was obtained from patient files and an electronic gynaecological oncology clinic database.

Results: A total of 81 patients were included in the analysis. 26 (32.1%) patients had recurrence. Pelvic lymph node positivity, para-aortic lymph node positivity, disease stage and adjuvant treatment were associated with disease recurrence. P values were 0.005, 0.009, 0.019, 0.002 and 0.009, respectively. Overall survival duration was 39 months. In multivariate analysis, only histotype (DE/undifferentiated, Hazard ratio (HR): 4.028 Confidence interval (CI): 1.208-13.434; P=0.023) and positive peritoneal cytology (HR: 3.719; CI:1.408-9.827; P=0.008) were significant independent prognostic factors for overall survival.

Conclusion: Histotype and positive peritoneal cytology may be associated with a worse overall survival in high-grade endometrial cancers.

INTRODUCTION

Endometrial cancer (EC) is the most common gynaecological malignancy among women in developed countries, and an increasing trend has been observed over time. Typically, EC is diagnosed at an early stage due to the presence of early symptoms. The prognosis for this disease is generally favourable, with a 5-year survival rate of 96% when diagnosed at an early stage. However, the 5-year survival rate is reported to drop to 20% when diagnosed at a late stage.^[1]

EC classification is traditionally based on histological features defined by Bokhman in 1983. Type 1 ECs are characterised as low-grade endometrioid ECs and are associated with conditions causing unopposed oestrogen production. In contrast, type 2 non-endometrioid ECs are defined as

high-grade tumours not associated with unopposed oestrogen production. The development of these tumours is typically characterised by atrophy and is frequently seen in older age groups.^[2-4]

Following the publication of the Cancer Genome Atlas in 2013, the EC classification has been divided into four different subtypes based on molecular characteristics: POLE ultra-mutation, microsatellite instability, hypermutation, low copy number and high copy number.^[5] This classification formed the basis for many subsequent studies, which identified subgroups using a molecular-based combination of immunohistochemistry and mutation analysis instead of genomic data. Nevertheless, this classification based on molecular characteristics is restricted, particularly in underdeveloped and developing countries where resources

are limited. Consequently, histological classification is still employed in many countries for staging and adjuvant therapies, which are based on this classification.

The majority of ECs account for approximately 80% of cases, are diagnosed at an early stage, and are characterised by low-grade endometrioid histotypes. High-grade endometrial cancers (HGEC) encompass the following histological grades: FIGO grade 3 endometrioid carcinomas, serous carcinomas, clear cell carcinomas, dedifferentiated/undifferentiated (DE/undifferentiated) carcinomas and carcinosarcomas. Although HGECs account for approximately 15-20% of all endometrial cancers, it is important to note that these histological subtypes are characterised by a high risk of relapse and are responsible for the majority of uterine cancer-related deaths, despite their low prevalence.^[6,7]

The available literature has focused primarily on patients with low-grade endometrioid histology. However, given the aggressive nature of HGEC, there is an ongoing need to identify predictors of patient prognosis in clinical practice. The objective of this study was to determine the factors affecting disease recurrence and overall survival in patients with HGEC.

MATERIALS AND METHODS

Study Design

The present study comprises a retrospective cohort study of a single institution, including patients who had undergone surgery between January 2017 and December 2021. The study was conducted in accordance with the ethical standards set forth in the Declaration of Helsinki and approved by the Ethics Committee of Antalya Training and Research Hospital (approval date: 13 Jun 2024, approval number: 2024-172). As this was a retrospective study, the participants were not asked to provide informed consent prior to their involvement.

Following the approval of the ethics committee, a complete set of data was obtained from the patient charts and the hospital's electronic database. The data set included patient age, details of surgical procedures, tumor histotype, tumor size, the existence of lymphovascular space invasion (LVSI), myometrial invasion, involvement of lymph nodes, stage of the disease, the administration of adjuvant therapies, duration of follow-up, disease state and survival state at the date of final contact.

The patients included in the study were staged using the cancer staging system issued by the International Federation of Gynaecology and Obstetrics (FIGO) in 2009.

