

Case Report

Uncommon Metastatic Spread of Endometrial Carcinoma to the Posterior Thoracic Wall and Genital Tract in a Young Adult: A Case Report

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Abstract

Introduction: Endometrial carcinoma is a common gynecologic malignancy that predominantly affects postmenopausal women. Approximately 15% of cases occur in premenopausal patients, and more than 1% are diagnosed in women younger than 40 years. Distant metastases are uncommon and typically involve lymph nodes, lungs, or liver, whereas cutaneous and genital metastases are exceptionally rare. The micropapillary growth pattern, initially described in breast carcinoma, has also been identified in various organs and is associated with aggressive biological behavior, including frequent lymphovascular invasion and widespread dissemination.

Case Report: A case of a 24-year-old woman with a prior history of micropapillary carcinoma excised from the posterior thoracic wall is reported. The patient presented with palpable vulvar and cervical masses. Pelvic MRI and PET-CT revealed stage IV C endometrial carcinoma with extensive dissemination involving the cervix, vulva, vagina, peritoneum, thoracic wall, and pleural cavity. Histopathological and immunohistochemical analyses confirmed endometrioid carcinoma with micropapillary features.

Conclusion: This study demonstrates that the rare presentation of micropapillary endometrial carcinoma in a young patient highlights the importance of comprehensive diagnostic evaluation when unusual metastatic sites are encountered, to guide treatment and multidisciplinary management.

Keywords: Endometrial carcinoma; micropapillary pattern; metastasis; vulvar mass

Penyebaran Metastasis Langka Karsinoma Endometrium ke Dinding Toraks Posterior dan Traktus Genital pada Pasien Dewasa Muda: Laporan Kasus

Abstrak

Pendahuluan: Karsinoma endometrium merupakan keganasan ginekologi yang umum dan terutama mengenai wanita pascamenopause. Sekitar 15% kasus terjadi pada pasien pramenopause dan lebih dari 1% pada wanita berusia di bawah 40 tahun. Metastasis jauh jarang terjadi dan biasanya melibatkan kelenjar getah bening, paru, atau hati, sedangkan metastasis ke kulit dan traktus genital sangat jarang dilaporkan. Pola pertumbuhan mikropapiler, yang awalnya dideskripsikan pada karsinoma payudara, juga ditemukan pada berbagai organ dan dikaitkan dengan perilaku biologis agresif, termasuk invasi limfovaskular dan penyebaran luas.

Laporan Kasus: Dilaporkan kasus wanita berusia 24 tahun dengan riwayat karsinoma mikropapiler yang sebelumnya dieksisi dari dinding toraks posterior, datang dengan massa vulva dan serviks yang teraba. MRI pelvis dan PET-CT menunjukkan karsinoma endometrium stadium IV C dengan penyebaran luas ke serviks, vulva, vagina, peritoneum, dinding toraks, dan rongga pleura. Pemeriksaan histopatologi dan imunohistokimia menegaskan diagnosis karsinoma endometrioid dengan gambaran mikropapiler.

Kesimpulan: Penelitian ini menunjukkan bahwa presentasi langka karsinoma endometrium dengan pola mikropapiler pada pasien usia muda menekankan pentingnya evaluasi diagnostik komprehensif pada lokasi metastasis tidak lazim untuk menentukan terapi dan tata laksana multidisiplin.

Kata kunci: Karsinoma endometrium; massa vulva; metastasis; pola mikropapiler

Introduction

Endometrial carcinoma is the second most common gynecological cancer worldwide after cervical carcinoma, accounting for approximately 417,000 new cases and 97,000 deaths in 2020.¹ In Indonesia, it ranked as the 14th most frequent malignancy, with 7,773 new cases and 2,626 deaths. The disease primarily affects postmenopausal women, but approximately 15% of cases occur in premenopausal patients, and just over 1% are diagnosed in women younger than 40 years.² The tumor commonly spreads through lymphatic pathways and intraperitoneal seeding, whereas hematogenous dissemination is less frequent. The lungs, liver, and lymph nodes are the most frequent sites of distant involvement.³ Metastatic disease to cutaneous or genital locations is exceedingly rare, representing less than 1% of advanced cases. The micropapillary growth pattern was first described in breast carcinoma, defined by its unique morphology, propensity for exfoliation, and high rate of lymphovascular invasion.⁴ Since then, it has been documented in several organs, including the bladder, lung, colon, and uterine cervix. In endometrial carcinoma, micropapillary morphology is considered an aggressive histological variant, associated with advanced stage and poorer survival. Reports of widespread metastases with micropapillary features remain extremely limited, particularly in young women.^{4,5}

