Case Report

Grade 1 Endometrioid Endometrial Carcinoma Presenting with Pelvic Bone Metastasis: A Case Report and Review of the Literature

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1. Introduction

Endometrial cancer is the most common malignancy of the female genital tract and the fourth most common cancer in women [1]. Factors which typically confer a better prognosis and outcome are surgical stage I, low histologic grade, nonserous or nonclear cell morphology, and superficial or no invasion of the myometrium [1]. While surgical staging remains the primary modality for determining the extent of disease, the histological grade is an important prognostic indicator and is highly predictive in determining propensity for metastasis [1]. In the largest series to date on grade 1 endometrioid endometrial cancers, the incidence of pelvic lymph node involvement, pelvic metastasis, and distant metastasis specific to grade 1 tumors is estimated at 3.3%, 4.6%, and 2.4%, respectively [2]. Considering the relative rarity of distant metastasis in grade 1 endometrioid carcinomas, we present a case of grade 1 endometrioid endometrial cancer presenting with bone metastasis to the ischium.

2. Case

A 56 year-old para 2002 presented with a 30-pound weight loss, postmenopausal bleeding, and right-sided hip pain for two years and increasing difficulty walking. Upon exam, a tender right pubic bone, a 4 cm palpable nodule at the anterior vaginal wall, and a 2 cm nodule at the cervicovaginal junction were noted. These nodules and the endometrium were biopsied. Pathology revealed FIGO grade 1 endometrioid endometrial adenocarcinoma (EEC) from all biopsy sites. Immunohistochemical staining revealed tumor cells positive for estrogen receptor (ER) and progesterone receptor (PR) and scatteredly positive for p53. Ki-67 showed high proliferative index. PET/CT imaging demonstrated enlarged retroperitoneal lymph nodes along the aorta and inferior vena cava (SUV > 8). The uterus (SUV > 16) contained a soft tissue lesion invading the right inferior pubic ramus (SUV > 15). Pelvic MRI revealed a thickened endometrium with complex enhancement extending into the lower uterine segment and to the serosal surface (Figure 1(a)). Lesions suspicious for metastasis were noted to infiltrate into the adjacent adductor musculature. A bone scan revealed increased radiotracer uptake within the right ischium extending into the superior pubic ramus and the right pubic bone (Figure 1(b)). A CAT scan of the chest was unremarkable for metastasis.

A soft tissue core biopsy of the right pelvic region revealed adenocarcinoma consistent with a primary endometrial tumor. The patient was diagnosed with stage IVB...
<table>
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<tr>
<th>Patient</th>
<th>Author</th>
<th>Year</th>
<th>Age</th>
<th>Initial stage</th>
<th>Initial treatment</th>
<th>Months diagnosis to treatment</th>
<th>Site of metastasis</th>
<th>Treatment of metastasis</th>
<th>Followup (months)</th>
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<td>70</td>
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<td>Endo CA not diagnosed until after 1 year of mets</td>
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L: left and R: right.

### Figure 1

(a) and bone scan (b) of uterine mass metastatic to bone.

Metastatic endometrial cancer lesions are predominantly found in the lymph nodes, omentum, lungs, and liver. The spread is typically from direct invasion or via the lymphovascular pathway [3]. Endometrial cancer with metastasis to bone has been reported to occur in 2–6% of all metastatic endometrial cancers [3]. Of the reported cases of bony metastases, the most common locations have involved the appendicular skeleton with a high surgical stage and grade. Although hematogenous dissemination is the most common route of bony metastasis, we suspect that the patient’s tumor in this case invaded by direct extension. Although likely underreported, to the best of our knowledge, only 10 other cases of grade I endometrial cancer with bony metastasis follow her initial diagnosis with progression of disease.

### 3. Discussion

Metastatic endometrial cancer lesions are predominantly found in the lymph nodes, omentum, lungs, and liver. The spread is typically from direct invasion or via the lymphovascular pathway [3]. Endometrial cancer with metastasis to bone has been reported to occur in 2–6% of all metastatic endometrial cancers [3]. Of the reported cases of bony metastases, the most common locations have involved the appendicular skeleton with a high surgical stage and grade. Although hematogenous dissemination is the most common route of bony metastasis, we suspect that the patient’s tumor in this case invaded by direct extension. Although likely underreported, to the best of our knowledge, only 10 other cases of grade I endometrial cancer with bony metastasis follow her initial diagnosis with progression of disease.
have been reported (Table 1). The most common location of metastases was in the axial skeleton (vertebrae and pelvis). There is no consensus on the standard treatment of stage IVB endometrioid endometrial carcinoma. Prognosis is poor and the treatment is predominantly palliative. A review of the literature reveals that the most common treatment for metastases to the bone involves surgical removal of the lesion (if possible), site-directed radiation therapy, and IV chemotherapy [4]. Considering that surgical resection of the bony metastasis was not an option for the patient in this case, our plan was to proceed with pelvic radiation and chemotherapy. In addition, bisphosphonates were added as they have been shown to have a modest improvement in skeletal-related event-free survival in one report [4].

4. Conclusion

Although most cases of grade 1 endometrioid endometrial carcinoma do not behave aggressively, this case demonstrates the potential for progression of grade 1 disease. It is evident that, in rare instances, even low-grade, well-differentiated endometrial adenocarcinomas can progress in a highly aggressive manner.

Conflict of Interests

The authors have no conflict of interests to disclose.

References

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