Inclusion and Exclusion Criteria

The present study has been conducted on patients who undergo surgery, having at a minimum total hysterectomy plus bilateral salpingo-oophorectomy (TH/BSO), and were diagnosed with serous, clear cell, carcinosarcoma,

mixed type (endometrioid and non-endometrioid, with each component comprising a minimum of 10%), grade 3 endometrioid or DE/undifferentiated histology, as documented in the postoperative pathology reports.

Patients diagnosed with low-grade endometrioid histotype, synchronous malignancy, and an insufficient clinical data set were excluded from the study.

Definition

The term "disease recurrence" is defined as the reappearance of imaging-proven disease following surgical intervention.

Overall survival (OS) was measured as the time from diagnosis to death, independent of cause, and patients who were alive at the most recent follow-up date were considered censored.

Statistical analysis

Statistical analyses in the study were performed using the SPSS 27.0 (IBM Inc., Chicago, IL, USA) program. The assessment of normality was conducted using the Kolmogorov-Smirnov test, histogram analyses, skewness/kurtosis data, and Q-Q plot graphs. Quantitative variables were expressed as interquartile range (median [minimum – maximum]) or mean \pm standard deviation. Qualitative variables are expressed as frequency (N) and percentage (%). The Mann-Whitney U test or the independent t-test was employed to analyse the relationships between two independent groups. The investigation of relationships between qualitative parameters was conducted utilising Pearson's chi-square or Fisher's exact tests. Survival analyses were performed using the Cox regression method, and visual summarisation was performed with Kaplan-Meier curves. In the multivariate regression models, multicollinearity among variables has been checked. Multivariate analysis has been conducted in accordance with the 10 EPV (events per variable) rule. Throughout the study, the type-I error rate was based on 5% ($\alpha=0.05$), and a $p<0.05$ level was accepted as the significance limit with a confidence level of 95%.

RESULTS

During the study period at our centre, a total of 93 patients were operated due to HGEC. Following a comprehensive evaluation of the data, it was decided to exclude 12 cases from the study. Nine patients were excluded due to missing follow-up information, and three patients were excluded due to death from postoperative complications. The final analyses were performed on a total of 81 patients who met the eligibility criteria.

Table 1 details the clinicopathological features of the patients. The median age recorded was 63.8 years. The majority of patients had grade 3 endometrioid and serous tumour histotype, with percentages of 33.3% and 30.8%, respectively. The majority of patients (76.5%) underwent

Table 1. The clinicopathological features of patients

	Distribution [†]		
Age, years	63.88±8.59		
Histotype			
Grade 3 endometrioid	27 (33.33%)		
Serous	25 (30.86%)		
Clear cell	2 (2.47%)		
DE/Undifferentiated	7 (8.64%)		
Mixt	11 (13.58%)		
Choriocarcinoma	9 (11.11%)		
Surgery			
TH/BSO alone	2 (2.47%)		
TH/BSO plus pelvic lymphadenectomy	9 (11.11%)		
TH/BSO plus pelvic -paraaortic lymphadenectomy	53 (65.43%)		
Debulking surgery	17 (20.99%)		
Cytology			
Negative	70 (86.42%)		
Positive	11 (13.58%)		
Myometrial invasion			
No	5 (6.17%)		
<50	24 (29.63%)		
≥50	52 (64.2%)		
Lymphovascular space involvement			
Negative	27 (33.3%)		
Positive	50 (64.94%)		
Paraaortic LN involvement			
Negative	65 (80.2%)		
Positive	16 (19.8%)		
Pelvic LN involvement			
Negative	54 (66.7%)		
Positive	27 (33.3%)		
Stage			
IA	21 (25.9%)		
IB	17 (20.9%)		
II	1 (1.23%)		
IIla	1 (1.23%)		
IIlb	0 (0%)		
IIlc1	11 (13.58%)		
IIlc2	9 (11.11%)		
IVa	3 (3.7%)		
IVb	18 (22.22%)		
Variable	Min.	Max.	Distribution [†]
Tumour size (cm)	0	22	4.4 (0.4-2)
Number of pelvic LN removed	0	69	27 (0-69)
Number of paraaortic LN removed	0	51	18 (0-51)
Total LN removed	0	110	49 (0-110)