Case Presentation

A 24-year-old woman was referred to our gynecologic oncology unit with complaints of enlarging vulvar and cervical masses over the preceding three months. She reported discomfort during ambulation and dyspareunia, but no abnormal uterine bleeding. Her medical history was notable for micropapillary carcinoma excised

from the posterior thoracic wall one year earlier, followed by 33 sessions of adjuvant external beam radiotherapy. A colostomy had subsequently been performed due to rectovaginal fistula formation. On general examination, the patient was in stable condition with normal vital signs. Pelvic inspection revealed an irregular right vulvar mass measuring approximately $8 \times 5 \times 2.5$ cm, firm in consistency, and ulcerated in some areas. Speculum examination showed a friable, infiltrative cervical mass of $4 \times 3 \times 3$ cm that bled on contact. A fixed right inguinal lymph node measuring 2×1 cm was also palpable. No ascites or hepatosplenomegaly was noted. On transabdominal oncology ultrasound, the uterus was anteverted and homogeneous, measuring 7.92×2.42 cm. Punch biopsies from the vulvar, vaginal, and cervical lesions were performed. Histopathology demonstrated malignant epithelial proliferation with micropapillary architecture. Tumor cells exhibited high nuclear atypia, prominent nucleoli, and abundant mitotic figures.

The diagnostic process was particularly challenging due to the unusual metastatic distribution and overlapping morphological features with primary vulvar or cervical malignancies. Differentiating secondary endometrioid carcinoma from synchronous primaries required careful histopathological correlation and immunophenotypic profiling. The absence of WT1, Napsin A, and p16 expression, combined with diffuse nuclear PAX8 and PR positivity, was instrumental in confirming the endometrial origin. Multimodal imaging modalities, including MRI and PET-CT, provided essential evidence for identifying the primary site, assessing disease spread, and establishing an accurate clinical stage, which guided subsequent management decisions.

Immunohistochemistry revealed strong positivity for PAX8, PR, p53, and vimentin, while WT1, Napsin A, and p16 were negative,



Figure 1 Posterior Thoracic Region after Undergoing External Radiation Therapy



Figure 2 A Right Vulvar Mass Measuring $8 \times 5 \times 2.5$ cm and an Infiltrative Cervical Mass of $4 \times 3 \times 3$ cm were Observed, along with a Fixed Right Inguinal Lymph Node Measuring 2×1 cm

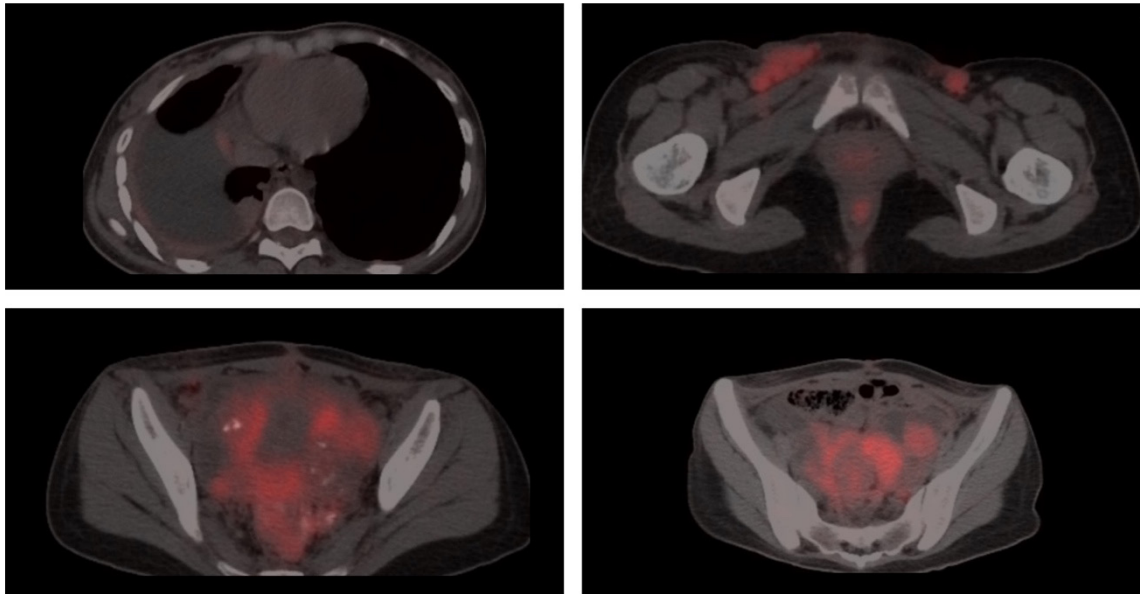


Figure 3 PET-CT Demonstrated a Primary Pelvic Malignancy Involving the Uterus, Cervix, Mesorectal Region, and Adnexa, with a High SUV (19.96) in the Cervical Lesion. Extensive Metastases were Identified in the Vulva, Perineum, Vagina, Regional Lymph Nodes, Peritoneum, Possibility of Mesenteric Seeding, and Right-Sided Pleural Effusion

