Journal of Gynecological Oncology

Case Report
Published: 28 Jan, 2026

Case Report: Endometrial Carcinosarcoma with Heterologous (Rhabdomyosarcomatous) Differentiation Presenting as Post-Menopausal Bleeding

Clark KA[1], Schumann T[2], Brunnabend M[3], Karesh E[4], Unterman K[5] and Dorr A[6]*

[1]Alabama College of Osteopathic Medicine, Dothan, USA

[2]Department of Obstetrics and Gynecology, Winnie Palmer Hospital, Orlando, USA

[3]Department of Obstetrics and Gynecology, Mercy Hospital, Oklahoma City, USA

[4]Alabama College of Osteopathic Medicine, Dothan, USA

[5]Alabama College of Osteopathic Medicine, Dothan, USA

[6]Alabama College of Osteopathic Medicine, Dothan, USA

Abstract

Uterine Carcinosarcoma (UCS) is a rare, highly aggressive, biphasic neoplasm of endometrial epithelial and heterologous mesenchymal components. The heterologous sarcomatous element describes the cancerous transformation of the mesenchymal cells into those not native to the uterus such as skeletal muscle, bone, or cartilage. These specific cancers exhibit Epithelial to Mesenchymal Transition (EMT), attributing to its aggressive metaplastic transformative abilities leading to a high recurrence rate and poor overall prognosis, often leading to extrauterine spread at the time of diagnosis. We present the case of a 70-year-old postmenopausal female with a chief complaint of heavy, daily vaginal bleeding characterized by uterine cramping, and abdominal pain as well as visualization of a large protruding cervical mass on examination. Endometrial biopsy revealed carcinosarcoma with heterologous rhabdomyosarcomatous differentiation. After referral to gynecological oncology, the patient underwent a total hysterectomy, bilateral salpingo-oophorectomy and sentinel lymph node mapping and biopsy with complete surgical resection leading to remission and clinical improvement. UCS management is complicated by its rarity and aggressive nature and has limited specific treatment guidelines. However, current guidelines consist of a multimodal approach, with comprehensive surgical staging, adjuvant chemotherapy agents and radiotherapy in select patients. This case underscores the clinical importance of early screening and diagnosis as well as continued efforts in molecular profiling as well as refining individualized multimodal treatment modalities.

Keywords: Endometrial Carcinosarcoma; Hysterectomy; Diagnosis; Computed Tomography

OPEN ACCESS

Correspondence:
Clark KA, Alabama College of Osteopathic Medicine, Dothan, Alabama, United States, Tel: 850-758-5001;
E-mail: clarkk5460@acom.edu

Received Date: *12 Jan 2026*
Accepted Date: *26 Jan 2026*
Published Date: *28 Jan 2026*

Citation:
Clark KA, Schumann T, Brunnabend M, Karesh E, Unterman K, Dorr A. Case Report: Endometrial Carcinosarcoma with Heterologous (Rhabdomyosarcomatous) Differentiation Presenting as Post-Menopausal Bleeding. J Gynecol Oncol. 2026; 7(1): 1085.

Introduction

Uterine carcinosarcoma is a rare, high-grade neoplasm that accounts for approximately two percent of all uterine malignancies but contributes disproportionately to uterine cancer-related mortality, owing to its aggressive behaviour and high recurrence rates [1,2]. Its biphasic histology, with both epithelial and mesenchymal malignant components, distinguishes it from other uterine cancers. Molecular and clinical studies now suggest that carcinosarcomas are fundamentally metaplastic carcinomas, with the sarcomatous component arising through dedifferentiation of the epithelial element [3].

The prognosis of uterine carcinosarcoma remains poor, even in early stages. Five-year survival rates are estimated at 30-45 percent in stage I-II disease, declining to less than 10 percent in advanced stages [4]. Risk factors include obesity, older age, nulliparity, unopposed estrogen exposure, and prior pelvic irradiation [5]. Heterogenic histology further enhances risks. Tumors with heterologous sarcomatous differentiation-including rhabdomyosarcoma, chondrosarcoma, osteosarcoma, or liposarcoma- have been shown to carry a worse prognosis than homologous variants [6]. Rhabdomyosarcomatous differentiation has particularly high rates of lymphovascular invasion, extrauterine spread, and resistance to monotherapy [7].

Given its aggressive nature, the standard of care for uterine carcinosarcoma typically involves a multimodal strategy: comprehensive surgical staging (hysterectomy, bilateral salpingo-oophorectomy, and nodal assessment) followed by adjuvant systemic chemotherapy. Multiple randomized trials have shown that chemotherapy with carboplatin and paclitaxel improves survival and is now considered first-line systemic therapy [8].

