Malignant melanoma arising in an in vitro *fertilisation pregnancy: A case report*

In vitro *fertilizasyon gebeliğinde malign melanom: Olgu sunumu*

Recai Pabuccu, Mine Kiseli, İnci Kahyaoğlu, Gamze Sinem Çağlar, Müşerref Banu Yılmaz

Department of Gynecology and Obstetrics, School of Medicine, Ufuk University, Ankara, Turkey

Abstract

Malignant melanoma diagnosed during pregnancy results in confusion about staging and management. In this case report, a 39-year-old pregnant woman, who had undergone conception via *in vitro* fertilisation, was diagnosed with malignant melanoma of a growing lesion on her back in the 20th week of gestation. She delivered her baby by caesarean section in the 38th week. Metastasis was not found by chest X-ray, ultrasonography and positron emission tomography after delivery. She has been disease free for 6 months postpartum. Surgical resection of malignant melanoma and postponing of the sentinel lymph node biopsy has been proposed. Risk of adverse perinatal outcomes has not been increased; but the prognosis of malignant melanoma is known to be poorer when diagnosed during pregnancy. As a conclusion, any pigmentary change in the nevi should be assessed carefully during pregnancy. (J Turkish-German Gynecol Assoc 2013; 14: 186-7)

Key words: Malignant melanoma, pregnancy, *in vitro* fertilisation

Received: 12 November, 2012 **Accepted:** 20 January 2013

Available Online Date: 10 July, 2013

Özet

Gebelikte tanı alan malign melanom olgularında yönetim oldukça sıkıntılıdır. Hastalığın eksizyon sonrasında, evrelendirmesi ve tedavisi konusunda da fikirbirliği bulunmamaktadır. Bu olgu sunumunda, *in vitro* fertilizasyon (IVF) ile gebe kalan, gebeliğinin 20. haftasında sırtında ortaya çıkan lezyon biyopsisi malign melanom olarak gelen 39 yaşında bir hasta sunulmaktadır. Otuzsekizinci haftada sezeryanla sağlıklı bebek doğuran hastanın doğum sonrası tetkiklerinde metastaz saptanmamıştır. Postpartum 6 aylık süreçte nüks görülmemiştir. Cerrahi eksizyon ile malign melanom tanısı konduğunda evreleme için gerekli olan sentinel lenf nodu biyopsisinin doğum sonrasına ertelenmesi önerilmektedir. Perinatal risk artmamakla birlikte gebelikte tanı konan malign melanom olgularında prognozun daha kötü olduğu belirtilmektedir. Gebelikte, nevuslardaki herhangi bir değişiklik dikkatli değerlendirmelidir.

(J Turkish-German Gynecol Assoc 2013; 14: 186-7)

Anahtar kelimeler: Malign melanom, gebelik, *in vitro* fertilizasyon

Geliş Tarihi: 12 Kasım 2012 **Kabul Tarihi:** 20 Ocak 2013

Çevrimiçi Yayın Tarihi: 10 Temmuz 2013

Introduction

Malignancy in pregnancy causes confusion about diagnosis, management and pregnancy prognosis. The most common malignancy in pregnancy is breast cancer and malignant melanoma is quite common in advanced age. Although the actual incidence of malignant melanoma in pregnancy is not known, a figure of 2.8 per 1000 pregnancies has been reported (1). The risk benefit ratio of the diagnostic workup, surgery, radiotherapy and chemotherapy should be carefully assessed in pregnancy. There is no consensus about staging and treatment options after excisional procedure. Moreover, the long-term effect of pregnancy on disease progression is unclear. Here, malignant melanoma diagnosed in the 20th gestational week in a 39-year-old woman who conceived via *in vitro* fertilisation (IVF) is presented.

Case Report

A 39-year-old woman, suffering from primary infertility for 5 years was admitted to our department. The patient had conceived in her 6th *in vitro* fertilisation cycle. The pregnancy was uneventful until the 20th week of gestation when the patient noticed a growing 0.8x0.5 cm livid lesion with irregular margins on her back. Excisional biopsy revealed malignant melanoma (nodular type, Clark level III) filling up the superficial dermis, with 2.775 mm thickness (Breslow). Neither ulceration in the epidermis nor lymphovascular and neural invasion was present. She refused to undergo sentinel lymph node biopsy or other radiographic evaluations for staging. Radiotherapy was planned but the patient refused all treatment options. At the 38th week of gestation, she delivered a healthy 3300 g female by caesarean section. The placenta was grossly normal and pathology revealed no metastasis. Neither metastasis nor recurrence was found by chest X-ray, ultrasonography and positron emission tomography after delivery. She has been disease free for 6 months postpartum.