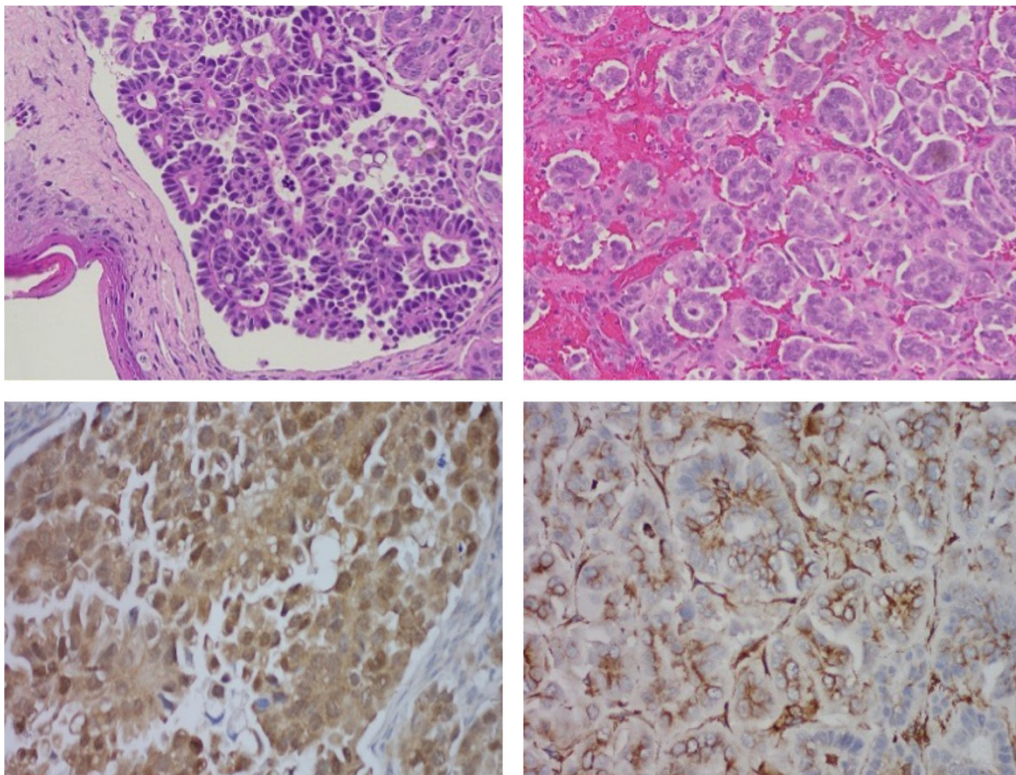


Figure 4 Micropapillary features and immunohistochemistry from all biopsy sites was positive for Pax8, P53, PR, and Vimentin

supporting the diagnosis of endometrioid carcinoma with micropapillary features, consistent with an endometrial origin. Given the patient's young age, comprehensive staging was pursued. Pelvic MRI revealed bilateral multilobulated adnexal masses with invasion of the rectum, distal sigmoid, perirectal tissue, and posterior vaginal wall, consistent with rectovaginal fistula. PET-CT demonstrated a hypermetabolic lesion in the cervix with SUV 19.96, together with widespread metastases to the vulva, perineum, vagina, pelvic and inguinal lymph nodes, peritoneal surfaces, posterior thoracic wall, and right pleura. These findings established a diagnosis of stage IV C endometrial carcinoma with unusual thoracic and genital metastases.

Investigation

Laboratory studies revealed hemoglobin of 11.2 g/dL and normal liver and renal function. Tumor markers, including CA-125 and CEA, were mildly elevated. Pelvic MRI confirmed extensive pelvic involvement, while PET-CT demonstrated distant metastases beyond the abdomen, including thoracic wall recurrence and pleural effusion. Histopathology showed a gland-forming carcinoma with micropapillary clusters, corroborated by immunohistochemistry (PAX8, PR, p53, and vimentin positive; WT1, Napsin A, and p16 negative). This immunoprofile excluded ovarian serous carcinoma, cervical carcinoma, and clear cell carcinoma, confirming an endometrioid endometrial origin.^{5,6} Collectively, imaging and pathology established advanced disseminated disease.

