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CASE REPORT

Ovarian malignant melanoma presenting with hypercalcemia and bone marrow infiltration: a case report and review of the literature

Hiperkalsemi ve kemik iliği infiltrasyonu ile başvuran bir overiyan malign melanom: vaka sunumu ve literatür taraması

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ABSTRACT

Malignant melanoma originating from the ovary is a very rare condition. Bone marrow involvement and hypercalcemia is observed at a very low rate in malignant melanoma cases (5-7 and 1.1-11.9%, respectively). In this paper, we present very rare condition as a 67-year-old female patient with malignant melanoma of ovary origin accompanied by bone marrow infiltration and hypercalcemia. *J Clin Exp Invest 2012; 3(1): 96-98*

Key words: Ovarian malign melanoma, bone marrow infiltration, hypercalcemia

ÖZET

Over kaynaklı malign melanom oldukça nadir bir durumdur. Kemik iliği tutulumu olması ve hiperkalsemi varlığı malign melanoma vakalarında çok düşük oranda gözlenmektedir (sırasıyla, % 5-7 and % 1.1-11.9). Bu yazıda biz de kemik iliği infiltrasyonu gösteren ve hiperkalsemisi bulunan oldukça nadir bir 67 yaşında kadın over kaynaklı malign melanoma vakasını sunduk.

Anahtar kelimeler: Overiyan malign melanoma, kemik iliği infiltrasyonu, hiperkalsemi

INTRODUCTION

Malignant melanoma is a tumor of the melanocytes in the skin and mucosal membranes. Malignant melanoma accounts for 1-3% of all malignancies with an increasing incidence seen worldwide.[1] There are three histologic types of malignant melanoma: superficial spreading, nodular, and acral lentiginous, of which nodular melanomas have the worst prognosis.[2] Approximately 3% of malignant melanomas involve the female genital tract.[3] The most commonly involved parts of the female genital tract are vulva, vagina and cervix.[4,5] Ovarian malignant melanoma is, on the other hand, is a very rare condition compared to other parts. Malignant melanomas of genital tract origin have a worse course.[6]

Malignant melanoma is a common disease that requires careful follow-up as metastasis can occur within 5 years of initial presentation. It is commonly disseminated to the skin, surrounding subcutaneous tissues, lymph nodes, liver and bone, although it can potentially metastasize to any visceral organ.[7] Metastases of melanoma to bone marrow are rare with widespread dissemination occurring in only 5-7% of cases.[8] Bone marrow involvement is observed more frequently in males (1.33 times). The most common hematologic finding is anemia, followed by thrombocytopenia, pancytopenia and leukoerythroblastosis. In most of the patients, death occurs despite chemotherapy.[9] Bone marrow involvement from retroperitoneal, anal, tonsillar, nasal, osseous and ocular melanoma has been described.[10-14] There were no reports in the literature describing association of primary ovarian malignant melanoma and bone marrow metastasis.

Malignancy-associated hypercalcemia (MAH) is the commonest cause of hypercalcemia in hospitalized patients. Its incidence is 15 cases per 100.000 person-year.[15] Hypercalcemia is a rare, but potentially life-threatening consequence of metastatic melanoma. The incidence of hypercalcemia in patients with metastatic melanoma varies (%1.1-11.9) depending on the series.[16-18] We present a case of malignant melanoma of ovary origin accompanied by bone marrow infiltration and hypercalcemia.

