

From Backpain to Paraplegia: A Rare Primary Presentation of Metastatic Ovarian Cancer in Pregnancy

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Vertebral metastasis from epithelial ovarian carcinoma is extremely rare and usually diagnosed at autopsy. We present here an unusual case of pregnant woman who developed paraplegia, due to thoracic vertebral metastasis and pathologic vertebral fracture of ovarian carcinoma.

Key Words: Pregnancy, Ovarian cancer, Vertebral metastasis, Paraplegia

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Introduction

Vertebral metastasis is one of the most serious life-threatening disease, occurring in more than 70% of patients with terminal cancer, as demonstrated by postmortem examinations.¹ Signs and symptoms of vertebral metastasis can be present for weeks to months and are often misdiagnosed as simple muscle strains or discogenic pain syndromes. If undiagnosed, symptomatic vertebral metastasis can rapidly progress and cause spinal cord compression which resulted weakness in extremities, paraplegia, quadriplegia, and vesicorectal sphincter dysfunction.² Most vertebral metastases originate via hematogenous dissemination from breast, lung, and prostate. However spinal metastasis from gynecological cancer is uncommon and carries a poor prognosis.^{1,3-5}

Epithelial ovarian cancer (EOC) is the most lethal gynecological malignancy in women. The majority of the patients have advanced disease at the time of diagnosis, with intra-abdominal or distant solid organ spread.⁶ Although somewhat rare, EOC may occur in pregnancy, and is reported between 1/15000 and 1/32000 pregnancies. Due to the routine use of ultrasound in pregnancy and advances in ultrasound technology, the majority of ovarian cancers associated with pregnancy are asymptomatic and detected incidentally by routine ultrasound examinations.^{7,8}

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Primary presentation of ovarian cancer due to neurologic symptoms of spinal cord compression is extremely rare. We report herein an unusual case of a pregnant patient with poorly-differentiated ovarian adenocarcinoma that metastasized to thoracic vertebra.

Case Report

A 32 year old woman, gravida 2, para 1, was consulted to us from neurosurgery clinic at our hospital with paraplegia at her 30th pregnancy weeks. She had showed complete paralysis of lower extremities for one week and suffered progressive deterioration which resulted in gait disturbance and bladder dysfunction. She had visited a local clinic at her 8th pregnancy week because of upper backache and weakness of her legs. But, her symptoms were considered as related to pregnancy and managed with analgesics. The neurologic findings progressed until her transfer to emergency clinic and first admission to our institute.

On physical examination, vital signs and higher mental functions were evaluated as normal. However, neurologic examination revealed complete paralysis of the lower extremities, with increased muscle tone. Ultrasound examination showed a healthy fetus consistent with 30 gestational weeks and a large abdominopelvic mass.

Magnetic resonance imaging (MRI) scan of the spine, showed an extradural mass at T1, T2 and T3 vertebral levels causing cord compression, with a bilateral and paraspinal components. Also T2-weighted MRI sagittal image revealed collapse of the T3 vertebral body (Fig. 1). Percutaneous ultrasound guided biopsy revealed poorly differentiated adenocarcinoma of ovarian origin. An operation was planned to relieve pressure from the spinal cord and to obtain tissue for diagnosis. We also discussed the timing of delivery with neonatologists and administered corticosteroids to the patient for fetal

pulmonary maturation. However, an urgent cesarean section was carried out for intrauterine fetal distress at 5th day of admission and a girl baby weighing 1200g was delivered, with Apgar scores of 6 and 8 at 1 and 5 min, respectively. At cesarean section, we observed an adnexial mass (70X60 cm) with irregular surface on the right ovary. A right salpingo-oophorectomy and the diagnostic biopsy of the contralateral ovary was performed. Intraoperative frozen section and peritoneal cytology revealed an malignant tumor and the final histopathological diagnosis of the excised tumor was reported as poorly differentiated ovarian adenocarcinoma.

Postoperative bone scan demonstrated diffuse, mild increased uptake in the T1-T4, T8 vertebrae and posterior aspect of right 9th-11th ribs, suggestive of bone invasion (Fig. 2). The patient was managed with analgesics, dexamethasone and chemotherapy (consisting of paclitaxel and carboplatin) following the delivery. Also the patient received palliative radiotherapy to the dorsolumbar spine. The neonate was healthy and presented no malformation or sequalae after 8 months of follow-up. However, the patient's health deteriorated and died within 5 months.

Discussion

Metastatic spinal tumors from ovarian cancers are rare and usually diagnosed at autopsy.⁹ In the autopsy series, the incidence of bone metastasis due to epithelial ovarian cancers range 0,06% - 0,19%.¹⁰

Skeletal metastasis is an unusual complication of EOC and very few cases have been reported in the literature. Pavlakis et al reported a patient with thoracic wall metastasis from serous-papillary ovarian carcinoma that occurred 3 years after the ini-

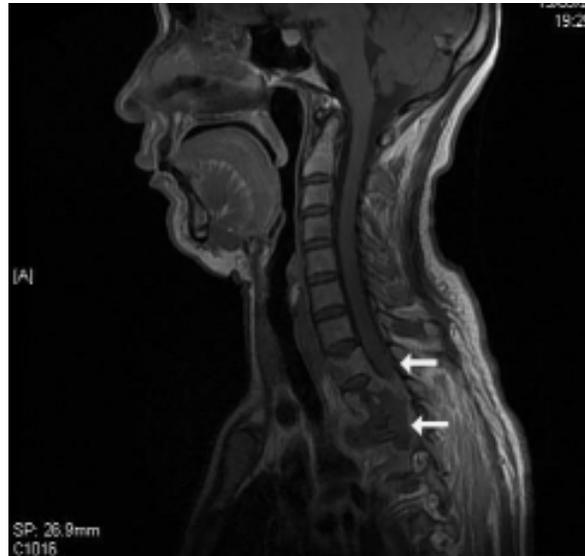


Figure 1: Magnetic resonance imaging revealed an extradural mass (the arrows show the borders of the lesion) at T3 vertebral level and collapse of the T3 vertebral body.

