Endometrial Carcinoma Presenting with an Isolated Osseous Metastasis: A Case Report

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ABSTRACT

Patients with advanced endometrial cancer had generally a poor prognostic with a median survival often less than one year. Isolated bone metastases as the first sign of the disease of endometrial cancer was a very exceptional situation rarely described in the literature. The goal of this report is to describe the management of this rare site of metastases and to reviewed Clinic pathological features and prognosis of isolated bone metastases. We present a case of a 56-year-old woman treated for endometrial cancer with isolated ribs bone metastases. She was complaining about progressive right rib pain as a first sign of the disease of endometrial cancer. She had a biopsy of the lesion in the last right thoracic rib. This has proved a metastatic adenocarcinoma compatible with an endometrial primary cancer. An endometrial biopsy showed moderately differentiated endometrioid adenocarcinoma. Imagery did not reveal any other sites of metastatic disease. The patient underwent bilateral salpingo-oophorectomy and hysterectomy, peritoneal washing, omentectomy, bilateral pelvic and par aortic lymphadenectomy. In addition, a right thoracotomy was carried out and complete surgical excision of the rib mass was successfully performed. Adjuvant chemotherapy was administrated. The patient is clinically free of disease 10 months following diagnosis. Single-bone extrauterine metastatic site and local disease limited to the uterus had better survival outcomes than Stage IVb endometrial cancer with multiple metastatic sites. Therefore, the patient treated with surgery with a clear margin continued to behave as early-stage endometrial cancer.

Keywords: Bone metastasis, Chemotherapy, Endometrial cancer, Isolated metastasis, Rib

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Introduction

Endometrial cancer is the most prevalent gynecologic cancer with a progressively increasing incidence (1). Approximately (5-10%) of the patients have been diagnosed with locoregionally advanced stages (III-IVA) disease.[2] Early endometrial cancer had a good prognosis contrary to the advanced stage of the disease.

Lymph nodes, liver, and lungs are the most frequent cancer-metastasized sites, while bone metastasis is very rare (3). Moreover, isolated bone metastasis is a very exceptional situation rarely described in the literature (4,5).

The goal of this report is to describe the management of this rare site of metastases and to reviewed Clinic pathological features, treatment, and prognosis of isolated bone metastases.

Case Report

A 56-year-old post-menopausal, nulliparous woman had been suffering from progressive right rib pain for more than two months without any other associated symptoms. Palpation of the bone mass revealed that it was hard, painful, and adherent to deep structures.

The CT scan of chest imaging revealed a 30×40mm mass in the last right thoracic rib measuring 30x40mm expanding into the adjacent soft tissues with bony destruction. The CT scan of the abdomen and pelvic did not reveal other distant metastasis. A bone biopsy of the right ribs lesion was per-

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formed, which proved a moderately differentiated metastatic adenocarcinoma.

Immunohistochemistry performed was positive for Cytokeratin 7 (CK7), 10% for Ki67, and negative for CK20, and Human epidermal growth factor receptor 2 (HER-2). Additionally, there was 20% of estrogen receptor (ER) and 70% of progesterone receptor (PR). Therefore, it was considered as breast or gynecological origin metastatic cancer.

Mammography and echography, as well as tumor markers Cancer antigen 125 (CA125), Carcinoembryonic Antigen (CEA), CA153, and CA199, were normal.

Transvaginal sonography demonstrates an endometrial thickness of 20 mm. The gynecological examination was normal. Magnetic resonance imaging (MRI) describes enlargement of the uterus, with a mass measuring (26x30 mm) in the endometrial cavity. It was deeply invading the myometrium. The mass showed heterogeneous medium and high signal intensity on T2-weighted images. Moreover, MRI showed a markedly increased uptake mass on the last right thoracic rib measuring 30×40mm (Figure 1).

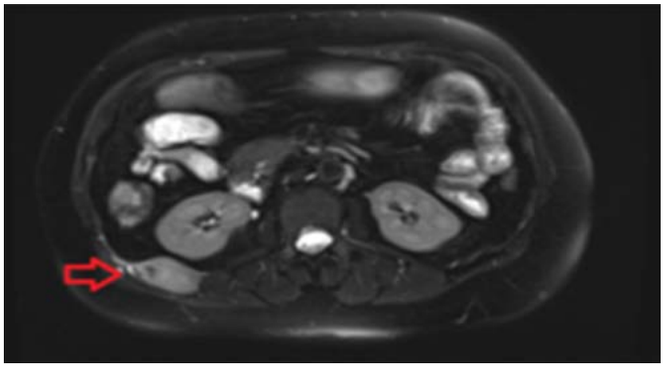

Figure 1: *MRI showed a markedly increased uptake mass on the last right thoracic rib measuring 30×40mm. The mass showed heterogeneous medium and high signal intensity on T2-weighted images.*

Hysteroscopy with biopsy confirmed a well-differentiated endometrioid adenocarcinoma grade II. Isotope scan (PET) was not realized because is not available. According to the International Federation of Gynecology and Obstetrics staging system, her disease was classified as stage IVB.

