



Case Report

Intradural extramedullary spinal metastases from uterine carcinosarcoma: A case report

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ABSTRACT

Background: In recent years, improvements in oncological care have led to an increased incidence of intradural extramedullary spinal metastases (IESMs) attributed to uterine carcinosarcoma (UCS). When such lesions occur, they typically carry a poor prognosis. Here, we have evaluated newer treatments, management strategies, and outcomes for IESM due to UCS.

Case Description: A 59-year-old female with a history of recurrent UCS presented with the new onset of the left lower extremity pain, numbness, and episodic urinary incontinence. When the MR revealed an enhancing intradural extramedullary mass posterior to the L1 vertebral body, she underwent a focal decompressive laminectomy. Although she improved neurologically postoperatively, she succumbed to the leptomeningeal spread of her disease within 2 postoperative months.

Conclusion: Management of IESM due to UCS requires multifaceted, individualized treatment modalities, including neurosurgery, radiation therapy, and medical oncologic management to maximize outcomes.

Keywords: Intradural extramedullary spinal metastases, Malignant mixed Mullerian tumor, Spinal oncology

INTRODUCTION

Intradural extramedullary spinal cord metastases (IESMs) from various types of cancers are uncommon; they are found at autopsy in less than 5% of all cancer patients.^[8] IESMs are often drop lesions from intracranial metastases, typically attributed to lung adenocarcinoma, prostate cancer, breast cancer, melanoma, or lymphoma. Here, however, we present a case of IESM due to uterine carcinosarcoma (UCS).

CASE REPORT

A 59-year-old morbidly obese, African-American female had a history of Stage IIIc recurrent endometrial carcinosarcoma with para-aortic and pelvic lymph node involvement. Over several years, after initial surgery, she required repeated bouts of chemotherapy and radiation therapy. She now, however, newly presented with a 1-month history of numbness of the left vulva, worsening left lower extremity pain/numbness, and episodic urinary incontinence. The thoracic/lumbar MR revealed a 1.4 × 1.8 cm enhancing intradural extramedullary mass inferior

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to the conus at the L1 and L4-L5 levels. In addition, there was abnormal enhancement of the left-sided intradural nerve roots, and the bilateral, perihilar lung metastases [Figure 1].

Surgery

The patient underwent a T12-L2 laminectomy for gross total resection of the L1 intradural/extramedullary mass; the main aim of surgery was to provide neurological symptomatic relief. Intraoperatively, diffuse carcinomatosis of the cauda equina was observed along with a large lesion located anteroinferior to the conus. Grossly, the tumor appeared vascular and involved multiple, swollen, engorged nerve roots. Dissection ceased (e.g., subtotal resection) once intraoperative electromyographic monitoring showed significant changes while dissecting tumor away from tumor infiltrated, matted nerve roots (e.g., gastrocnemius in particular). The permanent pathology showed a mesenchymal malignant Mullerian mixed tumor (carcinosarcoma) without an epithelial component.

Postoperative course

Although the postoperative MR [Figure 2] revealed residual intradural extramedullary tumor, the pain and numbness improved in her left lower extremity [Figure 2]. Nevertheless, she returned to the hospital 2 weeks later complaining of increased lower extremity symptoms and the new onset of right-sided facial weakness, numbness, and blurry vision. Imaging of the brain and spinal cord revealed leptomeningeal spread of her disease accompanied by hydrocephalus and multiple, new intracranial metastases. Two months later, she succumbed to her metastatic disease.

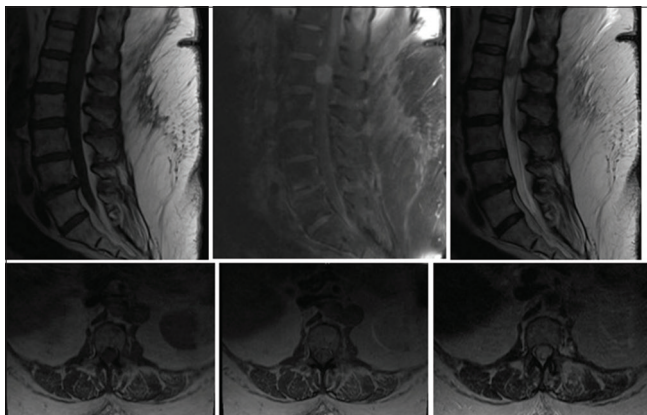


Figure 1: Preoperative magnetic resonance imaging of the lumbar spine shows the intradural spinal cord lesion. Top row, from left to right: sagittal T1 without contrast, sagittal T1 with contrast, sagittal T2. Bottom row, from left to right: axial T1 without contrast, axial T1 with contrast, axial T2.

DISCUSSION

Although extramedullary spinal cord tumors account for more than 70% of intradural spinal cord tumors, metastasis to the extramedullary space is exceedingly rare.^[8] UCSs, previously known as malignant mixed Mullerian tumors, are rare uterine metaplastic malignancies that have carcinomatous and sarcomatous elements, and account for less than 5% of all uterine malignancies. Of interest, they occur twice as often in African-American versus Caucasian females.^[2,7] More than 10% of patients with UCS present with metastatic disease during their initial evaluation.^[2,5] Despite the increased survival from UCS and increased incidence of IESM reported in the literature in recent years, there are no reports of IESM from UCS.

MR study of choice for diagnosing IESM with UCS

MRI has largely replaced computed tomography myelography as the study of choice for diagnosing extramedullary spinal cord lesions. Unfortunately, it is unable to distinguish IESM from primary spinal cord tumors or other non-neoplastic lesions.^[1]

Prognosis of IESM due to UCS

Surgery

The diagnosis of an IESM due to metastatic UCS represents significant systemic disease and thus carries a grave prognosis; the mean survival is estimated to be <1 year.^[6] A few authors have demonstrated an increased survival rate and significant improvement of pain and neurological deficits in those patients with IESM treated surgically as compared to those patients with IESM treated conservatively.^[10] The absence



Figure 2: Postoperative sagittal T2 magnetic resonance imaging of the lumbar spine demonstrating postoperative changes of laminectomy with residual intradural lesions at L1. This was the only postoperative image obtained as patient discomfort led to an early terminated examination.

of any prospective studies or randomized controlled trials comparing various treatment modalities for IESM due to UCS makes it difficult to identify whether there is any benefit from surgery. Nevertheless, the primary role of surgery is the preservation of neurological function, without increasing disease-free survival.^[10] Of note, similar to intramedullary spinal cord metastases, IESMs secondary to chemosensitive primary tumors may often better respond to chemotherapy.^[3,9]

However, there are no clear-cut guidelines regarding the use of chemotherapy and/or radiation therapy to treat IESM secondary to UCS.^[4] In fact, we believe that this is the first case report of IESM secondary to UCS in the literature. Our patient underwent subtotal resection of her IESM, which initially resulted in improved neurological status, but expired <3 months following her diagnosis of IESM with diffuse brain metastases.

CONCLUSION

Intradural extramedullary spinal cord metastases are rare complications of cancer and carry a grave prognosis. Here, a patient with an IESM, due to UCS, and a long-standing prior history of UCS metastatic disease, required lumbar decompressive surgery to achieve symptomatic relief, but succumbed to her metastatic UCS disease within 2 postoperative months.

Declaration of patient consent

Patient's consent not required as patient's identity is not disclosed or compromised.

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Conflicts of interest

There are no conflicts of interest.

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