TÜRK JİNEKOLOJİK ONKOLOJİ DERGİSİ
2025, VOL. 25 NO. 2, 47-55
https://doi.org.10.59215/trsgo.1726756

ORIGINAL ARTICLE/ORİJİNAL MAKALE

Evaluation of Clinical and Pathological Characteristics in Recurrent Endometrial Cancer

Rekürren Endometriyum Kanserinde Klinik ve Patolojik Özelliklerin Değerlendirilmesi

Elif Iltar[1], Fatma Ceren Guner [1], Muge Ates Tikiz [1] Selen Dogan [1], Aykut Tuncer[1], Tayup Simsek[1]

[1]Akdeniz University, Faculty of Medicine, Gynecological Onkology, Department of Gynecology and Obstetrics, Antalya, Turkiye

ABSTRACT

Aim: This study aims to evaluate the clinical and pathological characteristics of patients with recurrent endometrial cancer.

Methods: This retrospective observational study included 52 patients with histologically or radiologically confirmed recurrence among 475 endometrial cancer cases treated between January 2014 and December 2024 at Akdeniz University Hospital. Data on demographics, histological subtypes, molecular markers, recurrence sites, and clinical presentation were collected from medical records.

Results: The recurrence rate was 10.9% (52/475). The mean age at diagnosis was 63.2 ± 10.1 years and at recurrence was 65.0 ± 9.7 years. Recurrence was symptomatic in 53.8% and asymptomatic in 46.2% of cases. The most frequent recurrence site was the vaginal cuff (23.1%), followed by widespread intra-abdominal recurrence and lung metastases (each 13.5%). Endometrioid adenocarcinoma was the most common histological subtype (46.2%), but non-endometrioid types collectively accounted for over 50% of cases. Significant LVSI was observed in 64.4% of patients, and P53 mutation was detected in 50% of tested cases. Peritoneal cytology was positive in 19.2%, and omental metastasis was present in 15.4% of patients. Comparison of local (vaginal) and distant (pulmonary) recurrences revealed distinct patterns in age, symptomatology, and molecular profiles

Conclusion: Our findings demonstrate that advanced age, non-endometrioid histology, positive peritoneal cytology, significant LVSI, and molecular alterations such as P53 mutation are associated with recurrence in endometrial cancer. Notably, nearly half of the recurrences were asymptomatic, underscoring the importance of structured follow-up protocols.

Keywords: Endometrial cancer, Recurrence, Vaginal cuff

ARTICLE HISTORY
Received: 02.07.2025
Accepted: 10.09.2025

ÖZET

Amaç: Bu çalışmanın amacı, rekürren (nüks) endometrial kanserli hastaların klinik ve patolojik özelliklerini değerlendirmektir.

Yöntem: Bu retrospektif gözlemsel çalışmada, Ocak 2014 ile Aralık 2024 tarihleri arasında Akdeniz Üniversitesi Hastanesi'nde tedavi edilen 475 endometrial kanser vakası arasından histolojik veya radyolojik olarak nüks tanısı konulan 52 hasta değerlendirilmiştir. Demografik veriler, histolojik alt tipler, moleküler belirteçler, nüks bölgeleri ve klinik başvuru şekli hasta kayıtlarından elde edilmiştir.

Bulgular: Nüks oranı %10.9 (52/475) olarak hesaplanmıştır. Tanı anındaki ortalama yaş 63.2 ± 10.1 yıl, nüks anındaki ortalama yaş ise 65.0 ± 9.7 yıldır. Nükslerin %53.8'i semptomatik, %46.2'si ise asemptomatik olarak tespit edilmiştir. En sık nüks bölgesi vajinal kaf (%23.1) olup, bunu yaygın intraabdominal nüks ve akciğer metastazları (%13.5'er) takip etmiştir. En yaygın histolojik alt tip endometrioid adenokarsinom (%46.2) olsa da, non-endometrioid tipler toplu olarak vakaların %50'sinden fazlasını oluşturmuştur. Hastaların %64.4'ünde belirgin LVSI, test yapılanların %50'sinde ise P53 mutasyonu saptanmıştır. Hastaların %19.2'sinde peritoneal sitoloji pozitifliği, %15.4'ünde ise omentum metastazı mevcuttu. Lokal (vajinal) ve uzak (pulmoner) nüksler karşılaştırıldığında, yaş, semptomatoloji ve moleküler profiller açısından belirgin farklılıklar gözlenmiştir.

