www.jmscr.igmpublication.org

Impact Factor 3.79
ISSN (e)-2347-176x
crossref DOI: http://dx.doi.org/10.18535/jmscr/v3i10.19

IGM Publication
Journal Of Medical Science And Clinical Research
An Official Publication Of IGM Publication

# Unusual Presentation and Survival of Malignant Melanoma in Young Adult with Lymph Node, Lung, Liver, Brain, Bone and Adrenal Gland Metastases

Authors

**Dr Sandip Barik MD[1], Dr Madhup Rastogi MD[2†], Dr Kiran P Malhotra MD[3], Dr Akash Agrawal MS, MCh[4], Dr Rohini Khorana MD[5], Dr Dinkar Kulshrestha MD DM[6]**

[1]Senior Resident, Department of Radiation Oncology, Ram Manohar Lohia Institute of Medical Sciences, Lucknow (U P) INDIA

[2,5]Associate Professor, Department of Radiation Oncology, Ram Manohar Lohia Institute of Medical Sciences, Lucknow (U P) INDIA

[3]Associate Professor, Department of Pathology, Ram Manohar Lohia Institute of Medical Sciences, Lucknow (U P) INDIA

[4]Assistant Professor, Department of Surgical Oncology, Ram Manohar Lohia Institute of Medical Sciences, Lucknow (U P) INDIA

[6]Assistant Professor, Department of Neurology, Ram Manohar Lohia Institute of Medical Sciences, Lucknow (U P) INDIA

Corresponding Author

**Dr Madhup Rastogi**

Associate Professor, Department of Radiation Oncology, Ram Manohar Lohia Institute of Medical Sciences, Lucknow (U P) INDIA

† Email: *drmadhup1@rediffmail.com, Phone: 91-522-4075055, 91-94181 55955*

**Abstract**

*Mortality rates from malignant melanoma (Mm) are high if not detected in early stages. Mm mostly metastasize to lymph nodes (73.5%), followed by lungs (71.3%), liver (58.3%), brain (54.6%), bone (48.6%) and adrenal glands (46.8%). Brain metastases has a grave complication and its clinical outcome is disappointing with survival averaging less than 6 months. Here we report an unusual case of a young adult who presented to us with wide spread metastatic malignant melanoma involving almost every organ of the body. The patient had a survival of 18 months with a mixed response to combination of treatment. The authors want to highlight that Mm can present in any unusual form and we should be having a high clinical acumen of suspicion. A thorough clinical examination should be a mandate. Timely and aggressive treatment can be beneficial to patients even with extensive metastases.*

## Introduction

Malignant melanoma (Mm) is a disorder produced by malignant transformation of normal melanocyte[1]. Mm was considered almost exclusively a disease of adults [2]. Mm is uncommon in teenagers and rare in young children [3]. Though Mm is less common than other skin cancers, however, it is much more dangerous if it is not found in the early stages. It causes the majority (75%) of deaths related to skin cancer [4]. Here we report a case of a young adult who presented to us in an unusual way with wide

spread metastatic disease involving all the probable sites with a small nodular mole in the popliteal fossa having good response to the combination of treatment.