[†]Qualitative data is expressed as frequency (N) and percentage (%). Quantitative variables are expressed as mean±SD or median (minimum–maximum)(IQR). IQR: Interquartile range; TH/BSO: Total hysterectomy plus bilateral salpingo-oophorectomy, LN: Lymph node.

systematic lymph node (LN) dissection in addition to TH/BSO. The mean number of LNs removed was 49. The positivity rate for the pelvic LNs was 33.3%, and the positivity rate for the para-aortic LNs was 19.8%. Deep myometrial invasion (defined as ≥50% of the myometrial invasion) was detected in 64.2% of cases, while the presence of LVSI was observed in 64.9% of cases. Moreover, the cytology positivity rate was 13.5%. The distribution of disease stages was as follows: Stage IA (25.9%), stage 4B (22.2%), stage IB (20.9%) and stage 3C1 (13.5%), according to frequency.

As shown in Table 2, the disease outcomes of the patients are presented. It is evident that a significant proportion of patients received adjuvant chemotherapy in isolation or in combination with external beam radiotherapy, with a percentage exceeding 77.78%. Following a median follow-up period of 39 months, it was observed that 26% of patients experienced disease recurrence. At the time of analysis, 31 patients (38.75%) were alive without disease, 3 patients (3.75%) were alive with disease, 33 patients (41.25%) had died of disease and 13 patients (16.25%) had died of other causes. The mean overall survival (OS) duration for the entire cohort was 39 months. In 2 cases, the disease remained undetected by imaging following treatment for recurrence. 3 patients died as a result of complications related with adjuvant treatment following primary treatment.

As shown in Table 3, factors associated with disease recurrence are presented. 26 (32.1%) patients had recurrence.

Table 2. Disease outcome of patients

	Distribution [†]
Adjuvant therapy	
No	3 (3.7%)
Brachytherapy alone	2 (2.47%)
EBRT +/- Brachytherapy	13 (16.05%)
Chemotherapy alone	22 (27.16%)
Chemotherapy + EBRT	41 (50.62%)
Recurrence	
No	50 (61.7%)
Yes	26 (32%)
Progression under treatment	5 (6.3%)
Survival	
Alive with no evidence of disease	31 (38.75%)
Alive with disease	3 (3.75%)
Dead of disease	33 (41.25%)
Dead of other reasons	13 (16.25%)
Recurrence-free survival (RFS)(months), IQR	12 (3–32)
Overall survival (months), IQR	39 (1–114)

[†]Qualitative data is expressed as frequency (N) and percentage (%). Quantitative variables are expressed as mean±SD or median (minimum – maximum). IQR: Interquartile range; EBRT: External Beam Radiation Therapy.

Table 3. Factors associated with disease recurrence

Variable	Recurrence		P-value
	No	Yes	
Histotype			
Grade 3 endometrioid	20 (40%)	7 (26.92%)	0.696 ^a
Serous	14 (28%)	8 (30.77%)	
Clear cell	2 (4%)	0 (0%)	
DE/Undifferentiated	3 (6%)	3 (11.54%)	
Mixt	6 (12%)	5 (19.23%)	
Choriocarcinoma	5 (10%)	3 (11.54%)	
Surgery			
TH/BSO alone	2 (4%)	0 (0%)	0.056 ^a
TH/BSO plus pelvic LA	8 (16%)	1 (3.85%)	
TH/BSO plus pelvic -paraaortic LA	35 (70%)	17 (65.38%)	
Debulking surgery	5 (10%)	8 (30.77%)	
Cytology			
Negative	46 (92%)	20 (76.92%)	0.082 ^a
Positive	4 (8%)	6 (23.08%)	
Myometrial invasion			
No	3 (6%)	2 (7.69%)	0.075 ^a
<50	20 (40%)	4 (15.38%)	
≥50	27 (54%)	20 (76.92%)	
Lymphovascular space involvement			
Negative	21 (42.86%)	6 (24%)	0.111 ^b
Positive	28 (57.14%)	19 (76%)	
Paraaortic LN involvement			
Negative	44 (88%)	17 (65.38%)	0.019 ^b
Positive	6 (12%)	9 (34.62%)	
Pelvic LN involvement			
Negative	39 (78%)	12 (46.15%)	0.005 ^b
Positive	11 (22%)	14 (53.85%)	
Stage			
IA†	18 (36%)	3 (11.54%)	0.002 ^a
IB †	15 (30%)	2 (7.69%)	
II	1 (2%)	0 (0%)	
IIIa	1 (2%)	0 (0%)	
IIIb	0 (0%)	0 (0%)	
IIIc1	6 (12%)	5 (19.23%)	
IIIc2 †	3 (6%)	6 (23.08%)	
IVa	1 (2%)	1 (3.85%)	
IVb †	5 (10%)	9 (34.62%)	
Adjuvant therapy			
No	1 (2%)	0 (0%)	0.009 ^a
Brachytherapy alone	2 (4%)	0 (0%)	
EBRT +/- Brachytherapy†	13 (26%)	0 (0%)	
Chemotherapy alone	10 (20%)	9 (34.62%)	
Chemotherapy + EBRT	24 (48%)	17 (65.38%)	

