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Malignant Melanoma of Foot with Brain Metastasis – Case report

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Abstract:
Melanoma is a rare type of skin cancer which has a strong correlation between occurrence and exposure to sun ultraviolet radiation. Though being uncommon, it has the highest mortality rate of all skin cancers. The patients with advanced disease may have higher mortality rates. The formation and development of melanoma metastases to brain are not fully understood. The most accepted way is the presence of oncogenic BRAF mutation, which occurs in up to 50% of metastatic melanoma patients. There was a lower survival rate in metastatic melanoma before detailed pathophysiology was understood. There are new research going on immunotherapy and targeted therapy to improve the prognosis of melanoma patients. Hereby, we would like to present a case of melanoma of foot with distant metastasis to brain.

Key Words: Brain Metastasis; Foot ulcer; Malignant Melanoma

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Metastatic Melanoma is a rare condition of human body where abnormal pigmentation of melanin produces systemic metastasis resulting in bleeding, seizures, obstructions according to the location of their metastasis.[1] The most common site of the melanoma are the peripheral body parts. The most common presentation is underneath of the skin, the lymph nodes, lungs, liver, brain, bone and other organs throughout the lymphatic system and/or the blood vessels.[1] Melanoma metastases to the central nervous system (CNS) ranks third in frequency, after lung and breast metastases, and these are the ones with the worst prognosis, with six months of survival after diagnosis.[2,3,4]

Case Report:

66-year-old man was brought to emergency department with history of found unconscious in the field with stiffening of the body and frothing from the mouth, patient was initially suspected as the case of snake bite, but when radiological investigations and general body examinations done, he is diagnosed as a case of melanoma left foot with brain metastasis. His blood pressure was low, other systems were clinically normal.

Dermatological examination revealed an irregular blackish-blue plaque with central ulceration over left foot. Skin over the sole showed, areas of depigmentation. (Figure-1).

Figure 1: Blackish-blue plaque with central ulceration over left foot.

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The excisional biopsy was done, and report came out as melanoma. In the histopathology of the lesion, tumor cells in sheets cluster with heavy melanin pigmentation with abnormal mitotic figures were detected (Figure-2).

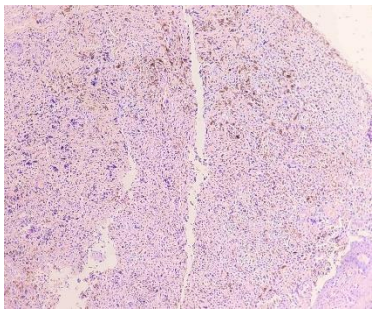

Figure 2: Tumor cells with heavy melanin pigmentation with abnormal mitotic figures

His initial Computed tomography (CT) scan of head (Figure-3) and Magnetic Resonance Imaging (MRI) of brain showed multiple hyperdense/hyperintense lesions in brain, some with perilesional edema (Figure-4).

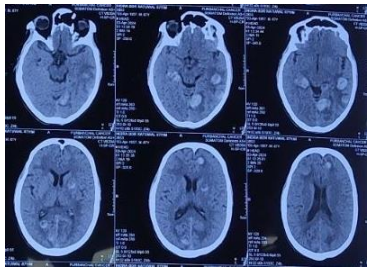

Figure 3: CT scan of head showed multiple hyperdense lesion with perilesional edema

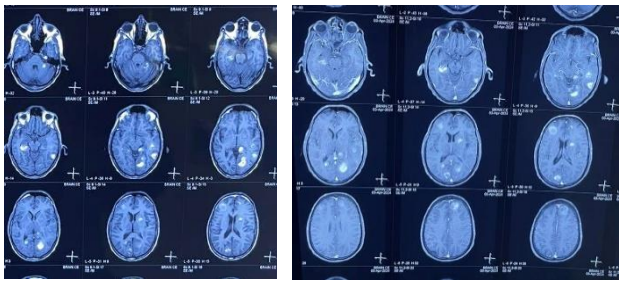

Figure 4: MRI plain and contrast of brain showed multiple enhancing lesions some with peri-lesional edema

CT scan of chest and abdomen revealed multiple enlarged lymph nodes in abdomen.

Discussion:

Melanoma is divided into four subtypes: superficial spreading melanoma, nodular melanoma, lentigo maligna melanoma, and acral lentiginous melanoma.[5,6] Superficial spreading melanoma, the most common type of melanoma (70%), is related to intermittent sun exposure and it is often localized in sun-exposure areas such as the limbs of women and the back and shoulders of men.[7] MM is known to metastasis to the central nervous system but only about 7% of the brain metastases manifest at the time of initial diagnosis.[4] However, it is rare for acral lentiginous melanoma to develop brain metastases. Male gender, wide, thick, deeply invasive, or ulcerated primary lesions, involvement of mucosal surfaces, head, neck and trunk, more than three regional lymph nodes, visceral metastasis at the time of diagnosis are risk factors for developing brain secondaries and multiple brain lesions may indicate poor prognosis. Most of these factors were present in our case. There are reports of brain metastasis from multiple primaries.[5] There seems to be a higher incidence of metastatic disease in vitiligo-associated. There are current controversies about the management of metastatic melanoma lesions in the CNS, as well as the factors associated with their development. The presentation time of melanoma metastases to the CNS from the diagnosis has been reported as a mean of 3.5 years.[6] Pulmonary metastasis from acral lentiginous melanoma occurring long after the excision of primary tumor has also been reported.[7] Solitary brain metastasis from acral lentiginous melanoma can be successfully treated with whole brain radiotherapy. [8-10]

Our patient was managed conservatively with anti-biotics, anti-edema and anti-epileptics, and after diagnosis was confirmed by histopathology reports, he was then transferred to oncologist for further treatment. Currently, he is under treatment and his disease is stable and no further symptoms has been observed. All the patients with melanoma should be evaluated for near and distant metastasis. The early diagnosis of the disease with proper treatment may result complete recovery and once it delayed due to lack of awareness may result life threatening complications.

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