**Case Report**

A 20 yrs old male presented with chief complaints of headache, vomiting for 2 months, weakness of right hand for 10 days and seizures for 2 days. At presentation his karnofsky performance status (KPS) was 50. Central nervous system examination showed power of 1/5 in right side and power of 4/5 on left side. On local examination, left inguinal lymphadenopathy of 4x3 cm, hard and fixed. No significant medical, family or addiction history. Contrast enhanced CT of head was suggestive of multiple hyperdense space occupying lesions in left fronto parietal region suggestive of haemorrhagic metastases (Figure 1a). MRI Brain showed evidence of large size (5.8x3.9cm) intra parenchymal, intra-axial lesion involving left high frontal lobe (Figure 1b). Investigations like CECT thorax, abdomen and bone scan for metastatic work up was advised. To our surprise almost all the organs revealed metastasis as CECT thorax and abdomen showed non enhancing hypodense soft tissue lesion in anterior mediastinum (Figure 2c) along with multiple well defined metastatic deposits in both lung (Figure 2a), in liver (Figure 3b) and both adrenal glands (Figure 2d). Bone scan was also suggestive of multiple skeletal metastases in thoraco-lumbar vertebrae and pelvis (Figure 2e). Based upon the finding, diagnosis of widespread metastatic disease with unknown primary was made. In order to kick start the treatment, quickest method, fine needle aspiration cytology (FNAC) from left inguinal node performed which suggested metastatic adenocarcinoma. It was later confirmed by biopsy as metastases from malignant melanoma with HMB45 positive and S100 positive in immuno histo chemistry (IHC) analysis (Figure 3). Since all the battery of test drew conclusion of metastatic melanoma a thorough clinical examination was done which revealed a mole of 2x2 cm in left popliteal fossa, irregular and nodular in shape (Figure 4). The case was discussed in a multidisciplinary tumor board which concluded to do a excision biopsy of the mole. Biopsy from left popliteal fossa mole was suggestive of malignant melanoma HMB 45 positive. Later in the course of treatment B RAF gene mutation was also advised which was not detected by PCR analysis in the biopsy sample. A combination of treatment was given to the patient with upfront palliative whole brain radiotherapy (WBRT) 30 Gy in10 fractions for brain metastases along with concurrent temozolamide 100 mg daily. Following excellent response of WBRT, chemotherapy (CVD - inj cisplatin 30mg d1-4, inj vinblastine 3mg d1-4, inj dacarbazine 1200mg d1 repeated every 3 weekly) along with inj zolindronic acid 4mg for bone metastases was initiated. During treatment patient was assessed clinically and after completion of 7 cycles of chemotherapy patient underwent a CCT Scan of head, thorax & abdomen. The patient was put on maintenance therapy temozolamide 250 mg d1-d5 and inj zolindronic acid every 28 days. Following WBRT, patient responded positively and improved neurologically with right upper limb power returning to 4/5, KPS improved to 80. The CECT Scan after the completion of 7 cycles of chemotherapy showed a partial response in the brain and lung metastatic lesion while the liver had an increase in metastatic lesions. In view of progression, nab paclitaxel was advised however the patient survived for 18 months from the day of registration at our hospital, finally succumbing to the disease.

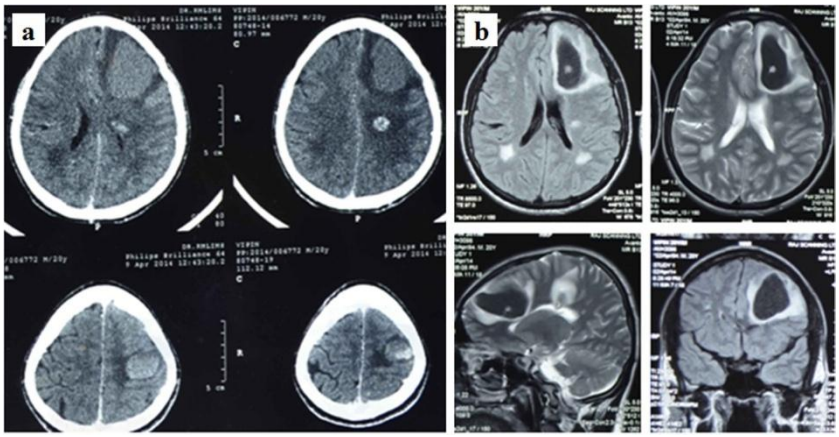


**Figure 1**

a. CECT of head showing multiple hyperdense space occupying lesions in left fronto parietal region suggestive of haemorrhagic metastases
b. MRI Brain showing large size (5.8x3.9cm) intra parenchymal, intra-axial lesion involving left high frontal lobe

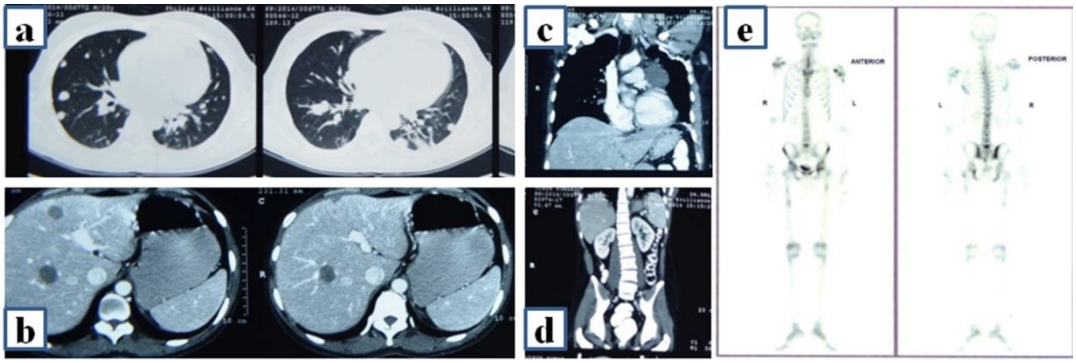


**Figure 2**

a. CECT thorax showing bilateral multiple lung metastases
b. CECT abdomen showing multiple liver metastases
c. CECT thorax showing hypodense left mediastinal mass
d. CECT abdomen showing adrenal metastases
e. Bone scan showing multiple skeletal metastases