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CASE

A mass of approximately 10 cm diameter had been identified in the left ovary in a 67-year-old female patient with a history of Diabetes Mellitus for 25 years and diabetic neutropenia for 10 years by pelvic computerized tomography (CT) performed at the healthcare center the patient had presented for side pain. Thorax CT, abdominal CT, cranial MRI and whole body bone scintigraphy performed for staging did not show metastasis or any other foci. An 11x10 cm mass originating from the left ovary was observed intraoperatively and total abdominal hysterectomy and bilateral salpingoophorectomy was performed. The patient, whose pathology result was malignant melanoma (HMB-45 and S-100 strong positive) had pain about 2 months after surgery. Involvement of lung parenchyma, abdominal and cervical lymph nodes as well as involvement of almost whole skeletal system was observed on positron emission tomography/CT (PET/CT) performed for new staging. Presenting to our clinic with diffuse body pain and fatigue, patient's hemoglobin value was 9.6 g/dL, leukocyte count was 4800 and platelet count was 59.000, lactic dehydrogenase level was 4145 IU/L (125-243), alkaline phosphatase 264 IU/L (40-150) urea was 121 mg/dL (10-45) and creatinine level was 2.5 mg/dL and serum corrected calcium level was 11.1 mg/dl. Having bicytopenia and high level of LDH, the patient was considered to have bone marrow involvement and bone marrow biopsy and peripheral smear was evaluated. Peripheral smear revealed leukoerythroblastic blood picture and bone morrow analysis showed infiltration, concluding bone marrow involvement. Considering comorbidities and performance, low-dose interferon (3 million U, 3 days a week) was started.

The patient developed bruising and nose bleeding on the tenth day of treatment and the examinations revealed the following results: Prothrombin time (PT) 16.15 second (9.5-13 seconds), international normal ratio (INR) 1.26 (0.88-1.2), fibrinogen 118.49 mg/dl (212-488 mg/dl), D-dimer 8189 ng/ml (< 279 ng/ml). Disseminated intravascular coagulation (DIC) picture was noted and the patient's treatment was interrupted. Fresh frozen plasma was started and the patient's overall condition showed gradual deterioration. She developed multi-organ dysfunction and died one week after the occurrence of DIC.

DISCUSSION

Approximately 3% of malignant melanomas involve the female genital tract.[3] Malignant melanomas involving the ovary are more frequently metastatic than primary in nature.[19] Malignant melanoma of ovary origin is observed very rarely compared to melanomas of vulva, vagina and cervix origin. Primary melanomas of the ovary are thought to arise by malignant transformation of an associated dermoid cyst or monodermal teratoma. McNeilage et al.[20] have described the characteristics of 31 cases of melanoma originating from mature ovarian cystic teratoma reported from 1901 to 2002. Cases without cystic teratoma have also been reported in the literature.[19,21] In the largest single-center series published on primary ovarian melanoma, teratomous elements were noted in 6 of 9 cases, while 3 cases were free from teratomous components.[19]

Our case also had a mass of ovary origin at the time of diagnosis but no other involvements apart from the ovary at baseline images. Based on these findings the patient was diagnosed with primary ovarian melanoma.

Epithelial tumors of the thyroid, breast, lung, kidney and prostate commonly metastasize to the marrow.[7] There are a number of reports of malignant melanoma showing infiltration of marrow.[7-9,22-24] Bone marrow involvement is not common in malignant melanoma cases. Although cases of nondermal malignant melanoma associated with bone marrow infiltration have been described in the literature,[10-14] there were no reports of primary ovarian malignant melanoma cases in whom bone marrow involvement was identified. We believe that our patient is the first case of malignant melanoma showing bone marrow infiltration.

Similar to bone morrow involvement, hypercalcemia is not common with malignant melanoma. The incidence of hypercalcemia in patients with metastatic melanoma varies depending on the series. Burt and Brennan[16] reported a 1.1% incidence in 560 patients with melanoma treated at the National Institutes of Health between 1970 and 1977. Levy and Feun[17] found a similar 2.1% incidence in their series of 143 patients. In a recent article by Kageshita and colleagues,[18] 11.9% of patients with metastatic melanoma were found to have hypercalcemia.

In conclusion, cases of malignant melanoma of ovarian origin have been described in very few reports in the literature. Co-occurrence of bone marrow involvement and hypercalcemia - which also rarely accompany malignant melanoma of ovarian origin - makes our case noteworthy. Although malignant melanomas of genital system origin are known to have a poor course, the survival of the patient with accompanying bone marrow involvement,

DIC picture and other comorbidities was short (3 months), as expected.

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