HJOG
An Obstetrics and Gynecology International Journal

Case Report

Malignant melanoma and pregnancy: A case report

Thanasas Ioannis
Department of Obstetrics and Gynecology, Trikala General hospital, Trikala, Greece

Correspondence
Thanasas Ioannis
Settlement of Agia Triada 3, GR - 42100, Trikala, Greece
E - Mail: thanasasg@hotmail.com

Abstract
Malignant melanoma in pregnancy is rare but its incidence is rapidly increasing due to the growing trend for child - bearing in advanced age. A case of malignant melanoma diagnosed in the 25th gestational week and treated with local surgical resection is presented. The patient had an uneventful remaining pregnancy, delivered by cesarian section at 37 weeks and has been disease - free for 1 year postpartum. Early diagnosis and prompt treatment can lead to a favorable outcome.

Key words: malignant melanoma; pregnancy; treatment

Cancer during pregnancy is not uncommon, estimated to occur in approximately one case in 1000 pregnancies[1,2]. Cancer cases associated with pregnancy have increased in recent years, primarily due to the increasing age of childbearing. Furthermore, more cancer cases are identified due to more diagnostic procedures in pregnancy. The malignancies most frequently observed in pregnancy are breast cancer and malignancies of the female genital tract, followed by melanoma[3].

Malignant melanoma develops from melanocytes, cells of neural origin which migrate from the neural crest to skin sites and produce melanin. In the majority of cases (more than 90%), melanoma appears on the skin and constitutes the most severe form of skin cancer[4, 5]. The incidence of the disease varies across the geographical distribution of the population, with a higher annual incidence in Australia and New Zealand (40 to 60 cases per 100,000) and a lower frequency of 10 to 15 cases per 100,000 population per year in Europe and the United States[6]. The actual incidence of melanoma in pregnancy is unknown, but several authors have estimated it to be between 4 to 8 cases per 100,000 pregnancies, accounting for almost 8% of all malignant neoplasms that occur during pregnancy and 1% of all diagnosed melanoma cases[7-14]. A significantly increased risk has been reported for primigravida women especially those of advanced age at first birth[15,16].

Case report
A primigravida woman at 25 weeks of gestation presented to the outpatient clinic of our department due to a painful cutaneous lesion localized in the right thigh. The lesion had been noticed by the patient since one week. Clinical examination revealed the presence of ulceration on a preexisting nevus, complicated by slight bleeding and itching. Due to the clinical suspicion of malignancy, the nevus was surgically excised and the histopathological examination confirmed the diagnosis of malignant mela-

noma of the skin, stage I. The patient was referred to a specialized center, where she underwent further surgical therapy without dissection of local lymph nodes or the application of other complementary treatment. The patient had a premature rupture of membranes in 37 weeks of gestation and gave birth to a healthy neonate with a birth - weight of 2,950gr by cesarean section due to breech presentation. A year later, the patient remains disease - free.

Discussion

Malignant melanoma during pregnancy is a rare life - threatening entity that requires multidisciplinary approaches in organized centers with the collaboration of obstetrician - gynecologists, surgeons, oncologists, radiotherapists and neonatologists. Currently, there is no consensus on the treatment of pregnant women with melanoma, however therapeutic approach should include saving mother's lives by adequate treatment of curable malignancies and efforts to protect the fetus and the newborn from the harmful effects of cancer therapy[17].

The "gold standard" in therapeutic approach of melanoma in pregnancy is surgical treatment. It can be performed safely in all trimesters of pregnancy, although it is preferable to be avoided in the first trimester, in order to minimize the risk of fetal loss. The type of surgery therapy depends on the stage of the disease. Wide surgical excision of the lesion, biopsy and examination of the sentinel node, is recommended, and if the sentinel lymph node is positive, a complete lymphadenectomy of recruited lymphatic station is indicated[17]. The main complications of surgical therapy of melanoma in a pregnant woman include increased risk of preterm delivery and intrauterine growth restriction as well as augmented perinatal morbidity and mortality[18,19].

Radiotherapy as an adjuvant therapy to surgery should be postponed for the period after childbirth in order to avoid the exposure of fetus to high doses of radiation[20,21]. Chemotherapy must be displaced for the second or third trimester of pregnancy, since its use in the first trimester was associated with a significantly increased risk of spontaneous miscarriages and congenital abnormalities in the offspring. Dacarbazine in combination with other chemotherapeutic agents including bleomycin, vincristine and lomustine have been shown to be the most effective in the treatment of metastatic melanoma[22,23]. Dacarbazine has been assigned to pregnancy category C by the FDA. Although there are no controlled data in human pregnancy, a number of case reports has shown that the use of dacarbazine in the second trimester of pregnancy does not cause birth defects in the newborn[24]. The administration of chemotherapeutic drugs to pregnant women in second or third trimester of gestation has been associated with an increased risk of preterm birth, preeclampsia, intrauterine growth restriction and transient leukopenia in the neonate[25,26]. Finally, the use of targeted therapies, such as the use of the BRAF - inhibitor vemurafenib, have a promising role in advanced disease[27].

In contrast with earlier views, the termination of pregnancy in the case of a diagnosis during the first trimester, is now considered not to affect the prognosis of melanoma during pregnancy. Nevertheless, the couple should be informed about the therapeutic treatment required and the arising risks. Selective abortion in the first trimester is indicated only for women who are at the final stage of the disease[28].

Conclusions

Malignant melanoma in pregnancy is a life-threatening disease with increasing incidence in pregnancy due to advanced maternal age. In the case presented, the patient suffered from a localized melanoma, outwent surgical treatment alone and the pregnancy outcome was excellent. Obstetricians should be alerted to the need for careful examination of pigmented lesions during pregnancy. Management depends on the stage of the disease, the time of diagnosis and patient preferences.