Sonuç: Bulgularımız; ileri yaş, non-endometrioid histoloji, pozitif peritoneal sitoloji, belirgin LVSI varlığı ve P53 mutasyonu gibi moleküler değişikliklerin endometrial kanser nüksü ile ilişkili olduğunu göstermektedir. Nükslerin yaklaşık yarısının asemptomatik olması, yapılandırılmış ve düzenli takip protokollerinin önemini bir kez daha ortaya koymaktadır.

Anahtar Sözcükler: Endometrial kanser, Rekürrens, Vajinal cuff

Sorumlu Yazar: Elif Iltar, Akdeniz University, Faculty of Medicine, Gynecological Onkology, Department of Gynecology and Obstetrics, Antalya, Turkiye

E-mail: dktr_elif@hotmail.com

Nasıl Atıf Yapılmalı: Iltar E, Guner FC, Tikiz MA, Dogan S, Tuncer A, Simsek T. Evaluation of Clinical and Pathological Characteristics in Recurrent Endometrial Cancer. The Turkish Journal of Gynecologic Oncology 2025;25(2):47-55.

Dergi Websitesi: https://dergipark.org.tr/en/pub/trsgo **Yayıncı:** Cetus Publishing

INTRODUCTION

Endometrial cancer is the most common malignancy of the female genital tract, and its incidence is steadily increasing. It accounts for approximately 6% of all cancers diagnosed in women. Most patients are diagnosed at an early stage and achieve high cure rates with surgical treatment and adjuvant therapies. However, in a subset of patients, the disease recurs, which has a markedly negative impact on overall survival. In patients without recurrence, the 5-year overall survival rate has been reported to exceed 90% (1,2). However, in cases with distant metastases, the 5-year overall survival rate may decline to as low as 15–20% (1,3).

Recurrence rates in endometrial cancer are closely associated with several prognostic factors, including disease stage, histological subtype, lymphovascular space invasion (LVSI), depth of myometrial invasion, and adjuvant therapy. While endometrioid adenocarcinoma is typically associated with a more favorable prognosis, non-endometrioid subtypes such as serous carcinoma and carcinosarcoma are linked to higher recurrence and mortality rates[4]. In a large population-based study, approximately 8% of patients with endometrioid endometrial cancer were found to develop recurrence and the five-year overall survival rate in these patients was reported to be below 50% (1). In a study evaluating geriatric patients with endometrial cancer, the five-year overall survival rate after recurrence was reported as 35.7%, and at these poatients lung was identified as the most common site of recurrence (5). A review focusing on advanced stage and recurrent endometrial cancer reported that recurrence rates range from 10–15% in early-stage disease to 40–70% in advanced stages (3).

Typical sites of recurrence in endometrial carcinoma include the pelvic and para-aortic lymph nodes, vagina, peritoneum and lungs. However, recurrence can also occur in intra-abdominal organs, bones, brain and at atypical locations such as abdominal wall and muscle (2). The diagnosis of recurrence is most often made during patients symptomatic presentations. The most commonly reported symptoms include vaginal bleeding, pelvic pain, fatigue, and respiratory distress. Among the symptoms related to distant metastases, findings such as skeletal pain are also reported as reasons for clinical admission (1,5). On the other hand, recurrence diagnoses are also made in asymptomatic patients during planned follow-ups; however, this situation is less common compared to presenting with symptoms (4–6).

MATERIALS AND METHODS

This retrospective observational study was conducted to evaluate the clinical, pathological, and demographic characteristics of patients with recurrent endometrial cancer who were followed at the Gynecologic Oncology Unit of Akdeniz University Faculty of Medicine between January 2014 and December 2024, following primary surgical treatment.

