Case Report / Olgu Sunumu
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Isolated Synchronous Splenic Metastasis from Endometrial Carcinoma: Case Report

Endometrial Karsinom Kaynaklı İzole Senkron Dalak Metastazı: Olgu Sunumu

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ABSTRACT

Endometrial carcinoma is the most prevalent malignancy of the female reproductive system. However, splenic metastasis remains an infrequent occurrence due to the spleen's distinct anatomical and microenvironmental characteristics. This case report described a 66-year-old female patient diagnosed with endometrial carcinoma, who underwent total hysterectomy, bilateral salpingo-oophorectomy, pelvic peritonectomy, omentectomy, and splenectomy following the intraoperative detection of splenic metastasis. The histopathological evaluation confirmed high-grade serous carcinoma with a Ki-67 proliferation index of 90%, as well as metastatic involvement of the ovaries, peritoneum, and spleen. The patient subsequently received adjuvant carboplatin-paclitaxel chemotherapy, radiotherapy, and multiple-step systemic therapy due to disease progression. No significant adverse effects were observed in multi-step chemotherapy. The present case demonstrates the diagnostic challenges and treatment strategies encountered in a rare occurrence of endometrial carcinoma with splenic metastasis.
Keywords: Endometrial carcinoma; metastasis; spleen.

ÖZ

Endometrial kanser, kadın üreme sisteminin en yaygın malignitesidir. Ancak, dalak metastazı, dalağın özgün anatomik ve mikroçevresel özellikleri olması nedeniyle son derece nadir bir durumdur. Bu vaka raporunda, endometriyal karsinom tanısı almış, total histerektomi, bilateral salpingo-ooferektomi, pelvik peritonektomi, omentektomi yapılmış ve intraoperatif dalak metastazı tespit edildikten sonra splenektomi uygulanan, 66 yaşındaki bir kadın hasta sunulmaktadır. Histopatolojik incelemede Ki-67 proliferasyon indeksi %90 olan, yüksek dereceli seröz karsinom saptanmış olup, metastatik olarak over, periton ve dalak tutulumu doğrulanmıştır. Hastaya, adjuvan karboplatin-paklitaksel kemoterapisi, radyoterapi ve hastalık progresyonu nedeniyle çoklu basamak sistemik tedavi verilmiştir. Çok basamaklı kemoterapide önemli bir yan etki gözlenmedi. Bu olgu, endometriyal karsinomun nadir görülen splenik metastazındaki tanısal zorlukları ve tedavi stratejilerini ortaya koymaktadır.
Anahtar kelimeler: Endometrial karsinom; metastaz; dalak.

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INTRODUCTION

Endometrial carcinoma is the most prevalent malignancy of the female reproductive system in developing countries (1). It predominantly affects postmenopausal women, with common metastatic sites including the brain, liver, lungs, bone, and lymph nodes (2). The spleen, however, is an exceedingly rare site for metastasis in solid

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tumors due to factors such as its distinct vasculature, rhythmic contractions, and high phagocytic activity (3). The frequency of splenic metastases in autopsy series is reported to range between 2.3% and 7.1%, whereas documented cases in living patients are notably scarce (4). This report aimed to present a rare case of isolated synchronous splenic metastasis from endometrial carcinoma, a phenomenon with limited documentation in the existing literature.

CASE REPORT

A 66-year-old female patient diagnosed with endometrial carcinoma was referred to our medical oncology outpatient clinic for adjuvant therapy. Total hysterectomy, bilateral salpingo-oophorectomy, pelvic peritonectomy, omentectomy, and splenectomy were performed. Preoperative imaging, including thoracic computed tomography and abdominal magnetic resonance imaging (MRI), revealed no evidence of distant metastases. Initial abdominal MRI performed at the time of diagnosis revealed no evidence of splenic metastasis (Figure 1). However, intraoperative exploration identified metastatic peritoneal implants on the inferior splenic surface, necessitating splenectomy. Histopathological examination confirmed a high-grade serous carcinoma originating from the endometrium (Figure 2A). The tumor mass had a Ki-67 of 90%, and tumor implants were detected in the ovaries and peritoneum, with serous carcinoma metastasis in the splenectomy specimen (Figure 2B, 2C). Immunohistochemical analysis demonstrated 30% expression of estrogen receptors, 20% expression of progesterone receptors, and diffuse strong positivity for mutant-type p53. The patient received adjuvant carboplatin-paclitaxel chemotherapy and pelvic radiotherapy. During follow-up, elevated CA-125 levels prompted positron emission tomography/computed tomography (PET/CT) imaging, which demonstrated hypermetabolic peritoneal nodules and increased uptake in the right inguinal lymph node. Subsequent cisplatin-doxorubicin chemotherapy resulted in a partial metabolic response, and the patient was maintained on alternating megestrol acetate and tamoxifen until disease progression. At the end of two years, recurrent peritoneal implants were detected on abdominal MRI and PET/CT, leading to the initiation of single-agent topotecan therapy. The patient has tolerated multiple-step chemotherapy without significant adverse effects and remains under active follow-up in our medical oncology clinic.