Differential Diagnosis

Differential Diagnosis of Metastatic Endometrioid Carcinoma with Micropapillary Features

1. Primary Cervical Carcinoma:

Cervical carcinoma is a common malignancy in young women and may present with cervical masses similar to this case. However, immunohistochemical staining in cervical carcinoma typically demonstrates diffuse p16 positivity as a surrogate marker of HPV-related disease.^{6,7} In this patient, p16 was negative, making primary cervical carcinoma unlikely.

2. Ovarian Serous Carcinoma:

High-grade serous ovarian carcinoma often spreads within the pelvis and may mimic advanced endometrial carcinoma. Morphologically, serous carcinoma shows marked nuclear atypia and papillary architecture, and immunohistochemistry is usually positive for WT1.⁸ In this case, the tumor was WT1 negative, ruling out an ovarian serous origin.

3. Clear Cell Carcinoma:

Clear cell carcinoma of the endometrium or ovary is characterized by clear cytoplasm, hobnail cells, and positivity for Napsin A and HNF-1 β .^{9,10} This case showed negative Napsin A and morphology inconsistent with clear cell histology, thereby excluding this diagnosis.

4. Extragenital Primary Carcinoma with Metastasis:

Metastatic tumors from extragenital sites, such as the gastrointestinal tract or breast, can involve the female genital tract and thoracic wall. These tumors usually lack Müllerian markers. In the present case, positivity for PAX8 and PR confirmed Müllerian origin, excluding extragenital primaries.^{11,12}

Treatment

The patient's case was discussed in a multidisciplinary tumor board, including gynecologic oncologists, pathologists, radiologists, and medical oncologists. Considering the diagnosis of stage IV C endometrial carcinoma with widespread metastases, curative surgical management was deemed infeasible. The recommended plan included systemic chemotherapy with carboplatin and paclitaxel, combined with supportive care for symptom control. Palliative radiotherapy was considered for the vulvar lesion to alleviate local pain and bleeding. Fertility-sparing options were not feasible due to the extent of the disease. Genetic counseling and molecular testing for mismatch repair deficiency were also advised to guide potential use of immunotherapy.

Outcome and Follow-Up

The patient tolerated initial chemotherapy well, with manageable nausea and mild hematologic toxicity. Symptomatic improvement was observed in vulvar pain and bleeding following palliative radiotherapy. Follow-up PET-CT after three cycles showed partial metabolic response, with decreased SUV in the cervical and thoracic wall lesions but persistent peritoneal disease. She continued systemic therapy under close monitoring. Palliative care and psychosocial support were integrated into management, given her young age and advanced disease. At six-month follow-up, she remained clinically stable with an acceptable quality of life.

Discussion

Endometrial carcinoma most frequently presents in postmenopausal women, with the median age at diagnosis around 60 years. Only a minority of patients are diagnosed under 40, making this case highly unusual.

The presence of micropapillary morphology adds further significance, as this histological subtype is consistently associated with aggressive clinical behavior, high frequency of lymphovascular invasion, and advanced stage at presentation. The most common metastatic sites for endometrial carcinoma are lymph nodes, lungs, and liver.^{5,6} Cutaneous or genital involvement, including the vulva and vagina, is exceedingly rare, with a reported incidence below 1%. Reports of thoracic wall metastasis are even more exceptional. In this patient, the simultaneous occurrence of thoracic wall, vulvar, vaginal, and cervical metastases illustrates the highly aggressive dissemination pattern typical of micropapillary variants. Previous studies confirm that micropapillary morphology predicts poorer progression-free and overall survival in endometrial carcinoma, even after adjusting for stage.^{4,6} Differential diagnosis was critical. Cervical carcinoma was excluded by negative p16 expression. Ovarian serous carcinoma was ruled out by negative WT1 and histologic differences. Clear cell carcinoma was excluded by the absence of Napsin A. The immunoprofile with PAX8, PR, and vimentin positivity supported endometrioid carcinoma, consistent with Müllerian origin. These findings underscore the indispensable role of immunohistochemistry in resolving diagnostic uncertainty.^{13,14} Management of stage IV disease requires systemic therapy as the cornerstone. Carboplatin-paclitaxel remains the standard first-line treatment, while immunotherapy with checkpoint inhibitors has emerged for selected patients with mismatch repair deficiency. Palliative radiotherapy is effective for local symptom control, particularly for bleeding vulvar or cervical lesions.^{13,15} Multidisciplinary evaluation, as in this case, ensures individualized treatment tailored to disease extent and patient factors.^{5,6} These findings underscore the indispensable role of immunohistochemistry in resolving diagnostic