As part of the study, a total of 475 patients diagnosed with endometrial cancer who underwent hysterectomy and surgical staging followed by completion of adjuvant therapy were retrospectively reviewed. Among these, 52 patients who developed either symptomatic or asymptomatic recurrence confirmed by pathological or radiological evaluation during follow-up were included in the study group. All surgical procedures were performed by physicians from the gynecologic oncology department.

Following diagnosis, patients were routinely scheduled for outpatient visits every 3 months

during the first 2 years, every 6 months for the subsequent 3 years and annually thereafter. During these follow-up visits, symptom assessments were conducted, gynecological examinations were performed and imaging studies were ordered when necessary. Recurrence was diagnosed during these visits in patients with no evidence of residual disease after primary treatment. The diagnosis was confirmed by biopsy from suspicious areas amenable to histopathological sampling (e.g., vaginal cuff, lung); in cases where biopsy was not feasible, imaging modalities such as computed tomography (CT), magnetic resonance imaging (MRI), or positron emission tomography (PET) were utilized for diagnostic confirmation.

All patients' age, FIGO stage at diagnosis, histopathological subtype, presence of lymphovascular space invasion (LVSI), history of adjuvant treatment, time to recurrence, site of recurrence and presenting symptoms at the time of recurrence were retrospectively retrieved from medical records. Histological subtypes were classified according to the World Health Organization (WHO) criteria, while staging was reassessed based on both the 2009 and 2023 FIGO staging systems.

Recurrence sites were categorized into anatomical regions such as the vaginal cuff, pelvic lymph nodes, para-aortic lymph nodes, omentum, liver, lungs, brain, bone, subcutaneous tissue and widespread intra-abdominal recurrence. In addition, whether the patients presented with symptoms at the time of recurrence diagnosis, and if so, the specific presenting symptoms (e.g., vaginal bleeding, dyspnea, pain, swelling, altered consciousness etc.) were meticulously recorded. Ethics committee approval for the study was approved by our local committee (Akdeniz University Clinical Research Ethics Committee Date: 29.05.2025, Decision no: TBAEK- 532)

All procedures performed comply with the ethical standarts of the institutional and/or national research committee and the Helsinki declaration and its subsequent amendments or comparable ethical standards.

Statistical analyses were performed using SPSS software version 23.0. Continuous variables were presented as mean ± standard deviation (SD), while categorical variables were expressed as frequencies and percentages.

RESULTS

Between January 2014 and December 2024 a total of 475 patients diagnosed with endometrial cancer at a tertiary care center were screened. Among them, 52 patients (10.9%) who had completed surgical and adjuvant treatments and subsequently developed recurrence during follow-up were retrospectively evaluated. The mean age at the time of initial diagnosis was 63.2 ± 10.1 years, while the mean age at the time of recurrence was calculated as 65.0 ± 9.7 years. Among 50 patients whose final pathology reports included tumor size data, the mean tumor diameter was calculated as 4.93 ± 3.74 cm.

In 53.8% of the patients, the diagnosis of recurrence was made based on clinical symptoms, while in 46.2%, asymptomatic recurrences were detected during routine follow-up after the completion of treatment. Among the symptomatic cases, the most commonly reported symptom was postmenopausal vaginal bleeding, observed in 12 patients (23.1%), followed by dyspnea in 8 patients (15.4%). In the majority of asymptomatic cases, the diagnosis was established during scheduled follow-up visits through radiological imaging.

Among the patients with available data on recurrence sites, the most frequently observed site was the vaginal cuff, detected in 12 patients (23.1%). This was followed by abdominal widespread metastasis and lung metastasis, each identified in 7 patients (13.5%). Other common recurrence sites included the liver in 4 patients (7.7%) and pelvic lymph nodes in 3 patients (5.8%). This distribution indicates that recurrences can occur in both local and distant regions, reflecting significant clinical heterogeneity. Table 1 summarizes the clinical and pathological characteristics of the patients with recurrent endometrial cancer included in this study.