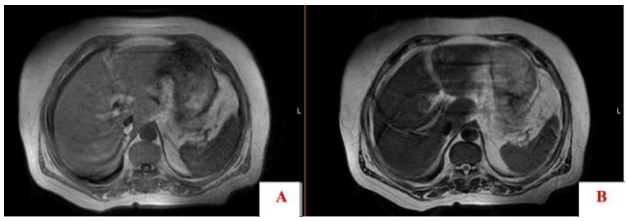


Figure 1. Magnetic resonance imaging reveals **A)** T1 in-phase and out-of-phase axial sequences, and **B)** T2 fast spin-echo axial sequences, with no evidence of splenic parenchymal metastasis

DISCUSSION

The spleen is rarely involved in metastasis compared to other organs in most malignant tumors (5). Several hypotheses have been proposed to explain the uncommon occurrence of splenic metastases (4,5). Factors highlighted in the literature include the constant blood flow in the spleen, rhythmic contractions, splenic artery branching, restricted afferent lymphatic outflow, and the spleen's microenvironment, which contains a large number of phagocytes. However, the effect of anatomical factors and the spleen's microenvironment is still debated (5). In the literature, the female genitourinary system accounts for almost half of all cases of splenic metastasis. Splenic metastases occur through several mechanisms, such as direct tumor extension, transperitoneal dissemination, and hematogenous or lymphatic spread (6). In cases of endometrial cancer, splenic metastases are often solitary and limited to the splenic parenchyma. A review of the published studies has shown that 44% of cases with splenic metastasis in endometrial cancer are asymptomatic and are usually detected incidentally on ultrasonography or computed tomography during routine follow-ups (7,8). Our case presented a particularly challenging diagnostic scenario: despite comprehensive preoperative staging including high-resolution MRI, the splenic metastasis remained radiologically occult, only becoming apparent during surgical exploration. Splenic metastases can be divided into synchronous and metachronous types (5). Among 17 reported cases in the literature, splenic metastases were often metachronous (1,3,5,8-12). Recent case reports, Stojanovic et al.'s (5) metachronous metastasis at 32 months, and Teng et al.'s (2) exceptionally late recurrence at 12 years, demonstrate the remarkably wide temporal spectrum of splenic involvement in endometrial cancer. Pissarra et al. (13) recently reported the first case of synchronous isolated splenic metastasis in endometrial cancer. In the case we present, similar to this

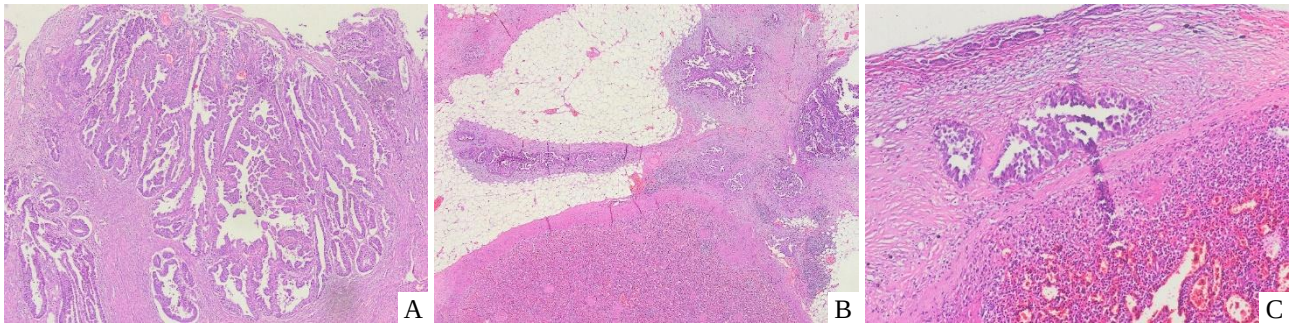


Figure 2. A) Metastatic endometrial serous carcinoma on splenectomy specimen (Hematoxylin and Eosin, x40), and tumor nodules in the splenectomy specimen **B)** Hematoxylin and Eosin, x20 and **C)** Hematoxylin and Eosin, x100

report, synchronous splenic metastasis was detected, unlike all other cases of endometrial cancer reported in the literature. The treatment of splenic metastasis involves several approaches. Splenectomy should be performed in cases with splenic metastasis to prevent complications such as splenic rupture, splenic vein thrombosis, and painful splenomegaly (1). Splenectomy increases the chance of cure by reducing the risk of tumor spread to distant regions and offers the potential for long-term survival (4). Post-splenectomy treatment options include chemotherapy (platinum-based regimens, paclitaxel, doxorubicin—single, double, or triple combinations), oral progestins, and radiotherapy to the splenic bed are critical for improving outcomes (4). While Teng et al.'s (2) patient with late metachronous metastasis achieved remission with splenectomy and chemotherapy, Stojanovic et al. (5) achieved long-term disease control with splenectomy and paclitaxel monotherapy, our case required a multidisciplinary approach including surgery, chemotherapy, and radiotherapy, highlighting how therapeutic strategies must be tailored to disease timing and extent.

CONCLUSION

Isolated synchronous splenic metastasis of endometrial carcinoma is an exceptionally rare phenomenon. The findings of this case underscore the importance of considering splenic metastasis in the differential diagnosis of endometrial cancer, even in the absence of radiological evidence. Early detection and intervention, such as splenectomy combined with adjuvant therapy, can significantly improve patient outcomes by preventing complications like splenic rupture and reducing tumor burden. This highlights the need for increased clinical suspicion and careful assessment in patients, particularly when imaging findings are inconclusive.

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