Variables are expressed as frequency (N) and percentages (%). ^aSubcategories with significant proportion differences between the recurrence groups have been marked. LA: lymphadenectomy; LN: Lymphnode(s); TH/BSO: Total hysterectomy plus bilateral salpingo-oophorectomy; EBRT: External Beam Radiation Therapy. [†]Fisher's exact test, ^bPearson chi-square analysis.

Table 4. Univariate cox regression analysis in terms of OS

Variables	Univariate		P-value
	HR	95% CI	
Age (years)	1.051	1.006–1.098	0.025
Tumour size (cm)	1.027	0.930–1.134	0.062
Total LN removed	0.991	0.968–1.014	0.426
Histotype			
Grade 3 Endometrioid (ref)			
Serous	2.094	0.774–5.667	0.146
DE/Undifferentiated	5.55	1.773–17.367	0.003
Mixt	2.214	0.622–7.886	0.220
Choriocarcinoma	2.645	0.805–8.697	0.109
Surgery			
TH/BSO + pelvic LA (ref)			
TH/BSO + pelvic–paraaortic LA	1.224	0.285–5.255	0.786
Debulking surgery	3.531	0.787–15.847	0.004
Peritoneal cytology (positive)	2.794	1.250–6.249	0.012
Myometrial invasion (overall)	1.621	0.834–3.149	0.154
Lymphovascular space involvement	3.31	1.348–8.131	0.009
Pelvic LN involvement	2.938	1.475–5.853	0.002
Paraaortic LN involvement	2.166	1.037–4.523	0.004
Stage			
Ia (ref)			
Ib	0.365	0.041–3.266	0.367
II	-	-	0.987
IIIa	-	-	0.986
IIIc1	5.221	1.467–18.585	0.011
IIIc2	3.577	0.952–13.447	0.059
IVa	10.654	2.350–48.314	0.002
IVb	7.109	2.315–21.834	0.001
Adjuvant therapy (overall)	1.122	0.771–1.632	0.547

Hazar ratio; CI: Confidence interval; ref: reference subcategory; LA: Lymphadenectomy; LN: Lymph node; TH/BSO: Total hysterectomy plus bilateral salpingo-oophorectomy; OS: Overall survival.

The presence of pelvic LN positivity, para-aortic LN positivity, stage of disease and adjuvant therapies have been associated with disease recurrence. The P values were 0.005, 0.009, 0.019, 0.002 and 0.009, respectively.

In univariate analysis, eight variables were significantly related with OS: Age (P=0.025), histotype (DE/undifferentiated, P=0.003), debulking surgery (P=0.004), positive peritoneal cytology (P=0.012), LVSI (P=0.009), pelvic LN positivity (P=0.002), paraaortic LN positivity (P=0.004) and FIGO stage (Stage IIIc1, P=0.001; IVa, P=0.002; IVb, P=0.001) (Table 4). However, multivariate analysis revealed that only histotype (DE/undifferentiated, Hazard ratio (HR): 4.028 Confidence interval (CI): 1.208–13.434 P=0.023) and positive peritoneal cytology (HR: 3.719, CI: 1.408–9.827 P=0.008) were independent significant prognostic factors for OS. Table 5 detailed the independent prognostic factors in multivariate analyses.