Table 1: Clinical and Pathological Characteristics of Patients with Recurrent Endometrial Cancer

Parameter	n (%) or mean ± SD
Age at diagnosis (mean ± SD)	63.2 ± 10.1
Age at recurrence (mean ± SD)	65.0 ± 9.7
Tumor size (mean ± SD, cm)	4.93 ± 3.74
Symptomatic recurrence	28 (53.8%)
Asymptomatic recurrence	24 (46.2%)
Vaginal cuff	12 (23.1%)
Abdominal widespread metastasis	7 (13.5%)
Lung metastasis	7 (13.5%)
Liver metastasis	4 (7.7%)
Pelvic lymph node metastasis	3 (5.8%)
Positive peritoneal cytology	10 (19.2%)
Omental metastasis	8 (15.4%)
Significant LVSI	29/45 (64.4%)
MMRd	3/25 (12.0%)
POLE mutation evaluated	0 (0.0%)
FIGO stage I–II (old)	65%
FIGO stage I–II (new)	46%
FIGO stage III–IV (new)	54%
FIGO stage III–IV (old)	35%

Among patients included in the study, the most frequently observed histological subtype was endometrioid adenocarcinoma, detected in 24 cases (46.2%). This was followed by serous carcinoma in 11 patients (21.2%), mixed carcinoma in 5 (9.6%), carcinosarcoma in 5 (9.6%), anaplastic/undifferentiated carcinoma in 3 (5.8%), clear cell carcinoma in 2 (3.8%) and dedifferentiated carcinoma in 2 patients (3.8%). This distribution indicates that both endometrioid and non-endometrioid histological subtypes are significantly represented among patients who developed recurrence. The histological subtype distribution is detailed in Table 2.

Table 2: Histological Subtypes of Recurrent Endometrial Cancer

Histological Subtype	n (%)
Endometrioid adenocarcinoma	24 (46.2%)
Serous carcinoma	11 (21.2%)
Mixed histology	5 (9.6%)
Carcinosarcoma	5 (9.6%)
Anaplastic/undifferentiated carcinoma	3 (5.8%)
Clear cell carcinoma	2 (3.8%)
Dedifferentiated carcinoma	2 (3.8%)
Total	52 (100%)

Following surgical staging, final cytologic assessments revealed that 10 patients (19.2%) had positive peritoneal cytology. In contrast, 38 patients (73.1%) had negative cytology results, while cytological evaluation was not performed in 4 patients (7.7%). This distribution indicates that approximately one in five patients who experienced recurrence had positive peritoneal cytology at the time of initial staging.

Upon reviewing the omental pathology reports of the 52 patients, omental metastasis at initial diagnosis was identified in 8 patients (15.4%). No omental metastasis was observed in 40 patients (76.9%), while in 4 patients (7.7%),

the omental status could not be evaluated due to the absence of omentectomy or lack of histopathological assessment. Among the 8 patients with omental metastasis, the most frequently observed histological subtype was serous carcinoma, found in 3 patients (37.5%). The remaining cases consisted of mixed endometrial carcinoma, endometrioid adenocarcinoma, carcinosarcoma, clear cell carcinoma, and undifferentiated carcinoma each accounting for 12.5% of the cases.

Among the 45 patients for whom lymphovascular space invasion (LVSI) status could be evaluated, significant LVSI was identified in 29 cases (64.4%), while 16 patients (35.6%) exhibited absent or focal LVSI. In 7 patients (13.5%), LVSI status was not reported in the pathology records. These findings indicate a high prevalence of marked LVSI among patients with recurrent disease, suggesting that LVSI may serve as a potential prognostic indicator in endometrial cancer.

Among the 26 patients whose P53 immunohistochemical staining results were available, a mutant P53 expression pattern was identified in 13 cases (50.0%), while the remaining 13 patients exhibited a wild-type P53 profile. The other 26 patients did not undergo P53 immunohistochemical evaluation.

