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CASE REPORT/OLGU SUNUMU

Asymptomatic ovarian metastasis of malignant melanoma in an adolescent

Adölesanda asemptomatik ovaryan malign melanom

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ABSTRACT

Malignant Melanoma (MM) is a tumor with an extremely poor prognosis and is very rare in adolescents. The prognosis of the disease in this population is different from that of adults. The condition can be diagnosed at a metastatic stage. Gynecological metastases of MMs often occur in the endometrium. More rarely, metastases can be detected in the ovaries. Although it is rare in adolescents, MM cases should be evaluated regarding ovarian metastases. It should be noted that adolescents can be asymptomatic no matter how large the mass is. This case report presents a case with a primary melanoma lesion in the leg and a metastatic ovarian mass detected in imaging studies performed five months after the initial diagnosis. The mass detected in the ovary in the case was removed by salphingoopherectomy. The diagnosis of metastasis was confirmed by immunohistochemical staining. Sentinel lymph node biopsy was performed concurrently with oophorectomy. Malignant melanomas may rarely metastasize gynecologically. Metastases should be considered in the differential diagnosis of adnexal mass in patients with melanoma, and the treatment plan should be arranged accordingly.

Keywords: Malignant Melanoma, Ovary, Adolescent, Chemotherapy, Sentinel

ÖZ

Malign Melanom (MM), son derece kötü prognoza sahip bir tümördür ve adölesanlarda çok nadir görülür. Bu popülasyonda hastalığın prognozu yetişkinlerden farklıdır. Durum metastatik evrede teşhis edilebilir. MM'lerin jinekolojik metastazları sıklıkla endometriyumda meydana gelir. Daha nadiren yumurtalıklarda metastazlar saptanabilir. Adölesanlarda nadir görülmesine rağmen MM olguları over metastazları açısından değerlendirilmelidir. Unutulmamalıdır ki, kitle ne kadar büyük olursa olsun adölesanlarda asemptomatik olabilir. Bu olgu sunumunda bacakta primer melanom lezyonu ve ilk tanıdan beş ay sonra yapılan görüntüleme tetkiklerinde metastatik over kitlesi saptanan bir olgu sunulmaktadır. Olguda overde saptanan kitle salfingooferektomi ile çıkarılıp metastaz tanısı immünohistokimyasal boyama ile doğrulandı. Ooferektomi ile eş zamanlı olarak sentinel lenf nodu biyopsisi yapıldı. Malign melanomlar nadiren jinekolojik olarak metastaz yapabilirler. Melanomlu hastalarda adneksiyal kitle ayırıcı tanısında metastazlar da düşünülmeli ve tedavi planı buna göre düzenlenmelidir.

Anahtar Kelimeler: Malign Melanom, Yumurtalık, Ergen, Kemoterapi, Sentinel

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INTRODUCTION

Malignant melanoma is a strongly malignant tumor with an unstable spread profile. MMs are rare in adolescents. (1) Melanoma diagnosis in adolescents is highly exacting due to the difficulties in differentiating benign lesions such as spitz nevi from malignant spitzoid melanomas, which they may strongly resemble .(2)

The majority of metastatic spread is lymphatic and peritoneal. Metastasis usually affects the lungs, the mediastinum, the brain, the liver, and the bones. The endometrium is the most common gynecological localization. (3) Metastasis presenting as a solitary ovarian tumor is unusual, and only a few cases have been reported.

Ovarian MMs often present with abdominal pain and swelling. But ovarian masses may be asymptomatic in adolescents. Here, we present a 18-year-old case with a giant mass in the left ovary in controls performed five months after MM was detected in the extremity.

CASE

An 18-year-old girl applied to an external center due to discoloration, crusting, and bleeding of her nevus on the inner side of the left leg. The nevus was removed, and nodular melanoma was detected. She had no history of tanning, sun damage, congenital or atypical nodules, and a family history of melanoma. The melanoma was removed by wide local excision with a tumor margin of 2 cm. The tumor's Breslow depth was 2 mm. After the diagnosis, the patient was referred to our hospital. The general physical examinations were regular. She provided no specific gynecologic history. A solid pelvic mass was felt during a pelvic exam. Ultrasound demonstrated a solid right adnexal mass with multiple anechoic locules with a prevailing solid and partially hyperechoic compound. The patient had no abdominal pain, swelling, or another complaint. A pelvic magnetic resonance imaging (MRI) scan showed a 160 x 120 mm pelvic mass in the right ovary location and suspected left inguinal lymph nodes (Fig.1a) The thorax CT scan and biologic laboratory tests, CA125, carcinoembryonic antigen (CEA), alpha-fetoprotein (AFP), lactate dehydrogenase (LDH) and human chorionic gonadotrophin (beta-HCG) levels were all normal.

Sentinel lymph node biopsy for the primary lesion scar site and concurrent laparotomy were planned. An approximately 18 cm mass was observed in the right ovary at laparotomy (Fig.1b) Lymphoscintigraphy was performed before the sentinel lymph node biopsy, and SLNB was performed (Fig.1c) Oophorectomy was performed. The left ovary and whole abdomen were normal. A pathological examination of the ovary revealed a tumoral infiltration with atypical mitoses, large, hyperchromatic nuclei, prominent nucleoli, large eosinophilic cytoplasm, and an array of islands. Positive staining with HMB45 and Melan A stains were detected in immunohistochemical examination (Fig.1d) The sentinel lymph node was negative. The patient was transferred to the medical oncology clinic in our hospital. A multidisciplinary tumor board evaluated the patient and decided to begin nivolumab therapy. The patient was transferred to our hospital's medical oncology clinic.