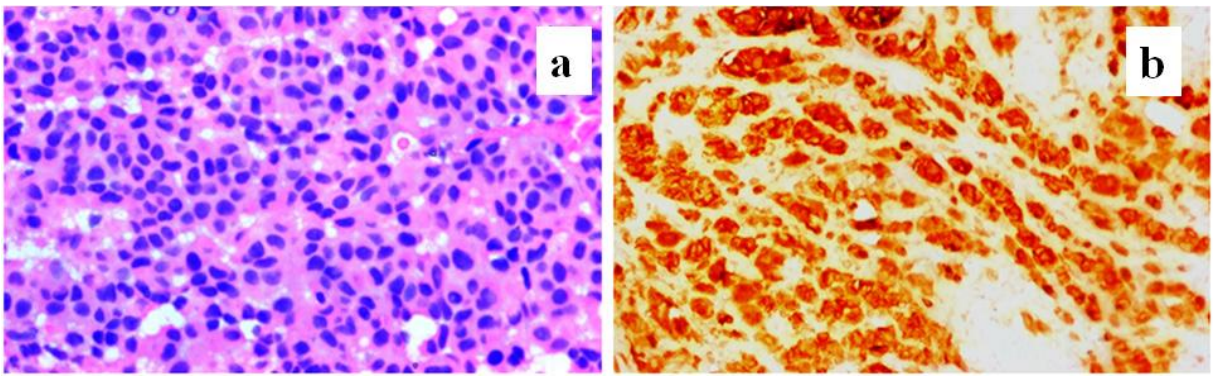


**Figure 3**

a. Photomicrograph shows nests of atypical cells with round to ovoid hyperchromatic nuclei and scant cytoplasm. Few intranuclear inclusions are noted. (Hematoxylin & Eosin, x400)
b. The atypical cells show diffuse cytoplasmic positivity for HMB-45. (Diaminobenzidine,x200)

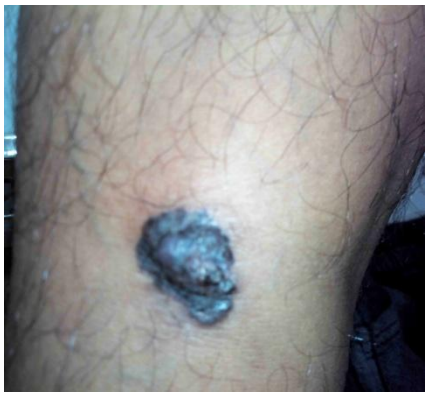

**Figure 4:** Small mole of 2x2 cm in left popliteal fossa

**Discussion**

Mm mostly metastasize to lymph nodes (73.5%), followed by lungs (71.3%), liver (58.3%), brain (54.6%), bone (48.6%) and adrenal glands (46.8%) [5]. Incidence of Mm of skin in India is 0.3% and 0.2% for males and females respectively, with mortality rate of 0.2% for both sexes [6]. Compared to older patients, young adult and more likely to be females with high proportion of thin, non ulcerated, superficial spreading melanoma and melanoma located on the lower extremity [7]. In children melanoma occurs in the setting of giant congenital nevi or as atypical /dysplastic nevus syndrome or in setting of xeroderma pigmentosum [2].