Immunohistochemical evaluation of MMR (Mismatch Repair) protein expression was performed in 25 patients, revealing MMR deficiency (MMRd) in 3 cases (12.0%), while the remaining 22 patients (88.0%) retained MMR protein expression. All patients with MMRd exhibited endometrioid histology and were classified within FIGO stage I–II. POLE mutation analysis was not performed in any of the patients included in this study.

In our study, the distribution of patients was evaluated according to both the former and updated FIGO staging systems. Under the previous staging system, 65% of patients were classified as stage I–II, whereas this proportion decreased to 46% with the updated system. Conversely, the rate of stage III–IV disease increased from 35% to 54% according to the new FIGO classification.

Our findings suggest that local (vaginal) and distant (pulmonary) recurrences exhibit distinct clinical profiles in terms of age at recurrence, clinical presentation and symptomatology as demonstrated in Table 3

Table 3: Clinical profiles in recurrent endometrial cancer

Parameter	Vaginal Cuff Recurrence (n=12)	Lung Metastasis (n=7)
Mean Age at Diagnosis (years)	61.1 ± 9.5	66.3 ± 10.4
Mean Age at Recurrence (years)	62.6 ± 9.3	68.2 ± 10.2
Mean Tumor Size (cm)	4.25 ± 3.8	5.1 ± 3.7
Symptomatic Recurrence	6 (50.0%)	6 (85.7%)
Asymptomatic Recurrence	6 (50.0%)	1 (14.3%)
Positive Peritoneal Cytology	1 (8.3%)	2 (28.6%)
Omental Metastasis	1 (8.3%)	2 (28.6%)
Significant LVSI	6/11 (54.5%)	5/6 (83.3%)
Mutant P53 Pattern	3/6 (50.0%)	2/3 (66.7%)
MMRd	0/5 (0.0%)	1/4 (25.0%)

DISCUSSION

Recurrence in endometrial cancer is one of the most critical prognostic factors influencing the course of the disease. According to the literature, the overall recurrence rate ranges between 8% and 10% with the majority of cases occurring within the first three years after diagnosis and typically presenting in extra-pelvic sites (1,2,3). In our study, the mean age at initial diagnosis

among patients who developed recurrence was calculated as 63.2 years, while the mean age at the time of recurrence was 65.0 years.

In our study, the mean tumor diameter reported in the final pathology of patients with recurrence was 4.93 ± 3.74 cm. This finding is in line with previously reported data in the literature. In an analysis by Gülseren et al. focusing on elderly patients with endometrial cancer, it was reported that the mean tumor size was significantly larger in cases that developed recurrence[3].The mean tumor size observed in our study appears to be relatively large.

The diagnosis of recurrence was established based on symptomatic presentation in 53.8% of patients with vaginal bleeding was the most common complaint. This finding is consistent with the literature; Akesson et al. similarly reported that the majority of recurrences were detected in patients presenting with symptoms (1). In our cohort, the proportion of asymptomatic cases was 46.2%, underscoring the critical importance of scheduled follow-up visits after completion of primary treatment in detecting recurrences at an early stage.

When evaluated in terms of histological subtypes, endometrioid adenocarcinoma was the most commonly observed type; however, non-endometrioid tumors collectively accounted for more than half of the recurrent cases in our cohort. This finding aligns with existing literature, which indicates that non-endometrioid tumors, particularly serous carcinomas and carcinosarcomas, exhibit a more aggressive clinical course and are associated with higher mortality rates following recurrence. In the study by Cosgrove et al. the post-recurrence mortality rate was reported as 4% for patients with endometrioid tumors, whereas it increased to 36.4% for serous carcinomas and 45.5% for carcinosarcomas (4).

In terms of recurrence site, the most commonly observed locations in our study were the vaginal cuff, pelvic/abdominal regions and pulmonary metastases. The mean age of the seven patients who developed lung recurrence was 64.6 ± 9.9 years. The relatively advanced age of patients with pulmonary recurrence in our cohort suggests that older age may be a potential risk factor for distant metastasis. Similarly, in the study by Gülseren et al. focusing on elderly patients, the lung was also reported as the most frequent site of recurrence, observed in 40.5% of cases (4). A population-based study reported that recurrences most commonly occurred in the vaginal or pelvic region (57.2%), followed by distant metastases (25.3%) and in some cases, both local and distant sites were involved simultaneously (17.4%) (1).

