

## Uterine Carcinosarcoma

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### **Background:**

Uterine Carcinosarcoma (UCS) is a rare, aggressive neoplasm thought to be epithelial in origin, with metaplastic de-differentiation into high-grade epithelial and sarcomatous components. UCS represents less than 5% of all uterine neoplasms, yet accounts for 16.4% of uterine cancer deaths. The median survival is less than 2 years. Incidence has been increasing by 1.7% annually (from 2000-2016). Increased risk factors for developing UCS are black race, prior pelvic radiotherapy, smoking, tamoxifen use, obesity, and other sources of hyper-estrogenism. Most patients present at late-stage with abnormal uterine bleeding, uterine enlargement, abdominal swelling, and pelvic pain. Ten percent of patients will have visceral metastases. The diagnosis and treatment course for UCS is already difficult but can be greatly exacerbated when patients have inadequate access to care.

### **Objective:**

This case report describes the presentation and prognosis of a rare disease, therapeutic potential in novel immunotherapies, and the impact of social determinants of health.

### **Methods:** Case Report

### **Results:**

A 52-year-old G3P3003 African-American female presented to the emergency department (ED) in acute renal failure. Her past medical history included fibroids and back pain. Physical exam was notable for a prolapsing, nodular, irregular cervical mass obstructing the endocervical canal. Imaging demonstrated bilateral hydronephrosis, fat-containing lesions within the uterus, a nonspecific enlarged right ovary, and nonspecific retroperitoneal and bilateral lymphadenopathy (LAD). Biopsy of the endocervical mass showed strongly positive epithelial and sarcomatoid/spindle cells infiltrating the stroma. She exhibited lymphovascular invasion and visceral metastasis on imaging. However, her tumor markers were unrevealing. It was not until her pathology returned that her diagnosis became clear. She was initiated on carboplatin/paclitaxel. Her tissue was sent for molecular testing, which revealed positive expression of PD-L1. Antibodies that block PD1, like pembrolizumab, have been shown to have a favorable safety profile and durable antitumor activity in phase 1 trials of patients with endometrial carcinoma. Therapy with pembrolizumab is not currently FDA approved, unless the patient has failed platinum-based therapy.

Meanwhile, the patient's care was complicated by renal failure, ultimately necessitating bilateral percutaneous nephrostomy tube (PCT) placement. At home PCT care proved difficult. The patient made four unscheduled return visits secondary to PCT drainage or pain. Three of these visits were to the ED, where imaging showed intact tube placement as well as progressive worsening of her malignancy. Despite re-education on home management, the patient still contracted three different urinary tract infections from the time of her diagnosis to her death (a period of ten weeks), as well as two additional interventional radiology procedures for PCT exchange.

Complicating her rapid decline was lack of adequate insurance. One month prior to her original presentation in the ED, the patient had an office visit for abnormal uterine bleeding. She was scheduled for hysteroscopy dilation and curettage but did not show up to surgery after losing her insurance. Her subsequently-acquired new insurance did not cover any home-health programs and her copay for chemotherapy was \$979/treatment. Eventually she was provided with charity home health. Notably, she

had no ED visits while charity home health was seeing her. One week after charity care expired, she was readmitted with an acute deep vein thrombosis and sacral ulcers. During this admission the patient transferred to comfort care and was eventually discharged to hospice.

**Conclusions:**

Despite increasing incidence of UCS, five-year-survival rates have not changed significantly in the past thirty years. African-Americans have an increased risk of developing UCS and an increased mortality rate compared to Caucasians diagnosed with UCS. Immune checkpoint inhibitors have potential for significant benefit in the UCS population but require further study. Social determinants of health are significantly associated with adverse cancer outcomes.