According to NCI data the increase in the number of patients diagnosed with Mm was found to be at a higher rate than the current increase in all types of cancer[8]. Melanomas are associated with a few syndromes .One such syndrome is Melanoma astrocytoma syndrome cutaneous melanomas are associated with Tumors of Central Nervous system ,esp Astrocytomas due to deletion of tumor suppression gene on chromosomal region 9p21 [9]. BAP1 Cancer syndrome linked to a tumor suppressor gene located on chromosome 3p21 is associated with increased risk of malignant mesothelioma, uveal melanoma, cutaneous melanoma and meanocytic BAP1 mutated atypical intradermal tumors[10].A Study also have shown family members of person suffering from cutaneous melanoma having tumors of CNS. Even pts with cutaneous melanoma had either a memingioma or acoustic neurilemmoma as a secondary tumor[11].But the study had very few patients. Most of the article showing familial or ayndromic association with malignant melanoma included mostly adult patients. But it certainly would help the children associated with these families and carrying germ line mutation by early screening with routine total body dermatologic and eye examination.

Brain metastases has a grave complication and its clinical outcome is disappointing, with survival averaging less than 6 months[12].Two large institutional serial of 686 and 702 patients have indicated a poor outcome with the majority of patients dying directly due to brain metastases[12].The brain metastases of malignant melanoma typically presents as hemorrhagic metastases. The characteristic appearance in melanoma is melanotic pattern where blood products and melanin causes hyperdensity on brain CT, hyper signal intensity on T1 weighted MRI and low signal intensity in T2 weighted MRI.

**Conclusions**

Through this case report we can conclude that:

- Malignant Melanoma can present in any unusual form.
- We should be having a high clinical acumen of suspicion.
- A thorough clinical examination should be a mandate.
- Timely and aggressive treatment can be beneficial to patients even with fulminant metastases.
- Self examination for screening of suspicious skin lesions can be helpful.

**References**

1. Slingluff C L Jr,Flaherty K,Rosenberg S A,Read PW.Cutaneous Melanoma.In Devita V TJr,Lawrence T S,Rosenberg S A,editors.Devita,Hellman,and Rosenberg's Cancer Principles and Practice of Oncology,9th edition.P hiladelphia:

Lippincott Williams & Wilkins; 2011.p.1643

2. BETH G. GOLDSTEIN, M.D., and ADAM O. GOLDSTEIN, M.D. Diagnosis and Management of Malignant Melanoma, AMERICAN FAMILY PHYSICIAN www.aafp.org/afp VOLUME 63, NUMBER 7 / APRIL 1, 2001,1359-1368.
3. Julie R. Lange, Bryan E. Palis, David C. Chang, Seng-Jaw Soong, et. Al Melanoma in Children and Teenagers: An Analysis of Patients From the National Cancer Data Base J Clin Oncol VOLUME 25, NUMBER 11, APRIL 10 2007:1363-1368.
4. Jerant AF, Johnson JT, Sheridan CD, Caffrey TJ . "Early detection and treatment of skin cancer". Am Fam Physician 62 (2):July 2000: 357–68, 375–6, 381–2
5. J. K. Patel, M. S. Didolkar, J. W. Pickren, and R. H. Moore,"Metastatic pattern of malignant melanoma: a study of 216 autopsy cases,"The American Journal of Surgery, vol. 135, no. 6,pp. 807–810, 1978.
6. GLOBOCAN 2012 (IARC) Section of Cancer Information .
7. Plym A, Ullenhag GJ, Breivald M, Lambe M, et.al, Clinical characteristics, management and survival in young adults diagnosed with malignant melanoma: A population-based cohort study. Acta Oncol. 2014 May;53(5):688-96. doi: 10.3109/0284186X.2013.854928. Epub 2013 Dec 26.
8. A. Jemal, R. Siegel, E.Ward et al., "Cancer statistics, 2008," CA:A Cancer Journal for Clinicians, vol. 58, no. 2, pp. 71–96, 2008.
9. Kaufman DK, Kimmel DW, Parisi JE, Michels VV, A familial syndrome with cutaneous malignant melanoma and cerebral astrocytoma, Neurology. 1993 Sep;43(9):1728-31.
10. Carbone et al. Journal of Translational Medicine 2012, 10:179,BAP1 cancer syndrome: malignant mesothelioma,uveal and cutaneous melanoma, and MBAITs.
11. Azizi E1, Friedman J, Pavlotsky F, Iscovich J,et.al. Familial cutaneous malignant melanoma and tumors of the nervous system. A hereditary cancer syndrome, Cancer. 1995 Nov 1;76(9):1571-8.
12. Sampson, J.H.; Carter, J.H., Jr.; Friedman, A.H.; Seigler, H.F. Demographics, prognosis, and therapy in 702 patients with brain metastases from malignant melanoma. J. Neurosurg. 1998, 88, 11–20.