Metastatic Malignant Melanoma Clinically Presenting as Parotid Mass - A Case Report of an Unusual Clinical Presentation

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ABSTRACT

Malignant melanoma has been considered as one of the most common tumor of the skin despite its occurrence in other organs. Being fatal in nature, timely detection and subsequent treatment is essential to avoid poor prognosis. The current case occurred in a 73-year-old male patient, with a melanoma presented as metastasis in parotid lymph node. The article discusses and focuses on the distinct clinic-pathologic presentation of this case, emphasizing the necessity to identify and report such cases for understanding of its molecular pathology role and impact. However, these rare lesions may present themselves in an un-common way which needs to be identified and reported to understand their biologic behavior. The current case report aims to fulfill the understanding criteria of such incidents.

Keywords: Malignant melanoma (MM), Metastasis, Superficial spreading melanoma (SSM).

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INTRODUCTION

Malignant melanoma (MM) is potentially an aggressive tumor of melanocytic origin and known as the deadliest form of skin cancer.[1] The formation of MM begins from benign melanocytic lesion or from melanocytes otherwise normal skin or mucosa.[2] Prior studies conducted focused on the variation in incidence rate of MM in different regions and races. While the incidence rate of 9.2/100,000 was observed in Whites, 1.9/100,000 was found to be in Hispanics and 0.7 to 1.2/100,000 in blacks and Asians.[3] According to researchers in 1997, MM marked its importance during 21st Century with an inclined rate of risk over the years.[4] The histo-pathological analysis of MM is therefore crucial and plays an immense role in the field of research. According to Bergmanson and Sheldon, acorrelation was established between MM and external environmental factors. One of the factors was the exposure to ultraviolet radiation (UVR) as a result of outdoor activities and consequently leading to formation of MM.[4]

CASE REPORT

In the current case study, a 73 year old male patient reported with the complaint of swelling on his right parotid region for 3-months. On clinical examination, the swelling was below and anterior to right ear, measuring approximately 3cm×2cm. On palpation the lesion was non-tender, well defined, firm to hard in consistency extending inferiorly from periauricular region till the angle of mandible. Ultrasound scan showed a well-defined hypoechoic lesion measuring 2.6 cm x1.8 cm in right parotid region extending inferiorly from pre-auricular region till the angle of mandible and 3.6 cm deep to skin. Contrast Enhanced CT scan neck showed a well-defined heterogenous predominantly peripherally enhancing lesion in right parotid gland with associated intraparotid and ipsilateral cervical lymphadenopathy.

A provisional diagnosis of primary parotid gland malignancy/inflammatory lesion was considered and fine needle aspiration cytology (FNAC) was performed. The cytological examination revealed loosely cohesive sheets of pleomorphic cells having plasmacytoid morphology. Intracytoplasmic melanin pigment was also present. Therefore, the diagnosis, metastatic malignant melanoma was conferred (Figure-1). The patient underwent thorough clinical examination for search of primary lesion. Detailed history and examination revealed a pigmented plaque with irregular borders on scalp at right temporo-parietal region, measuring 2.5 X 2cm (Figure-2). According to patient, the pigmented lesion was present since birth hidden in hair bearing area, hence increase in size was not noticeable. Considering the lesion as primary, excision biopsy was performed and sample was sent for histopathology.

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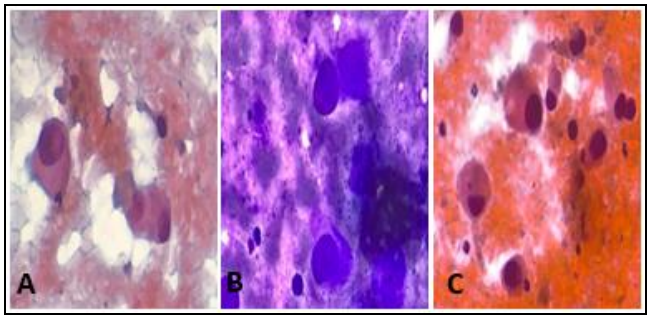

Figure-1: Representation of fine needle aspiration cytology (FNAC) performed showing metastatic malignant melanoma (A) PAP stain at 40X (B) Hema color at 40X (C) H&E at 40X.

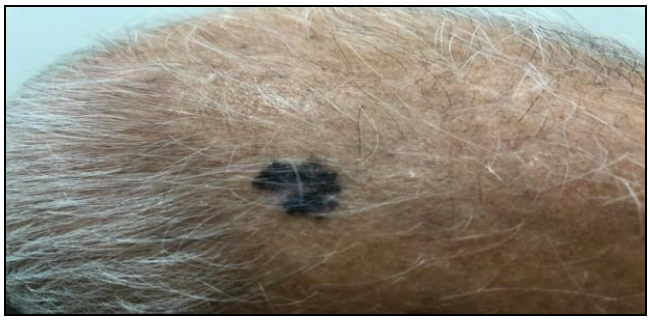

Figure-2: An asymmetric deeply pigmented plaque with irregular borders on scalp at righttemporoparietal region, measuring >2.5 x 2cm.