DISCUSSION

The present study aims to analyse the factors that affect disease recurrence and OS in patients diagnosed with HGEC. The study demonstrated that the presence of pelvic LN positivity, para-aortic LN positivity, stage of disease and adjuvant therapies have been associated with disease recurrence. Furthermore, the study revealed that histotype and positive peritoneal cytology are independent factors influencing OS.

A review of the literature indicates the presence of several factors associated with OS in patients diagnosed with HGEC.^[8-10] In a recent study by Lu et al.,^[11] 3,933 patients with serous, clear cell, carcinosarcoma and mixed EC were analysed using The Surveillance, Epidemiology, and End Results (SEER) database. The study found that factors such as race, tumour size, histotype, stage, exami-

Table 5. Multivariate cox regression analysis in terms of OS

Variables [†]	Univariate		P-value
	HR	95% CI	
Dimensional Reduction [§]			
Age	1.521	1.064–2.176	0.022
Lymphovascular space involvement			
Pelvic LN involvement			
Para-aortic LN involvement			
Histotype			
Grade 3 Endometrioid (ref)			
Serous	13.434	0.476	
DE/Undifferentiated	13.434	0.023	
Mixt	10.302	0.107	
Choriocarcinoma	10.566	0.105	
Peritoneal Cytology (positive)	3.719	1.408–9.827	0.008

[†]Surgery and Stage variables are excluded in the multivariate model due to high multicollinearity issues. [§]Due to fact that the primary output/event sample size is insufficient, dimensional reduction has been applied for 4 variables to meet the ≥ 10 EPV (Events per variable) assumption. These merged variables are used for adjustment purpose only. HR: Hazard ratio; LN: Lymph node; CI: Confidence interval; ref: reference subcategory; OS: Overall survival.

nation of para-aortic lymph nodes, examination of pelvic lymph nodes, surgery, lung metastasis, radiation therapy and chemotherapy were found as independent risk factors for poor OS ($P < 0.001$). The present study has a number of points of agreement with the abovementioned study. However, due to an inadequate sample size, it was not possible to subject some factors (e.g. LVSI, pelvic LN positivity, para-aortic LN positivity) to multivariate analyses alone. It was only the histotype associated with OS as an independent risk factor that demonstrated a similarity to the abovementioned study.

LVSI is described as the existence of tumour cells in lymphatic vessels or small blood vessels away from the primary tumour. The 5-year recurrence rate is higher in patients with EC who are LVSI positive, and the LVSI positivity is the most potent independent prognostic factor for pelvic regional recurrence, distant metastasis and OS.^[12-14] In a recent study conducted by Li et al.,^[15] the analysis of 392 low-grade and 138 HGEC cancer patients was undertaken, and the study found that LVSI positivity was identified as an independent risk factor for recurrence for HGEC patients ($P = 0.001$). In the present study, no significant correlation was identified between LVSI positivity and disease recurrence. Unfortunately, the study could not identify LVSI positivity as an independent risk factor for OS due to limited sample size.

Despite the clear association between HGECs and poor survival and high recurrence rates, the findings of studies examining whether there are differences in survival and recurrence between sub-histotypes of HGEC are inconsistent. A study by Ayeni et al.^[8] failed to identify any statistically significant disparities in OS between grade 3

endometrioid, serous, and clear cell carcinomas. Furthermore, Suarez et al.^[2] discovered that there was no discrepancy between carcinosarcoma, clear cell and serous EC patients with regard to recurrence-free survival and disease-specific survival. However, a recent study by Lee et al.^[16] and Scharl et al.^[17] found that carcinosarcoma was associated with a higher rate of recurrence and poorer survival outcomes in comparison to other sub-histotypes of other HGEC. Similarly, Öztürk et al.^[18] found that the accuracy of predicting FIGO stage before and after surgery for prognosis in HGEC is of critical importance and highlighted the aggressive behaviour of certain histotypes. In the present study, sub-histotypes were not found to be associated with disease recurrence. However, de/undifferentiated tumours were identified as an independent risk factor associated with poorer survival. The most significant reason for the observed discrepancy in outcomes between the present study and other studies is believed to be the exclusion of DE/undifferentiated tumours from statistical analysis as a discrete sub-histotype in the abovementioned studies.

