

Solitary ovarian metastasis from cutaneous melanoma - Case report

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Summary

A 47-year-old patient with two previous deliveries and three deliberate abortions was admitted to the Institute of Gynecology and Obstetrics, Clinical Center of Serbia with the diagnosis of a uterine myoma and left adnexal mass. Five years previously, she had undergone excision of a malignant melanoma from her left leg. Pelvic examination disclosed a left adnexal solid mass measuring about 100 x 80 x 80 mm and enlarged uterus 120 x 50 mm in size with myomatous nodes on the posterior wall. After ultrasound and computed tomography examination, the patient underwent total abdominal hysterectomy, bilateral salpingo-oophorectomy, infracolic omentectomy and selective pelvic lymphonodectomy. The final histopathological diagnosis was metastatic amelanotic malignant melanoma of the left ovary and uterine myomas. After surgery the patient was transferred to the Institute of Oncology and Radiology where she received chemotherapy.

Key words: Malignant melanoma; Ovary; Metastasis.

Introduction

Malignant melanoma is an extremely malignant tumor with an unpredictable profile of spread and variable periods of remission [1]. It usually affects the skin, adrenal glands and ocular choroid. The tumor progresses in a strange and unpredictable manner, with long remissions and relapses that develop rapidly. The most common cause of death is the presence of metastatic disease that affects mainly the lungs and liver [1].

Melanomas that affect the female genital tract are extremely uncommon and account for only 3% of all melanomas that affect female patients [1]. Ovarian melanomas are rare, and most occurrences are metastatic, more commonly from the skin and as part of a more generalized disease [1]. Metastatic ovarian melanomas are more common than primary ovarian malignant melanomas; to date, about 73 cases of malignant melanoma metastatic to the ovary compared to only about 20 cases of primary ovarian malignant melanoma, have been reported in the world literature [2].

However, it is difficult to identify the extraovarian source of malignant melanoma since it may be an occult or regressed primary site in the skin, choroid plexus or elsewhere [2].

In addition, metastases of malignant melanomas may be discovered many years after diagnosis of the primary lesion [2].

Case Report

A 47-year-old patient with two previous deliveries and three deliberate abortions was admitted to the Institute of Gynecology and Obstetrics, Clinical Center of Serbia in January 2006, with a diagnosis of uterine myoma and adnexal mass. Five years

previously she had undergone excision of a malignant melanoma from her left leg. Treatment was by wide local excision with a tumor margin of 2 cm. Histology of the lesion showed a superficial spreading malignant melanoma with a nodular phase pattern, a Breslow index of 1 mm and Clark level of 3 mm. No vascular invasion was seen. Follow-up of the patient for five years had been without signs of recurrence.

On admission, physical examination disclosed an essentially healthy appearance and normal vital signs. Pelvic examination disclosed a left adnexal solid mass measuring about 100 x 80 x 80 mm and an enlarged uterus 120 x 50 mm in size with myomatous nodes on the posterior wall. Ultrasound examination and computed tomography (CT) of the abdomen and pelvis confirmed the position and size of the pelvic ovarian mass and uterine myomas.

Laparotomy and total abdominal hysterectomy with bilateral salpingo-oophorectomy, infracolic omentectomy and selective bilateral pelvic lymphonodectomy were performed. Intraoperative findings revealed a left ovarian vascular tumor measuring 100 x 80 x 80 mm and an enlarged uterus with myomas on the posterior wall. The left ovarian tumor had an intact, smooth capsule without adhesions, whereas the right ovary grossly appeared normal.

Histology of the left ovarian mass showed malignant metastasis. Lymph nodes that were dissected during surgery showed no metastatic malignant melanoma. The omental adipose tissue and right ovary were free of tumor.

Immunohistochemical staining of tumor cells was strongly positive for S-100 protein and HMB-45. The final histopathological diagnosis was metastatic amelanotic malignant melanoma of the left ovary and uterine myomas.

After surgery the patient was transferred to the Institute of Oncology and Radiology where she received chemotherapy.

Discussion and Conclusion

Ovarian malignant melanoma, primary or metastatic, is an extremely rare tumor and in absence of any previous diagnosis can present a diagnostic challenge [3].

Malignant melanoma (MM) involving the ovary is uncommon and in most cases is metastatic in origin. MM is often found at autopsy as part of an extensive multi-systemic spread of disease, and is rarely diagnosed during life [3].

A recent case series indentified 23 ovarian melanomas, predominantly in women in the reproductive age group, which were usually unilateral and associated with a poor prognosis [4]. Cutaneous melanomas are known to regress, which could explain the absence of a primary tumor in many cases. The primary melanomas may also have arisen in mucosal sites, which could have prevented their detection [4].

Our patient's cutaneous melanoma lesion was Stage I, which is associated with a 10-year survival of 85%. Analysis of the case notes showed that the cutaneous lesion was classified as stage I based on the histological findings of tumor thickness less than 1.5 mm with no evidence of invasion, according to the staging prevalent prior to the current American Joint Committee on Cancer (AJCC) staging [5].

As the period of remission is unpredictable and possibly long, an adequate history is essential to arrive at the correct diagnosis [5].

Ultrasound and CT scan may be non specific in diagnosing malignant ovarian metastasis, but nuclear magnetic resonance (NRM) imaging allows detection of melanoma if there is sufficient melanin present in the lesion [6]. Usually ultrasound and CT can reveal the presence of a complex mainly solid mass arising from the pelvis with a low-resistance Doppler waveform pattern, as was the case in our patient [7].

Positron emission tomography (PET) scans are established in the current staging and follow-up of malignant melanoma and have been shown to be sensitive and specific in detecting metastasis [8].

Diagnostic difficulties also arise histologically as the tumors do not have a consistent appearance and they can be mistaken for germ and sex cord stromal tumors. Hence, definite diagnosis relies on immunohistochemistry [4]. S-100 is expressed in both the nucleus and cytoplasm and has been found to be the most sensitive marker, present in 95% cases. HMB-45 is expressed in the cytoplasm, and in our patient the tumor was positive for both the above markers [4].

The optimal surgical treatment of malignant melanomas to the ovary has been a subject of debate [9]. Although total abdominal hysterectomy with bilateral salpingo-oophorectomy has been recommended by most authors as the surgical treatment of choice, it seems that unilateral salpingo-oophorectomy can be an appropriate treatment if there is no evidence of involvement of the contralateral ovary [9].

Metastatic melanoma is associated with a poor prognosis, Stage III with 45% 5-year survival and Stage IV disease with 11% 5-year survival. Postoperative adjuvant radiotherapy could improve long-term disease control. Chemotherapy with single agents, mainly dacarbazine, and combination cytotoxics are used in systemic therapy [9]. Biochemotherapy comprises chemotherapeutic agents in combination with interferonalpha and interleukin-2, and shows an improved response rate compared to chemotherapy alone [9]. Biological therapy with interferon alpha has recently been developed. Melanoma vaccines and gene therapy are at the forefront of novel therapies developed for advanced metastatic disease [10].

This case highlights the clinical fact that secondary spread from a cutaneous melanoma can occur primary to the ovary. Immunohistochemistry must be relied on to make the final definitive diagnosis.

In conclusion, malignant melanomas metastatic to the ovary should be suspected in any patient who presents with an adnexal mass and has a history of malignant melanoma.

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