The histo-pathological examination of the excised tissue revealed clusters of large clear cells resembling a typical melanocytes. These pigmented nests of atypical melanocytes along with melanophages were seen invading the superficial dermis (Figure-3) and were also involving upper part of epidermis in the form of page toid spread.

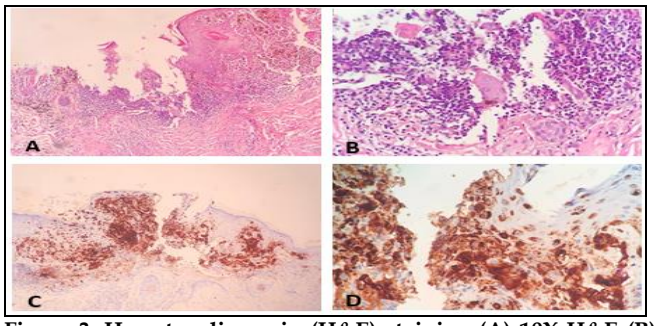

Figure-3: Hematoxylin-eosin (H&E) staining (A) 10X H&E (B) 40X H&E and immunohistochemical staining of HMB 45 (C) 10X HMB45(D) 40X HMB45 of the specified region as represented in the current case report.

The tumor-stroma interface showed a marked inflammatory response and fibrosis. Immuno histochemical stains for HMB45 was also applied (Figure-3) which showed positivity in both superficial and deep parts. The histopathology and immuno histochemistry confirmed the diagnosis of superficial spreading malignant melanoma (SSM) with metastasisto intraparotid lymph node. The patient underwent reconstructionand has been on regular follow with no recurrence till date.

DISCUSSION

Some of the common risk factors making different population prone towards MM includes; white race, familial history, congenital mole, immuno suppression, genetic coding, photosensitivity, increased sun exposure, and increased number of nevocytic nevi.[1] The classification of melanoma-SSM distinguished based on the use of histopathology, anatomical site, and degree of sun damage to distinguish four types of melanoma-SSM, lentigo maligna melanoma (LMM) and nodular melanoma.

Superficial spreading melanoma (SSM) is characterized by morphological appearances including radial growth with a well-circumscribed patch and varied shades of brown, gray and black where by subsequent nodule develops. In terms of histopathological analysis, the telltale indicates the sign of SSM refers to "pagetoid" pattern involving the presence of large melano cytes arranged as small aggregates or nests, that display marked upward scatter with in the epidermis. The most common site of occurrence in female include the leg while in male occurrence may appear on back, head, neck and the anterior trunk.[5]

The histopathological evaluation is essential that determines the standard diagnostic procedure for melanoma. In general, the melanoma suspected patients must undergo the excision biopsy of lesion possessing a margin of 1-2 mm of clinically normal skin. However, range of antibodies have been currently in use incorporated for routine diagnostic use. Although these antibodies confirm the identity of mel-anocytic nature of lesion yet, they might not indicate between benign or malignant stage.

Surgery is considered as one of the options as primary therapy for treatment, involving local excision of entire melanoma along with surrounding healthy skin margin to avoid recurrence. Whereas, wide excision with skin margin of 0.5 cm in combination with imiquimod cream with optional radiation therapy is recommended for in situ tumors. To avoid local recurrence a standard therapy applicable where, wide local excision with histo-pathologically confirmed tumor-free margins is taken place. In circumstances where the in-situ melanoma is diagnosed at level 1, the surrounding skin with a margin of 1 cm is considered sufficient. The lymph node recurrence is more likely to

occur in patients with thicker tumors and thus, excision margin of 2-3 cm clear margin is recommended.[6] However, some of the novel therapies for melanoma include ipilimumab, trametinib, and vemurafenib.[7,8] The treatments are combined with timely follow up with the patients for clinically monitoring detection of a relapse or second melanoma. According to prior studies conducted, it has been estimated 8% of all melanoma patients tend to develop a secondary melanoma within 2 years of initial diagnosis or elevated risk of other skin tumors. Similarly, it has been estimated that patients with lentigo maligna melanoma (often called 'in situ' melanoma), 35% tend to develop another cutaneous malignancy within 5 years.

CONCLUSION

With the passage of time, malignant melanoma is mushrooming endlessly worldwide with a higher incidence rate in Asia. It is therefore imperative to investigate this rise in number among patients for timely case documentation. In general, ample evidence suggests the developing of malignant melanoma in a pre-existing mole or prepig-ented lesion among Asian patients. Based on these conclusions, an epidemiological study is more suited for an early survey for the presence of pre-pigmentation or early hyper pigmentation in Asian patients and other possible factors contribution towards malignant changes including; genetic, sun-related or trauma to pre-existing moles.

Conflict of Interest: None.

Authors' Contribution

MN: Direct Contribution, MA: Conception, MTK: Design analysis, HUD: Critical analysis, IS: Design analysis.

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