In the 2009 revision of the cancer staging system by FIGO, positive peritoneal cytology was no longer accepted as a stage-defining variable due to the existence of studies that failed to prove the role of positive peritoneal cytology in the survival of patients with endometrial cancer and its false negativity ranging from 23% to 52%.^[19-21] The FIGO staging system was revised in 2023, yet peritoneal cytology remains excluded from the staging criteria.^[22] Nevertheless, given the uncertain prognostic significance of positive peritoneal cytology as demonstrated by numerous studies, the National Comprehensive Cancer Network (NCCN) Guidelines advocate the collection of peritoneal cytology

during endometrial cancer staging surgery.^[23] In a recent study, Sakai et al.^[24] undertook a retrospective analysis of 74,984 patients, including 18,825 HGEC. The study found that positive peritoneal cytology was associated with both more recurrences and worse OS. Furthermore, in a retrospective study of 101 patients with early-stage serous and clear cell carcinoma, Yang et al.^[25] found that positive peritoneal cytology was independently associated with lower progression-free survival and OS. Moreover, more peritoneal recurrences were observed in patients with positive peritoneal cytology. Despite the absence of an association between positive peritoneal cytology and disease recurrence in the present study, a correlation with poor OS was identified. This finding is consistent with the results of previous studies.

The recommended approach for all types of HGEC is LN dissection, due to the high risk of nodal involvement. However, the literature contains some studies that have found no evidence that LN dissection provides any survival benefit. The NCCN recommends para-aortic LN dissection with pelvic LN dissection for all patients diagnosed with HGEC.^[23,26,27] The potential impact of LN dissection on survival can be attributed to two main factors: Accurate staging and thus planning of appropriate adjuvant therapy, and removal of both metastatic and occult lesions through lymphadenectomy. In a study by Venigalla et al.^[28] of 7250 patients with EC with serous, clear cell and carcinosarcoma histotypes, multivariate analysis showed a significantly lower HR for death in patients undergoing pelvic LN dissection (HR=0.65, 95% CI: 0.56-0.74) and pelvic + para-aortic LN dissection (HR=0.54, 95% CI: 0.48-0.62) compared to patients without LN dissection.^[28] In a study by Alagkiozidis et al.^[29] involving 158 carcinosarcoma and 116 serous carcinoma endometrial cancer patients, lymph node dissection improved survival. In a study by Buldukoglu et al.^[30] in a cohort of 60 patients diagnosed with HGEC, LN positivity was found to be associated with increased disease recurrence and increased death rate, and LN positivity was found to be an independent prognostic factor for survival. However, in a study conducted by Baquedano et al.^[31] on 373 patients with HGEC, LN positivity was not found to be an independent prognostic factor associated with survival. In the present study, in accordance with a significant number of studies in the literature, both pelvic and paraaortic LN positivity was found to be a prognostic factor associated with both disease recurrence and OS.

Although tumour size was not found to be associated with overall survival in the present study, in a study by Akiş et al.^[32] involving a total of 146 patients with endometrioid EC, including 27 patients with FIGO stage 3 disease, tumour size was identified as the most important risk factor for LN involvement. In this context, the identification of LN involvement as an important prognostic factor for overall survival and recurrence as defined by the present study highlights the importance of understanding the factors that determine LN involvement.

Limitations and Strengths

This retrospective study, conducted at a tertiary referral center, is subject to inherent biases, including selection bias and potential incomplete data recording. The modest sample size limited the statistical power to detect subtle associations and perform comprehensive multivariate analyses for all variables. Additionally, the study relied on histological classification rather than molecular profiling (e.g., TCGA-based subtypes: POLE ultramutated, MSI, copy-number low, and copy-number high). This is a significant limitation, as molecular classification can refine risk stratification, predict treatment response, and guide targeted therapies more effectively than histology alone, particularly in HGEC, where tumor heterogeneity is pronounced. The absence of molecular data may have missed subtype-specific prognostic factors, limiting the applicability of findings in settings with routine molecular testing.