Positive peritoneal cytology is another prognostic indicator associated with lymphovascular invasion and dissemination potential in endometrial cancer. In our study, 19.2% of patients with recurrence had positive cytology at the time of initial diagnosis. Although positive cytology has been excluded as a staging criterion in current guidelines, literature suggests that it may still aid in predicting recurrence risk, particularly in patients with advanced-stage disease or high-risk histologic subtypes (1,3). In the study conducted by Gülseren et al. evaluating elderly patients with endometrial cancer, the rate of positive peritoneal cytology was reported as 21.6% and this condition was emphasized as one of the factors increasing the risk of recurrence (5). Moreover, in the multicenter study by Demir et al. positive peritoneal cytology was shown to be more frequently observed in serous and clear cell tumors and when evaluated together with LVSI, it significantly increased

the risk of recurrence[6]. Tronconi et al. also identified positive cytology as one of the factors associated with an increased risk of peritoneal dissemination in advanced-stage endometrial cancer, emphasizing that this finding should not be overlooked in treatment planning (3). In our study, the rate of positive cytology was similarly 19.2% and its more frequent occurrence in non-endometrioid tumors supports this notion. Therefore, cytological findings should be considered a supportive parameter in identifying patients at high risk of recurrence.

Omental metastasis is considered a hallmark of advanced-stage endometrial cancer and is known to significantly impact prognosis. In our study, omental involvement was identified in 15.4% of patients with recurrence. Tronconi et al. reported that omental dissemination was more frequently observed in serous and mixed histologic subtypes and this pattern was associated with peritoneal spread and poor prognosis (3). In our study, the majority of cases with omental metastasis were associated with high-risk histologic subtypes, further supporting the findings in the literature. Routine assessment of the omentum during surgical staging is crucial for more accurate risk stratification and for guiding adjuvant treatment planning in patients at elevated risk of recurrence.

The presence of lymphovascular space invasion (LVSI) was observed in 64.4% of the patients with recurrence in our series. This rate is consistent with the 56.8% reported by Gülseren et al. in their study on elderly patients with endometrial cancer (5). Furthermore, in the multicenter study conducted by Demir et al., LVSI was identified as an independent prognostic factor for recurrence risk in endometrial cancer. These findings support the notion that LVSI is a significant predictor of recurrence and should be taken into account, particularly in identifying high-risk patients[6]. Both Akesson and Cosgrove emphasized in their studies that LVSI is strongly associated with recurrence in endometrial cancer (1,4).

The notably high rate of P53 mutations observed in our cohort of patients with recurrent disease is striking. According to The Cancer Genome Atlas (TCGA) classification, molecular subtypes exhibiting P53 abnormalities—referred to as “serous-like” tumors—are identified as the subgroup with the poorest prognosis in endometrial cancer. These subtypes have been reported to carry a significantly increased risk of recurrence and mortality (7). Therefore, the high rate of P53 mutations observed in our study further emphasizes the prognostic importance of molecular profiling in patients who develop recurrence.

In contrast, no patient in our study underwent POLE mutation analysis. However, TCGA data indicate that the POLE-ultramutated subgroup is associated with the most favorable survival outcomes, underscoring the critical importance of identifying this subgroup in order to select patients who may safely forgo adjuvant therapy (7).

The newly published ESGO–ESTRO–ESP guidelines recommend integrating molecular classification into staging and treatment planning, selecting adjuvant therapy, and selecting patients for clinical trials. It also emphasizes that evaluating molecular data together with classical pathological factors such as LVSI, histological subtype, and tumor size provides a more personalized approach to patients (8).

In terms of FIGO staging, 65% of patients were classified as stage I–II according to the previous system, whereas this proportion decreased to

46% under the new system; conversely, the proportion of advanced-stage (stage III–IV) patients increased to 54%. This shift reflects the improved prognostic stratification capability of the updated FIGO classification. Similarly, studies by Akesson and Demir have emphasized that recurrence rates are higher and survival is significantly poorer among patients with advanced-stage disease (1,6).

