

Malignant melanoma in pregnancy: Rarity and paucity

R MANIPRIYA, CD NARAYANAN¹, N PALANIAPPAN

Departments of Obstetrics and Gynecology, ¹General Surgery, Sri Ramachandra Medical College and University, Chennai, Tamil Nadu, India

ABSTRACT

Malignancy diagnosed during pregnancy is a rare coincidence and a taxing situation for the health care provider. The diagnosis and therapeutic management become laborious and it involves both the mother and fetus. One of the major cause of death among women of the childbearing age group is malignant melanoma in the western world. The literature vastly suggests that it has an ominous prognosis when diagnosed during pregnancy as it is known to rapidly metastasize to the placenta and fetus. Prompt diagnosis and appropriate treatment can avoid catastrophic events. We report a case of Indian women diagnosed with non- metastatic malignant melanoma in the first trimester of pregnancy with successful outcome.

Key words: Developing country; malignant melanoma; pregnancy.

Introduction

Cancer incidence during pregnancy is estimated to be around 1/1000.^[1] Malignant melanoma (MM) was considered an aggressive malignancy during pregnancy accounting to 8% of all malignancies occurring when pregnant.^[2] Despite disparate experiences published over the years on melanoma during pregnancy, recent data suggest a general agreement that pregnancy does not affect the outcome. Furthermore, there are no definite guidelines or consensus as there is little quality research in this field. The diagnosis and management of such cases is a delicate affair with ethical and psychological considerations. An assessment of the risk–benefit ratio for diagnostic work-up, surgery, chemotherapy, and radiotherapy must be carried out. Timely diagnosis during pregnancy has been reported toward a favorable maternal and fetal outcome as in this case. Interdisciplinary team approach is imperative for such cases to provide an effective and efficient care. Here, MM diagnosed at first trimester with a successful maternal–fetal outcome is presented.

Case Report

A 34-year-old healthy primigravida of 12 weeks gestation, married for 9 years, had presented to us with verrucous posterior auricular lesion of 4 months duration, gradually increasing in size. The patient did not report any other illness and had not taken any medications. On examination, she had a 5 cm × 5 cm hemispherical posterior auricular mass, hard in consistency, well-defined borders, and irregular surface with no ulceration or bleeding with palpable hard mobile neck nodes. An edge biopsy of the lesion was performed and histological examination described it as MM Clark level IV as the tumor cells were seen in deep dermis with no subcutaneous tissue involvement with no junctional activity in the overlying skin. Magnetic resonance imaging (MRI) of the brain and neck revealed erosion of the underlying mastoid bone with a large exophytic lesion in the left occipitalis muscle and bilateral subcentimeter lymph nodes involvement in level

Address for correspondence: Dr. R Manipriya, Department of Obstetrics and Gynaecology, Sri Ramachandra Medical University, Chennai - 600 116, Tamil Nadu, India. E-mail: priya_ravi35@yahoo.com

This is an open access journal, and articles are distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 4.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.

For reprints contact: reprints@medknow.com

How to cite this article: Manipriya R, Narayanan CD, Palaniappan N. Malignant melanoma in pregnancy: Rarity and paucity. Trop J Obstet Gynaecol 2018;35:196-8.

Access this article online	
Website: www.tjogonline.com	Quick Response Code 
DOI: 10.4103/TJOG.TJOG_12_18	

1A, 1B, 2A, 2B, and left-sided 5A node. Abdominal ultrasound showed no evidence of metastasis. Chest radiography was circumvented due to her early gestational age and as there were no clinical evidence of metastasis. Target scan was done and anomalies were ruled out. A team comprising the obstetrician, surgeon, oncologist, and plastic surgeon were consulted, and after a consensus on the treatment, she underwent wide local excision with left modified radical neck dissection with transposition flap reconstruction at 22 weeks of gestation, histology of which revealed it to be an invasive nodular MM with margins free of tumor, stage T4N1M0. Since then, the patient was followed up carefully, antenatal period was uneventful, and at the 38th week of gestation she delivered a healthy 3.360-kg girl baby with an Apgar of 8/10 9/10 by emergency lower segment cesarean section due to severe oligohydramnios. The placenta examined was grossly normal and pathology revealed no metastasis. She has been disease-free for 6 months post-partum now. Figure 1 comprises of images of this indexed case.