Despite these limitations, the study's focus on HGEC, a relatively rare and aggressive subset of EC, is a key strength. Most EC research centers on low-grade endometrioid tumors, where prognostic factors are well-established. By using rigorous statistical methods, this study identifies independent prognostic factors for HGEC, contributing valuable insights to patient management.

CONCLUSION

The presence of positivity in pelvic LN, para-aortic LN, disease stage and adjuvant therapies were associated with disease recurrence. Multivariate analysis revealed that histotype (DE/undifferentiated) and positive peritoneal cytology were important independent prognostic factors for overall survival. In this context, clinicians' understanding of the factors influencing disease recurrence and overall survival is crucial to inform patient counselling and subsequent management approaches.

Ethics Committee Approval

The study was approved by the Ethics Committee of Antalya Training and Research Hospital (Date: 13.06.2024, Decision No: 2024-172).

Informed Consent

The requirement for informed consent was waived due to the retrospective nature of the study.

Peer-review

Externally peer-reviewed.

Authorship Contributions

Concept: N.Y., I.U.; Design: N.Y., I.U.; Supervision: N.Y., I.U., T.T.; Fundings: A.A., Mu.G., Me.G.; Materials: A.A., Mu.G., Me.G.; Data collection &/or processing: A.A., Mu.G., Me.G.; Analysis and/or interpretation: N.Y., I.U., T.T.; Literature search: N.Y., I.U.; Writing: N.Y.; Critical review: N.Y., I.U., T.T.

Conflict of Interest

The authors did not present any potential conflicts of interest.

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Data availability

Should further information be required, it will be made available upon reasonable request. The raw data were generated at the Antalya Training and Research Hospital, which is affiliated with the Health Science University. The data derived from this study that support the findings presented herein are available from the corresponding author upon request.

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Yüksek Dereceli Endometriyum Kanserli Hastalarda Hastalık Rekürrensini ve Genel Sağkalımı Etkileyen Faktörler

Amaç: Bu çalışmanın temel amacı, yüksek dereceli endometriyum kanserli hastalarda hastalık nüksünü ve genel sağkalımı etkileyen faktörleri belirlemektir.

Gereç ve Yöntem: Çalışmaya Ocak 2017 ile Aralık 2021 tarihleri arasında endometriyal kanser tanısı ile primer cerrahi geçiren ve postoperatif patoloji raporlarına göre seröz, berrak hücreli, karsinosarkom, mikst tip, grade 3 endometrioid veya DE/undiferansiyel endometriyal kanser histolojisi tanısı alan kadınlar retrospektif olarak dahil edilmiştir. Veri seti hasta dosyalarından ve elektronik jinekolojik onkoloji kliniği veri tabanından elde edilmiştir.

Bulgular: Toplam 81 hasta analize dahil edildi. 26 (%32.1) hastada nüks görülmüştür. Pelvik lenf nodu pozitifliği, para-aortik lenf nodu pozitifliği, hastalık evresi ve adjuvan tedavi hastalık nüksü ile ilişkili bulunmuştur. P değerleri sırasıyla 0.005; 0.009; 0.019; 0.002 ve 0.009 idi. Genel sağkalım süresi 39 aydı. Çok değişkenli analizde sadece histotip (DE/farklılaşmamış, Hazard ratio (HR): 4.028 Güven aralığı (CI): 1.208–13.434; P=0.023) ve pozitif peritoneal sitoloji (HR: 3.719; CI:1.408-9.827; P=0.008) genel sağkalım için anlamlı bağımsız prognostik faktörler olarak saptanmıştır.

Sonuç: Yüksek dereceli endometriyal kanserlerde histotip ve pozitif peritoneal sitoloji daha kötü bir genel sağkalım ile ilişkili olabilir.

Anahtar Sözcükler: Endometriyal kanser; hastalık rekürrensi; genel sağkalım; peritoneal sitoloji; yüksek dereceli histoloji.