uncertainty. Management of stage IV disease requires systemic therapy as the cornerstone. Carboplatin-paclitaxel remains standard first-line treatment, while immunotherapy with checkpoint inhibitors has emerged for selected patients with mismatch repair deficiency. Palliative radiotherapy is effective for local symptom control, particularly for bleeding vulvar or cervical lesions.^{9,11} From a scientific perspective, the strength of this case lies in its comprehensive diagnostic work-up integrating histopathology, immunohistochemistry, and multimodal imaging, which allowed accurate identification of the primary site and metastatic pathways. Another strength is the longitudinal clinical documentation that provides insights into the natural course of this rare presentation.¹⁴ However, the main limitation is the absence of molecular profiling and therapeutic response data, which restricts correlation between histologic features and treatment outcomes. The discussion aligns linearly with the conclusion, as both emphasize that recognition of the micropapillary variant directly informs prognosis and guides evidence-based systemic therapy.

Conclusions

Endometrioid carcinoma with micropapillary features represents an aggressive histological subtype capable of metastasizing to rare locations, including the vulva, vagina, cervix, and thoracic wall. This case emphasizes the importance of detailed histopathological evaluation, comprehensive staging, and multidisciplinary management to improve diagnostic accuracy and optimize therapeutic planning in advanced disease.

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References

1. Mochizuki K, Oyama K, Tanaka K. Endometrioid Carcinoma of the Uterine Corpus With a Micropapillary Component: A Novel Prognostic Factor For Metastasis. *Cancer Diagnosis & Prognosis* 2023; 3: 463–467.
2. Mandato VD, Mastrofilippo V, Palicelli A. Solitary vulvar metastasis from early-stage endometrial cancer. *Medicine* 2021; 100: e25863.
3. Korkmaz M, Eryılmaz MK, Kerimoğlu Ü. Vaginal metastasis in solid tumours: our four cases and review of the literature. *J Egypt Natl Canc Inst* 2021; 33: 3.
4. Markowska A, Baranowski W, Pityński K. Metastases and Recurrence Risk Factors in Endometrial Cancer—The Role of Selected Molecular Changes, Hormonal Factors, Diagnostic Methods and Surgery Procedures. *Cancers (Basel)* 2023; 16: 179.
5. Saglam O. Uncommon Morphologic Types of Endometrial Cancer and Their Mimickers: How Much Does Molecular Classification Improve the Practice for Challenging Cases. *Life*, 2024; 14: 387.
6. Kalnina L, Mateu-Regué À, Oerum S. Micropapillary variant of embryonal carcinoma: clinicopathologic characteristics and outcome analysis. *APMIS* 2021; 129: 393–400.

7. Matias G, Prat J. *WHO Classification of Female Genital Tumours*. Lyon, 2020.
8. Montero A, Ciérvide R, García-Aranda M. PET-CT imaging in the staging of advanced endometrial carcinoma. *Crit Rev Oncol Hematol* 2020; 147: 102887.
9. Korn EL, Othus M, Chen T. Assessing treatment efficacy in the subset of responders in a randomized clinical trial. *Annals of Oncology* 2017; 28: 1640–1647.
10. Mahdy H, Vadakekut ES, Crotzer D. *Endometrial Cancer*. 2025.
11. Restaino S, Pellecchia G, Arcieri M. Management of Patients with Vulvar Cancers: A Systematic Comparison of International Guidelines (NCCN–ASCO–ESGO–BGCS–IGCS–FIGO–French Guidelines–RCOG). *Cancers (Basel)* 2025; 17: 186.
12. D’Souza A, Roman LD, Saura C. Neratinib in patients with HER2-mutant, metastatic cervical cancer: findings from the phase 2 SUMMIT ‘basket’ trial. *Gynecol Oncol* 2019; 154: 11.
13. Mendivil A, Schuler KM, Gehrig PA. Non-Endometrioid Adenocarcinoma of the Uterine Corpus: A Review of Selected Histological Subtypes. *Cancer Control* 2019; 16: 46–52.
14. Berek JS, Matias-Guiu X, Creutzberg C. FIGO staging of endometrial cancer: 2023. *J Gynecol Oncol*; 34. Epub ahead of print 2023. DOI: 10.3802/jgo.2023.34.e85.
15. Donovan HS, Campbell GB. Endometrial carcinoma in women younger than 40 years: a study of 37 cases treated at the Norwegian Radium Hospital. *Gynecol Oncol* 2018; 149: 433–434.