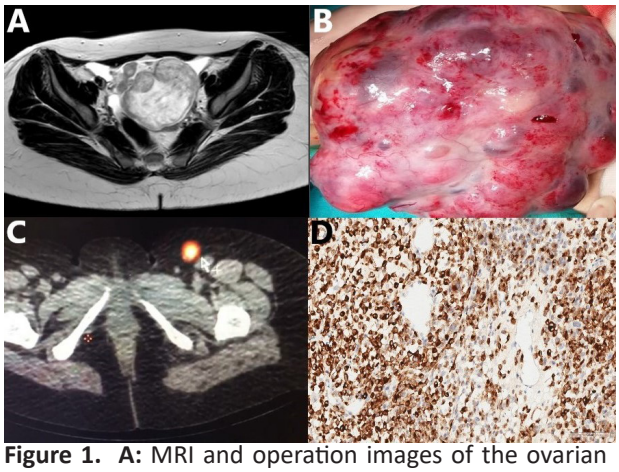

Figure 1. A: MRI and operation images of the ovarian mass. The ovary demonstrates a heterogeneous intensity on T2 **B:** Metastatic melanoma of the right ovary. **C:** Images of sentinel lymph node (SLN) SPECT / CT performed to determine the localization of SLNs observed in lymphoscintigraphy images before the operation (arrow in A) **D:** Positive staining with MelanA stain was detected in immunohistochemical examination (Melan A , focus 20 X)

DISCUSSION

Melanoma is extremely rare in the first two decades. In comparison to adults, there are fewer large series or reviews in the literature. (4,5) Studies evaluating MM in adolescents frequently compared this group with adult and childhood cases. Adolescent MM differs not only in terms of clinical presentation but also in terms of risk factors, etiology, natural history, and prognosis. (2) Xeroderma Pigmentosum, immunosuppression, inability to tan, freckles, family history, previous malignancy, numerous nevi, and congenital melanocytic nevi are all risk factors for pediatric and adolescent MM. (1) Our case did not have any risk factors. The absence of these risk factors made the initial diagnosis very difficult. Therefore, the referral of the patient to our tertiary hospital was delayed.

In terms of location, the lower limb was the most commonly affected region in adolescents in one study, followed by the head and neck region. (2) In our case, the primary lesion was on the left upper leg.

The prognosis of metastatic melanomas is inferior. Ovarian metastasis is difficult to diagnose. Patient age is also essential in this regard. Ovarian masses in adolescents are often asymptomatic. In most patients, tumor marker levels are non-discriminatory, as they were in our patient, who had normal CA125 levels. The lesion was unable to be classified using an ultrasound or CT scan. MRI scans could characterize the lesions, as melanin's presence rarely results in a peripherally increased signal on TI-weighted images. (6) These changes are visible only in areas with a high concentration of melanin. The MRI images of our patient was non-diagnostic for MM. As a result, MRI scans do not reliably identify lesions as melanomas in the majority of cases.

Breslow thickness, ulceration, increasing age, primary tumor location, lymph node involvement, satellite lesions, elevated lactate dehydrogenase, and metastatic disease are significant prognostic factors in adults. However, prognostic factors in young people were not well understood. (2) For patients aged 1 to 19, those with lesions bigger than 1.5 mm had a substantially better overall survival rate (OS) than patients aged 20 to 24. (7) Another study demonstrated that; young children aged 1 to 19 with thicker melanomas have a significantly higher survival rate than adults. (2) Adolescent patients were presented with a higher T classification than adults. (4) Although the precise cause for this remains unknown, variations in tumor biology, hormonal influences during puberty, genetics, and additional prognostic factors are likely to play a role. (1,2)

The time interval between primary malignant melanoma of the skin and metastatic ovarian tumor has been estimated to be between 15 and 228 months. (8) Our case is quite surprising, with a metastatic ovarian mass at a young age and shortly after diagnosing the primary lesion. We think this situation caused the delay in diagnosis in our patient, and by this time, the disease seems to have progressed.

The number and localization of metastases determine the treatment modality in MMs OS decreases significantly as the number of metastasis sites increases. (9) In our case, no further metastases were detected throughout the examination and scan, and the sentinel node was confirmed to be negative.

Sentinel lymph node biopsy (SLNB) is a staging procedure used to determine the lymph node status of patients with MM. There is a consensus on applying SLNB to patients with MM. In our patient, the mass detected in the adnexa was not thought to be metastasis due to the patient's age, and the patient underwent SLNB. However, once ovarian metastasis was identified, it became the determinant factor in adjuvant treatment.

Metastatic melanoma has a poor 5-year survival

rate for stage III and stage IV disease. For years, no traditional cytotoxic chemotherapeutic drug or regimen has improved overall survival in advanced and metastatic melanoma. (7) Single-agent chemotherapy, dacarbazine, and another cytotoxic agent, especially cisplatin, are used in systemic treatment. Biological therapy based on interferon-alpha, Ipilimumab, nivolumab was recently developed. Nivolumab, a monoclonal antibody that targets the programmed cell death protein 1 (PD-1), was approved in 2017 for adjuvant therapy in resected stage III and stage IV patients. (9) Nivolumab treatment was planned for our patient.

Conclusion: Although there are age-dependent differences, malignant melanoma may present asymptomatic but metastatic in adolescents. It should be kept in mind that any patient suspected or diagnosed with malignant melanoma to have metastasis should be referred to a comprehensive center on this subject before treatment. Thus, the deficiencies that may occur in the management of the patient will be prevented.

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Conflict of interest

Authors have no conflicts of interest relevant to this article.

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Ethical Decleration

Informed consent was obtained from the participant and Helsinki Declaration rules were followed to conduct this study.

Author contributions

Conceptualization and design: SS, SB; data acquisition; EK, MAN, ME, BBD, SS, drafting the manuscript: SS; supervision: SS, EK; review & editing: all authors.

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