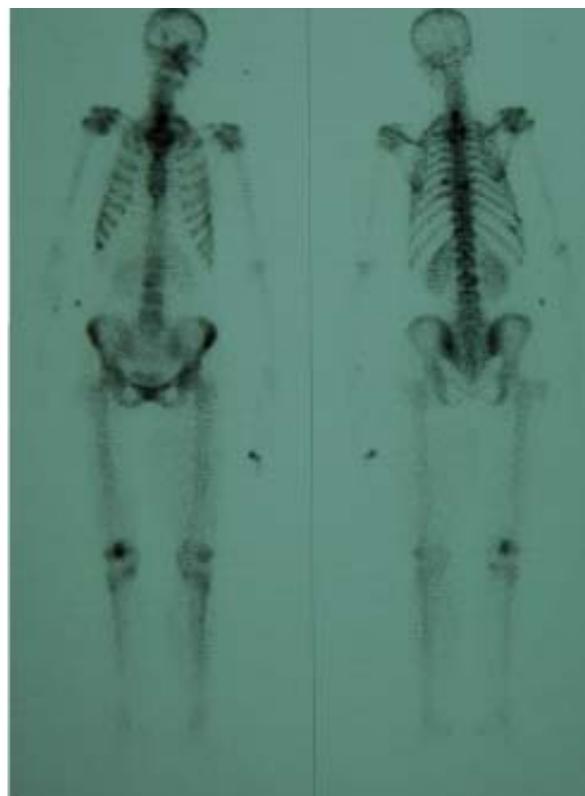


Figure 2: Bone scans shows diffuse, mild increased uptake in the T1-T4, T8 vertebrae and posterior aspect of right 9th-11th ribs, probably bone

tial diagnosis.¹¹ A similar case of EOC metastatic to spine presenting with paraparesis described by Wuntkal et al in a postmenopausal woman. The patient was treated with radiotherapy and dexamethasone, but died within a month.¹² In our case, the patient had no prenatal care and her complaints were attributed to pregnancy. Her neurologic symptoms had showed a very rapid progression and she had complete paralysis of lower extremities, before her first admission to our clinic. After delivery, our patient was managed with a combined therapeutic approach, including cytoreductive surgery, chemotherapy and palliative radiotherapy to dorsal spine. However the patient died within 5 months.

Ultrasound examination plays a central role in the diagnosis of ovarian tumors during pregnancy.¹³ However tumor markers have little value in pregnancy in helping to substantiate a diagnosis. Because of serum CA 125 levels may be raised in normal pregnancy with a usual peak in the first trimester and also serum alpha-feto-protein, human chorion gonadotrophin, and inhibin levels fluctuate during the pregnancy.¹⁴ MRI scanning is also safer in pregnant women and has become the gold standard for evaluating vertebral metastasis. Above all, intravenous contrast media are not recommended, as they cross the placenta and their long-term effects are unknown.¹⁵

The management of bone metastases from EOC remains highly controversial, depending on the location, the extent, and the biologic behaviour of the metastatic site. Cytoreductive surgery, systematic chemotherapy, radiotherapy, or combinations may be considered.¹⁶ Neurosurgical resection may be of benefit in only selected patients if the tumor is well-encapsulated and the systemic disease is under control.¹⁷ The role of chemotherapy remains unclear and postoperative combination chemotherapy

with a taxane and platinum combination is the standard of care.¹⁸ Unfortunately, despite an initial response to chemotherapy in the majority of the patients, relapse is frequent. Eventually reorienting management toward supportive care and pain control is necessary and in general, the goal of the treatment is palliative. Recent reports also suggests that radiotherapy alone may be effective in improving motor function in such cases and should therefore be administered if the patients are not suitable for decompressive surgery.¹⁹ Earlier reports recommend that woman with ovarian malignancy in pregnancy should be treated in the same way as the non-pregnant women.^{20,21} Management is case dependent and multidisciplinary care should be considered. However, despite the adequate treatment, prognosis of cases with bone metastasis is poor. It has been reported that the median survival after the clinical diagnosis of bone metastasis is only 4 months,^{22,23} as in our patient.

In summary, pelvic and back pain are common complaints in pregnancy, and such symptoms are often ignored. Therefore, although extremely rare, clinicians must expand the differential diagnosis and consider the possibility of vertebral metastases in pregnant women with signs of myelopathy. Despite the life expectancy is limited, early diagnosis of vertebral metastasis can improve the patient's remaining life and reduce the likelihood of devastating complications.

Sırt Ağrısından Paraplejiye: Gebelikte Saptanan Nadir Bir Metastatik Over Kanseri Olgusu

Epitelyal over kanserlerinin vertebraya metastazı oldukça nadir görülen ve genellikle otopsi sırasında saptanabilen bir komplikasyondur. Bu yazıda, ilk olarak parapleji ile başvuran ve torakal vertebra ve patolojik vertebra kırığına neden olan over kanseri saptanan nadir bir gebe olgu sunulmuştur.

Anahtar Kelimeler: Gebelik, Over kanseri, Vertebra metastazı, Parapleji.

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