LImItatIons of the Study

This study has several limitations. First, due to its retrospective design, the data were obtained from past medical records, which may have led to incomplete or non-standard reporting of certain pathological and molecular parameters. For instance, the fact that p53, MMR and POLE analyses were not performed in all patients POLE analysis is not a routine practice in our hospital ant this is limited the ability to comprehensively evaluate the prognostic impact of molecular subtypes..The main methodological limitation of our article is the lack of follow-up period and survival data . Additionally, the single-center nature of the study and the relatively small sample size restrict the generalizability of the findings. Due to the retrospective design of this study and the limited availability of long-term follow-up data, information regarding post-recurrence survival, median time to recurrence, and overall survival could not be obtained. This limitation should be taken into account when interpreting the prognostic implications of the findings. This study primarily aimed to investigate the demographic, clinical, pathological, and molecular characteristics of patients with recurrent endometrial cancer. Detailed information regarding the management or treatment modalities of recurrence was not within the scope of this analysis. Therefore, the post-recurrence treatment strategies were not evaluated.

CONCLUSION

This study comprehensively evaluated the clinical, pathological and molecular characteristics of patients who developed recurrence following surgical treatment for endometrial cancer. Our findings indicate that advanced age, non-endometrioid histology, substantial LVSI, high FIGO stage and the presence of distant metastases are the main factors associated with poor prognosis after recurrence. Moreover, the fact that approximately half of the recurrences were asymptomatic highlights the importance of regular and structured follow-up protocols. Although molecular analyses were performed in a limited number of cases, biomarkers such as p53 mutation and MMR deficiency (MMRd) appear to have prognostic value and warrant further investigation, particularly in recurrent cases. Patients were not grouped according to the TCGA classification (POLE ultramutated, MMRd, p53-aberrant, NSMP). The fact that this classification was not done systematically and this limits the prognostic implications of the studyThe results support the need for individualized follow-up and treatment strategies in high-risk endometrial cancer patients. Larger, prospective studies are needed to validate these findings.

REFERENCES

1. Åkesson Å, Adok C, Dahm-Kähler P. Recurrence and survival in endometrioid endometrial cancer – a population-based cohort study. Gynecol Oncol. 2023;168:127–134.

2. Kurra V, Jagannathan JP, Krajewski KM, Giardino A, Berlin S, Ramaiya NH, et al. Typical and atypical metastatic sites of recurrent endometrial carcinoma. Cancer Imaging. 2013;13(1):113.

3. Tronconi F, Nero C, Giudice E, Gallotta V, Conte C, Fanfani F, et al. Advanced and recurrent endometrial cancer: State of the art and future perspectives. Crit Rev Oncol Hematol. 2022;180:103851.

4. Cosgrove CM, McGuinness LA, Salter A, Siddiqui N, Clark TJ. Endometrial cancer: who lives, who dies, can we improve their story? Oncologist. 2021;26(12):1044–1051.

5. Gülseren V, Varol İ, Kuru Ö, Yılmaz M, Altın D, Dönmez Y, et al. Recurrence and characteristics of endometrial cancer in elderly patients. Akdeniz Tıp Dergisi. 2024;10(3):494–499.

6. Demir D, Yılmaz E, Güneş G, Kaya B, Alkan A, Soylu E, et al. Yüksek dereceli endometrioid, seröz ve berrak hücreli endometrium kanserli olgularda klinik ve onkolojik sonuçların karşılaştırılması. J Gynecol Obstet Neonatol. 2024;21(1):15–22.

7. Levine, Douglas A., et al. “Integrated genomic characterization of endometrial carcinoma.” Nature 497.7447 (2013): 67-73.

8. Concin, Nicole, et al. “ESGO–ESTRO–ESP guidelines for the management of patients with endometrial carcinoma: update 2025.” The Lancet Oncology 26.8 (2025): e423-e435.