Discussion

MM is one of the commonest malignancy reported during the childbearing age group with an incidence ranging from 0.14 to 2.8 per 1,000 live births;^[2] however, its incidence among the dark skinned race is fewer in number.^[3] As there is a demographic age shift toward later conception, increasing into the third and fourth decades of life, more and more cases are being reported during pregnancy.

Traditionally, from anecdotal reports it is suggested that MM is a rapidly growing malignancy which can potentially metastasize to the fetus and placenta when it occurs during pregnancy with unfavorable prognosis and that surgical sterilization should be opted.^[4] However, recent studies do not support these data and state that there are no differences between the overall survival especially when diagnosed at an earlier stage.^[5,6] During hormonal replacement therapy and pregnancy, there is increased pigmentation in different parts of the body; however, they do not seem to promote melanoma. And it has been proved that although melanomas are hormone-sensitive tumors, there are no estrogen receptors in the melanoma cells.^[7]

As per the studies conducted by Lens *et al.* and O'Meara *et al.*, there was no significant increase in morbidity or the prognosis of women diagnosed with non-metastatic melanoma and that pregnancy is not associated with worsening of survival by upgrading the disease.^[8,9] However, Slingluff *et al.* found shorter disease-free interval as a result of decreased duration of nodal metastasis on pregnant women with metastatic melanoma.^[10] Johansson *et al.* have reported

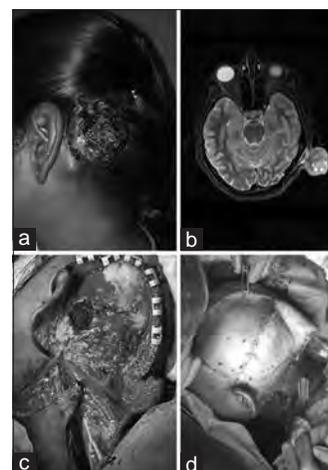


Figure 1: (a) Preoperative verrucous posterior auricular lesion (b) MRI of the brain and neck showing a large exophytic lesion in the left occipitalis muscle with an erosion of the underlying mastoid bone c and d) Intraoperative images

no significant difference in mortality when a group of women diagnosed with melanoma during pregnancy were compared with women diagnosed with melanoma who did not become pregnant during a comparable period of time.^[11] Although there are several conflicting reports from all over the world, the literature vastly suggest that patients who are pregnant at the time of diagnosis have a poorer prognosis than women who are not pregnant.^[12]

Pregnancy associated with MM should be considered as a high-risk pregnancy, requiring interdisciplinary team approach with fetal monitoring and Doppler study is mandatorily throughout. MRI is a safe modality and should be used in staging of the disease. There are several reports of cases where early medical attention was not sought or they were missed diagnosed at an early stage due to the low index of suspicion during pregnancy, leading to metastasis and ultimately morbidity; however, as in this indexed report early recognition and prompt surgical management result in a favorable outcome.^[13]

Nikolin and Sveljo in their study published 87 cases of placental and fetal involvement with maternal malignancies. Of these, 72 (83%) reported placental involvement only and 5 (6%) reported both placental and fetal metastasis.^[14] The review of literature also states that male infants are at a higher risk of developing metastasis from maternal malignancy compared with females.^[12,14] Neonates who develop clinical evidence of metastasis carry a grave prognosis with mortality occurring within 3 months from diagnosis; on the other hand, infants who have no clinical evidence of the disease but with placental involvement need to be considered as a high-risk group and must be periodically evaluated for at least 24 months after birth.^[15]

The management of melanoma involves difficult decision-making as it involves both the mother and fetus. Maternal counseling is of paramount importance, and providing emotional and psychological support and care to such mothers is a challenge to every healthcare provider. The treatment options are similar in pregnant and non-pregnant women, and it is based on the stage of the disease. Surgery is the definitive treatment of early-stage melanoma; but for metastatic disease, the initiation of chemotherapeutic agents is still a dilemma, although several agents can be used in pregnancy without much harm to the fetus after the period of organogenesis;^[16] however, these agents should not be given in the first trimester unless unavoidable. There have been no published data on the increased risk of perinatal adverse outcome such as preterm birth, low birth weight, or congenital defects. Future pregnancy need not be delayed in case of localized disease; however, literature suggests a recurrence-free time period of 2–3 years interval in advanced disease.