Conflict of interest

Author declares no conflict of interest.

References

1. Pariyar J, Shrestha B, Rauniyar BP, et al. Cancer with pregnancy in a cancer hospital. J Nepal Health Res Counc 2012;10:224-8.
2. Lee YY, Roberts CL, Young J, Dobbins T. Using hospital discharge data to identify incident pregnancy - associated cancers: a validation study. BMC Pregnancy Childbirth 2013;13:37.
3. Lee YY, Roberts CL, Dobbins T, et al. Incidence and outcomes of pregnancy - associated cancer in Australia, 1994-2008: a population - based linkage study. BJOG 2012;119:1572-82.
4. Chang AE, Karnell LH, Menck HR. The National Cancer Data Base report on cutaneous and noncutaneous melanoma: a summary of 84836 cases from the past decade. The American College of Surgeons Commission on Cancer and the American Cancer Society. Cancer 1998;83:1664-78.
5. Sladden MJ, Balch C, Barzilai DA, et al. Surgical excision margins for primary cutaneous melanoma. Cochrane Database Syst Rev 2009:CD004835.
6. Garbe C, Leiter U. Melanoma epidemiology and trends. Clin Dermatol 2009; 27:3-9.
7. Stensheim H, Moller B, van Dijk T, Fosså SD. Cause - specific survival for women diagnosed with cancer during pregnancy or lactation: a registry - based cohort study. J Clin Oncol 2009;27:45-51.
8. Pavlidis NA. Coexistence of pregnancy and malignancy. Oncolgist 2002;7:279-87.
9. Pereg D, Koren G, Lishner M. Cancer in pregnancy: gaps, challenges and solutions. Cancer Treat Rev 2008;34:302-12.
10. Hoellen F, Reibke R, Hornemann K, et al. Cancer in pregnancy. Part I: basic diagnostic and therapeutic principles and treatment of gynecological malignancies. Arch Gynecol Obstet 2012;285:195-205.
11. Alexander A, Samlowski WE, Grossman D, et al. Metastatic melanoma in pregnancy: risk of transplacental matastases in the infant. J Clin Oncol 2003;21: 2179-86.
12. Barut A, Arikan I, Barut F, Harma M, Harma MI, Payasli B. Ovarian cancer during pregnancy. J Pak Med Assoc 2011;61:914-6.
13. O'Meara AT, Cress R, Xing G, Danielsen B, Smith LH. Malignant melanoma in pregnancy. A population - based evaluation. Cancer. 2005;103:1217-26.
14. Gottschalk N, Jacobs VR, Hein R, Fischer T, Schneider KT, Pildner von Steinburg S. Advanced metastatic melanoma during pregnancy: a multidisciplinary challenge. Oncologie 2009;32:748-51.
15. Lens M, Betaille V. Melanoma in relation to reproductive and hormonal factors in women: current review on controversial issues. Cancer Causes Control 2008;19:437-42.
16. Candini S, Iodice S, Koomen E, Di Pietro A, Sera F, Caini S. Hormonal and reproductive factors in relation to melanoma in women: current review and meta - analysis. Eur J Cancer 2011;47:2607-17.
17. Pentheroudakis G, Orecchia R, Hoekstra HJ, Pavlidis N; ESMO Guidelines Working Group. Cancer, fertility and pregnancy: ESMO Clinical Practice Guidelines for diagnosis, treatment and follow - up. Ann Oncol 2010;21 Suppl 5: v266-73.
18. Mazze RI, Kallen B. Reproductive outcome after anesthesia and operation during pregnancy: a registry study of 5405 cases. Am J Obstet Gynecol 1989;161:1178-85.
19. Sanson BJ, Lensing AW, Prins MH, et al. Safety of low molecular - weight heparin in pregnancy: a systematic review. Thromb Haemost 1999;81:668-72.
20. Daly TA, Burmeister BH, Smithers BM, Doody J, Kane A. Radiotherapy for metastatic melanoma presenting in pregnancy. Australas Radiol 2006;50:598-603.
21. Pagès C, Robert C, Thomas L, et al. Management and outcome of metastatic melanoma during pregnancy. Br J Dermatol. 2010;162:274-81.
22. Lens MB, Eisen TG. Systemic chemotherapy in the treatment of malignant melanoma. Exp Opin Pharmacother 2003;4:2205-11.
23. Vuoristo MS, Hahka - Kempinnen M, Parvinen LM, et al. Randomized trial of dakarbazine versus bleomycin, vincristin, lomustine and dakarbazine (BOLD) chemotherapy combined with natural or recombinant interferon - alpha in patients with advanced melanoma. Melanoma Res 2005;15:291 - 6.
24. Harkin KP, Drumm JE, O' Brien P, Daly A. Metastatic malignant melanoma in pregnancy. Ir Med J 1990;83:116-7.

25. Hahn KM, Johnson PH, Gordon N, et al. Treatment of pregnant breast cancer patients and outcomes of children exposed to chemotherapy in utero. Cancer 2006;107:1219-26.
26. Gwyn K. Children exposed to chemotherapy in utero. J Natl Cancer Inst Monogr 2005;34:69-71.
27. Maleka A, Enblad G, Sjörs G, Lindqvist A, Ullenhag GJ. Treatment of metastatic malignant melanoma with vemurafenib during pregnancy. J Clin Oncol 2013;31:e192-3.
28. Berretta M, Di Francia R, Lleshi A, et al. Antiblastic treatment, for solid tumors, during pregnancy: a crucial decision. Int J Immunopathol Pharmacol 2012;25: 1S-19S.