Case Presentation

A 70-year-old woman presented to her general OBGYN with heavy, daily vaginal bleeding with passage of clots, accompanied by uterine cramping and abdominal pain. Her medical history was significant for hyperlipidemia, hypertension, sleep apnea, anxiety, and class I obesity with a Body Mass Index (BMI) of 32.6 kg/m^2. On pelvic examination, a small amount of old blood was noted within the vaginal vault without visible lesions. A large, protruding cervical mass was visualized; with no active bleeding at the time of evaluation. Diagnostic workup was initiated with a prompt referral to gynecologic oncology.

An endometrial biopsy revealed a carcinosarcoma with heterologous rhabdomyosarcomatous differentiation. This is further described as small foci of high-grade adenocarcinoma juxtaposed with sheets of sarcoma composed of hyperchromatic spindle and epithelioid cells. The prominent rhabdomyosarcoma is characterized by large cells with eccentric nuclei and eosinophilic cytoplasm, confirmed by coexpression of desmin and MYOD1. Cervical biopsy demonstrated a polyp with extensive stromal hyalinization and haemorrhage, suggestive of superimposed torsion. Cytologic evaluation using ThinPrep Pap demonstrated a high-grade squamous intraepithelial lesion with atypical glandular cells, and HPV mRNA E6/E7 testing was negative. Computed Tomography (CT) of the chest, abdomen, and pelvis showed no evidence of metastatic disease; however, multiple calcified pulmonary granulomas and two small non-calcified pulmonary nodules (3-4 mm) were identified incidentally.

The patient underwent a robotic-assisted total laparoscopic hysterectomy with bilateral salpingo-oophorectomy and sentinel lymph node mapping and biopsy. Gross examination of the uterus (10.5 × 7.2 × 6.3 cm; 182 g) revealed a tan, polypoid, solid endometrial mass measuring 8.7 × 5.2 cm, extending to the cervical os. The tumor invaded 83% of the myometrium and focally involved the endocervical stroma (6%), without evidence of adnexal or serosal involvement. Lymph-vascular space invasion was present. Microscopic examination demonstrated a biphasic tumor composed of a carcinomatous component, characterized by high-grade adenocarcinoma with strong pancytokeratin positivity, and a sarcomatous component, consisting of hyperchromatic spindle and epithelioid cells with a prominent rhabdomyosarcomatous component confirmed by desmin and MYOD1 co-expression.

Immunohistochemical analysis showed pancytokeratin positivity in the carcinomatous component and CD10 patchy positivity in the sarcomatous areas. P53 demonstrated diffuse overexpression in both components, and the Ki-67 proliferation index was approximately 80%, indicating high proliferative activity.

Based on histologic and immunohistochemical findings, the final diagnosis was endometrial carcinosarcoma with heterologous rhabdomyosarcomatous differentiation. The final pathologic stage was PT2 pN0 (AJCC), corresponding to FIGO Stage IIC carcinosarcoma of the endometrium (2023 classification).

At the patient's one-week postoperative visit she was recovering well with no concerns. She reported no vaginal bleeding and her incisions were healing well. Instructed on postoperative precautions for eight weeks and to follow up in six weeks for final postoperative visit and pelvic exam. Patient was given recommendation for follow up with medical oncology and radiation oncology with instructions for chemotherapy with paclitaxel and carboplatin for six cycles and vaginal cuff brachytherapy.

Discussion

Endometrial carcinosarcoma, also known as a mixed malignant mullerian tumor, is an uncommon but highly aggressive uterine malignancy composed of carcinomatous and sarcomatous elements. The sarcomatous element can either be homologous, including leiomyosarcoma, fibrosarcoma or endometrial stromal components, or heterologous, consisting of rhabdomyosarcoma, chondrosarcoma or osteosarcoma elements [9]. Rhabdomyosarcomatous elements confer a worse prognosis due to their high proliferative capacity and propensity for extrauterine spread. In this case, the tumor demonstrated deep myometrial invasion, cervical stromal involvement, and lymphovascular space invasion, all associated with increased recurrence risk.

Uterine carcinosarcoma typically presents with nonspecific symptoms in postmenopausal women such as bleeding and abdominal pain. In this case, the patient presented with heavy vaginal bleeding with passage of clots and a visible cervical mass. USC represents about 5% of all uterine malignancies, and has a higher incidence in black women than in white women [10]. Survival rates depend on staging, but are typically around 50% or less. Risk factors are similar to that of endometrial carcinoma including obesity, nulliparity, exogenous estrogen use and use of tamoxifen [11].