The patient underwent bilateral salpingo-oophorectomy and hysterectomy, peritoneal washing, omentectomy, bilateral pelvic and par aortic lymphadenectomy. In addition, a right thoracotomy was carried out and complete surgical excision of the rib mass was successfully performed.

Histopathology showed primary cancer as a grade 2 endometrial endometrioid adenocarcinoma with more than 50% myometrial invasion without reaching to serosa. Para-aortic lymphadenectomy sampling revealed one metastatic lymph node. The metastatic lesion of the rib was solid-cystic measuring 60×40 mm. The tumor was diffusely infiltrating the bone (Figure 2) with the presence of necrosis and lymphovascular space involvement. Resection was complete with clear margins.

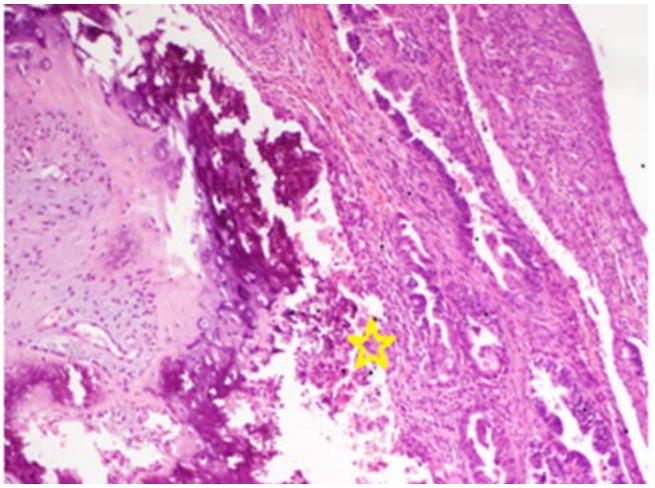

Figure 2: *Endometrioid adenocarcinoma infiltrating the bone (HE ×100).*

The decision of the multidisciplinary team (MDT) was to administrate chemotherapy with paclitaxel and carboplatin.

She is still alive after ten months of treatment without disease progression. Informed consent was obtained from the patient for the publication of the case report.

Discussion

Bone metastasis in endometrial cancer is exceptional. In literature, their prevalence is variously reported (0%-15%) (4,5). Most commonly, bone metastases are seen as recurrence. However, their presence as the initial sign of the disease is rare. The vertebrae are the most frequent bone metastatic site, followed by the pelvic bones, femur, ribs, and sternum (6-8). Few other sites like bone extremities had rarely described (9). Nevertheless, the mechanisms of dissemination of bone metastases are not fully clear.

Hematogenous spread is considered the most frequent mechanism (10). The literature review, reported by Makris GM et al, revealed 58 case reports with metastatic endometrial cancer to the bone between 1967 and 2016, among them 36 cases were diagnosed with bone metastasis as the initial sign of disease (3). Bone metastasis could present a very interesting diagnostic challenge, often because, gynecological symptoms could occur at a later time (11). Hence, the interest in doing biopsies.

Traditionally, treatment for women with stage IV endometrial cancer relies on palliative chemotherapy. Although, the best therapeutic approach for bone metastases of EC remains unclear (8). Treatment depends on-site, the number of bone lesions, and the presence of concurrent visceral metastases.

Many authors reveal that the most widely used treatment for metastases to the bone involves surgical resection of the accessible lesion, stereotaxic or palliative radiotherapy, radiofrequency with cementoplasty, systemic chemotherapy or hormonotherapy, and bisphosphonates (6,10,12).

Uharcek et al reported that palliative radiotherapy could be efficient in the case of isolated bone metastasis since it allows the preservation of bone intact with good results (13,14). Moreover, high dose localized radiotherapy followed by chemotherapy can be effective for voluminous tumors. This has been demonstrated by Koukourakis et al, that had reported a patient with peritoneal and pelvic metastasis who had complete remission after stereotactic re-irradiation combined with chemotherapy (15). In the review of the literature including 29 cases, reported by Myriokefalitaki et al, regarding endometrial cancer presenting with bone metastasis as a first symptom, the bone tumor has been treated with radiotherapy alone in 28% of the cases or combined with primary surgery in 12% of the cases or chemotherapy in 40%. For the whole, 54% of patients had chemotherapy and 46% had hormone therapy (11). In our case, the patient had a complete surgical excision of the rib mass followed by chemotherapy. Therefore, endometrial carcinoma with a solitary bone metastasis needs multimodal therapy.

In the literature, the median OS of patients with bone metastasis was between 18 months and 33 months (4,5,8). Moreover, patients with recurrent bone metastasis have better survival than patients with endometrial carcinoma who developed bone metastasis at presentation (4,5). Furthermore, the prognosis for patients with a single-bone extra uterine metastatic site was better than patients with advanced disease (3,8,11). In addition, patients with Type I endometrial carcinoma who have bone metastasis have a better prognosis comparing to patients with Type II histology (8).

Bone metastasis diagnosed as the first sign of the disease of endometrial cancer are extremely rare. The goal through our case reports and the review of other cases in the literature was to collect as much information exists regarding the best management of patients with stage IV endometrial cancer who developed this rare presentation of the disease. Therefore, we suggest that wide resection with a clear margin of single bone metastasis is the best treatment.

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