This reported case supports the fact that pregnancy does not worsen the progression of the disease especially when diagnosed at an earlier stage.

Conclusion

On the basis of the limited recent studies and this indexed report, pregnancy does not appear to have any influence on the prognosis of MM and that there is no evidence to postpone or terminate pregnancy especially when diagnosed in an early-stage disease. The main objective of this report is to enlighten the obstetricians the need for multidisciplinary team approach for such cases, vigilant examination of pigmented lesions during pregnancy, and that it should not be always considered as physiological. Early diagnosis with a biopsy and prompt treatment as in this case would improve the prognosis of these patients and avoid catastrophic outcome.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other

clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

References

1. Donegan WL. Cancer and pregnancy. *CA Cancer J Clin* 1983;33:194-214.
2. Ernstoff MS, Christopher PG, Tretter MD, Titus-Ernstoff L. Update: Medical therapy for cutaneous melanoma. *Am Soc Clin Oncol* 2003;198-207.
3. Mackie RM. Pregnancy and exogenous hormones in patients with cutaneous malignant melanoma. *Curr Opin Oncol* 1999;11:129-31.
4. Byrd BF Jr, McGanity WJ. The effect of pregnancy on the clinical course of malignant melanoma. *South Med J* 1954;47:196-200.
5. Wiggins CL, Berwick M, Bishop JA. Malignant melanoma in pregnancy. *Obstet Gynecol Clin North Am* 2005;32:559-68.
6. Silipo V, Paola DS, Giustino M, Pierluigi B, Angela F, Caterina C. Malignant melanoma and pregnancy. *Melanoma Res* 2006;16:497-500.
7. Miller JG, Gee J, Price A, Garbe C, Wagner M, Mac Neil S. Investigation of oestrogen receptors, sex steroids and soluble adhesion molecules in the progression of malignant melanoma. *Melanoma Res* 1997;7:197-208.
8. Lens MB, Rosdahl I, Ahlbom A, Farahmand BY, Synnerstad I, Boeryd B, *et al.* Effect of pregnancy on survival in women with cutaneous malignant melanoma. *J Clin Oncol* 2004;22:4369-75.
9. O'Meara AT, Cress R, Xing G, Danielsen B, Smith LH. Malignant melanoma in pregnancy. A population-based evaluation. *Cancer* 2005;103:1217-26.
10. Slingluff CL Jr, Reintgen DS, Vollmer RT, Seigler HF. Malignant melanoma arising during pregnancy. A study of 100 patients. *Ann Surg* 1990;211:552-59.
11. Johansson AL, Andersson TM, Plym A, Ullenhag GJ, Moller H, Lambe M. Mortality in women with pregnancy-associated malignant melanoma. *J Am Acad Dermatol* 2014;71:1093.
12. Wielowieyska-Szybińska DK, Spałkowska M, Wojas-Pelc A. Melanoma in pregnancy: A case report and review of the literature. *Adv Dermatol Allergol* 2015;32:483-7.
13. Mathew M, Sheik S, Rao K, Burney IA, Sawhney S, Al-Hamdani A. Metastatic malignant melanoma during pregnancy: Case report and a review of the literature. *Sultan Qaboos Univ Med J* 2009;9:79–83.
14. Nikolin BL, Sveljo O. Metastatic melanoma and pregnancy. *Arch Oncol* 2005;13:31-4.
15. Borden EC. Melanoma and pregnancy. *Semin Oncol* 2000; 27:654-5.
16. Cardonick E, Iacobucci A. Use of chemotherapy during human pregnancy. *Lancet Oncol* 2004;5:283-91.