Discussion

Melanocytic nevi may develop, enlarge or darken during pregnancy due to the melanogenic effects of high oestrogen levels

Address for Correspondence: *Gamze Sinem Çağlar, Department of Gynecology and Obstetrics, School of Medicine, Ufuk University, Ankara, Turkey*
Phone: +90 312 204 43 18 e.mail: gamzesinem@hotmail.com

doi:10.5152/jtgga.2013.22804

and melanocyte-stimulating hormone (2). Recently, studies have failed to show oestrogen receptors on human melanoma cells (3). Because melanoma accounts for 8% of malignancies during pregnancy, any pigmentary change in the nevi should be assessed and suspicious nevus should be excised properly. Surgery is the treatment of choice in patients with early melanoma. Resection of the primary tumour and postponing of the sentinel lymph node biopsy until after birth has been proposed. The only feasible procedure was surgery in our case because of trunk localisation.

Perinatal outcome in malignant melanoma is another issue. No substantially increased risk of adverse outcome, such as preterm birth, low birth weight and congenital abnormalities, has been reported; however, a possible increased risk of stillbirth in subsequent pregnancies is an exception in melanoma diagnosed within 2 years of delivery (4). Although placental or foetal metastasis is extraordinarily rare, melanoma is the most common malignancy that metastasises to the placenta (30%) and foetus (58%). Therefore, evaluation of the placenta is suggested. Our patient had a healthy baby at term with no metastasis to the placenta.

For adjuvant therapy, different treatment modalities have been widely investigated. Stage III (locoregional metastasis) and stage II (Breslow thickness >1.5 mm) patients were included in adjuvant melanoma trials discussing interferon, interleukin, chemotherapy, vaccines, colony stimulating factors and combination therapies (5). In this case, because of the long duration between excision and delivery, interferon was not used.

Malignant melanoma diagnosed in pregnancy had always been a matter of concern for poor prognosis. Lesions arising in pregnancy tend to be at higher stage and disease free survival is shorter in pregnant patients (6). However, the risk of death from melanoma does not increase when compared to non-pregnant women (7). No difference was found in the 10-year disease-free and overall survival rates between the pregnant and non-pregnant groups. Survival depends on tumour thickness and the presence of ulceration (8). Previous pregnancy can exert some favourable influence on prognosis; women with at least one pregnancy had a 94% probability of surviving melanoma compared to nulliparous women, of whom only 83% survived (9). Higher parity and young age at first pregnancy was found to be associated with reduced risk (10). In our case, advanced age and infertility can be poor prognostic factors. The high levels of sex steroids during IVF trials might have triggered the malignant process. Although meta analysis showed no association between melanoma prognosis and the use of oral contraceptives and hormone replacement therapy (10), further data are needed to clarify if there is any promoting or initiating effect of sex steroids on melanoma.

In conclusion, no evidence supporting pregnancy as an initiating factor for primary melanoma development exists. Pregnancy does not appear to effect survival in localised melanoma diagnosed before, during or after pregnancy. There is still controversy about the safety of diagnostic and staging procedures such as sentinel lymph node biopsy. Management depends on the stage of the disease and patient preferences. The most important prognostic factor for overall survival is the thickness of the lesion, regardless of pregnancy.

Ethics Committee Approval: *N/A*

Informed Consent: *Written informed consent was obtained from patients who participated in this study.*

Peer-review: *Externally peer-reviewed.*

Author contributions: *Concept –M.K.,İ.K., R.P.; Design –M.K, G.S.C, M.B.Y.; Supervision –R.P., G.S.C.*

Acknowledgements: *The authors would like to thank the patient for her participation in this report, and all personnel of the Obstetrics and Gynecology Department for their enthusiastic contribution.*

Conflict of Interest: *No conflict of interest was declared by the authors.*

Financial Disclosure: *No financial disclosure was declared by the authors.*

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