The first line of treatment involves surgical removal followed by the addition of adjuvant chemotherapy, radiotherapy or hormonal therapy depending on the surgical staging of the disease. The preferential surgical approach includes total hysterectomy, bilateral salpingo oophorectomy and staging with para-aortic and pelvic lymph node dissection along with omentectomy after assessing for the possibility of uterine rupture and peritoneal spread [9]. Current chemotherapy choices include ifosfamide, cisplatin, and paclitaxel. One study shows that patients treated with ifosfamide combined with radiotherapy exhibited a favourable trend of progression free survival, although this study did not include controls with chemotherapy or radiotherapy alone [12]. Another study suggests that adjuvant vaginal cuff brachytherapy in combination with chemotherapy produces a favourable survival outcome, although more studies are needed in this area [13]. The patient we presented in this case underwent total hysterectomy with bilateral salpingo-oophorectomy, right external iliac and left common iliac sentinel lymph node biopsy. She was then recommended treatment with a dual chemotherapy regimen including paclitaxel and carboplatin but refused.

Conclusion

We presented a case of a 70-year-old postmenopausal woman who presented with daily vaginal bleeding, and initial EMB showed carcinosarcoma with Heterologous (Rhabdomyosarcomatous) Differentiation. The patient underwent a total hysterectomy and bilateral salpingoophorectomy with lymph node mapping and

biopsy. This noteworthy case continues to illustrate the importance of endometrial biopsy prior to surgical planning. This guides the referral as needed to gynecological oncology for proper surgery and medical management post operatively. Due to the rarity and aggressive transformation of this type of endometrial cancer, there is limited guidance on the exact medical management necessary after surgery. The goal with this case report is to highlight the exact nature which this patient was treated and how she ultimately is now in remission with improvement of clinical symptoms. The hope is with more case reports with successful management there will be strict guidelines in the future for providers.

References

1. Cantrell LA, Havrilesky L, Moore DT, O'Malley D, Liotta M, Secord AA, et al. A multi-institutional cohort study of adjuvant therapy in stage I-II uterine carcinosarcoma. Gynecol Oncol. 2012;127(1):22-26.
2. Matsuo K, Ross MS, Machida H, Blake EA, Roman LD. Trends of uterine carcinosarcoma in the United States. Gynecol Oncol. 2018;151(3):536-43.
3. McCluggage WG. Malignant biphasic uterine tumors: carcinosarcomas or metaplastic carcinomas? J Clin Pathol. 2002;55(5):321-25.
4. Nemani D, Mitra N, Guo M, Lin L. Assessing survival in patients with uterine carcinosarcoma: A population-based study. Gynecol Oncol. 2008;111(3):337-41.
5. Denschlag D, Ulrich UA. Uterine carcinosarcomas-Diagnosis and management. Oncology Research and Treatment.2018;41(11):675-79.
6. Kato T, Enomoto T, Fujita M. Prognostic factors in uterine carcinosarcoma: A clinicopathologic study of 56 patients. J Obstet Gynaecol Res. 2002;28(5):289-93.
7. Garg G, Shah JP, Kumar S. Uterine carcinosarcomas with rhabdomyoblastic differentiation: A clinicopathologic study. Int J Gynecolo Pathol. 2018;37(3):251-59.
8. Homesley HD, Filiaci V, Gibbons SK. A randomized phase III trial in advanced uterine carcinosarcoma: Paclitaxel + carboplatin vs. paclitaxel + ifosfamide (NRG Oncology/GOG-0261). J Clin Oncol. 2019;37(33):2796-2806.
9. Bogani G, Ray-Coquard I, Concin N, Ngoi NYL, Morice P, Caruso G, et al. Endometrial carcinosarcoma. Int J Gynecol Cancer. 2023;33(2):147-174.
10. Hosh M, Antar S, Nazzal A, Warda M, Gibreel A, Refky B. Uterine Sarcoma: Analysis of 13,089 Cases Based on Surveillance, Epidemiology, and End Results Database. Int J Gynecol Cancer. 2016;26(6):1098-1104.
11. Mccluggage WG. Uterine carcinosarcomas (malignant mixed Mullerian tumors) are metaplastic carcinomas. Int J Gynecol Cancer. 2002;12(6):687-90.
12. Einstein MH, Klobocista M, Hou JY, Lee S, Mutyala S, Mehta K, et al. Phase II trial of adjuvant pelvic radiation "sandwiched" between ifosfamide or ifosfamide plus cisplatin in women with uterine carcinosarcoma. Gynecol Oncol. 2012;124(1):26-30.
13. Zhu S, Khalil R, Burmeister C, Elshaikh M. Adjuvant Vaginal Cuff Brachytherapy and Patterns of Failure for Early Stage Uterine Carcinosarcoma. Int J Radiat Oncol Biol Phys. 2020;108(2):E11.