ISSN- O: 2458 - 868X, ISSN–P: 2458 – 8687
Index Copernicus Value: 49. 23
PubMed - National Library of Medicine - ID: 101731606

International Journal of Medical Science and Innovative Research (IJMSIR)
IJMSIR : A Medical Publication Hub
Available Online at: www.ijmsir.com
Volume – 3, Issue –4, August - 2018, Page No. : 121 - 123

Malignant Melanoma of Nasal Cavity- A Rare Case Report

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Type of Publication: Case Report

Conflicts of Interest: Nil

Abstract

Skin is the most common site for malignant melanoma. Mucosal melanomas are rare and nasal cavity is the least common site. We present a case of 64 year old male patient with pain and obstruction in the left sided nasal cavity. The diagnosis of malignant melanoma is confirmed by Histo-pathological examination & special staining- Masson Fontana is applied for evaluation of melanin pigment. The lesion was removed by Scrapping.

Keywords: Malignant melanoma, Nasal cavity.

Introduction

Nasal cavity is an extremely rare site for malignant melanoma. It accounts only for 0.5% cases of malignant melanoma. It is highly invasive tumor. It usually present in advance stage due to occurance at such a rare site hence associated with poor prognosis. Clinically most of the patients present with nonspecific symptoms like nasal obstruction, pain or epistaxis. Usually treatment of choice is radical excision. The 5-year survival rate is 10%–40% and the median survival time is 21–24 months.[1] Mucosal melanomas in the head-and-neck region account for half of all mucosal melanomas. Apart from the head-and-neck region, they can arise in the genital organs of females or the ano-rectal and urinary tracts, and are far more aggressive with poorer prognosis than cutaneous melanomas.[2]

Case Report

A 64 year old male presented in the ENT department complaining of obstruction and pain in left sided nasal cavity since 6 months. There was no history of trauma and epistaxis. He had no other systemic disease or relevant family history of medical illness. On physical examination, a polypoid mass which was obstructing the nasal passage, seen in the left nasal cavity. Nasal septum was not deviated. A computed tomography (CT) scan revealed a polypoidal mucosal thickening measuring approx. 33x18x30 mm in left nasal cavity extending into left ethmoidal air cells and maxillary sinus. The mass was also involving sphenoidal air cells. Rest of the paranasal sinuses is normal. Nasal septum and turbinate's showed no abnormalities. Chest X ray and echocardiography didn't show any abnormality. Other investigations like Liver function test, renal function test, Serum electrolytes, complete blood count were within normal range.

Formalin fixed grey brown soft tissue pieces, collectively measuring 0.5x0.4cm were received. Microscopy revealed Nodular growth pattern of malignant cells having brown to black pigment. The cells are highly pleomorphic and round to spindle shaped having moderate amount of eosinophilic cytoplasm and hyper chromatic nuclei with prominent nucleoli. Few bi-nucleated and multinucleated

cells are also seen. Atypical Mitotic figures, necrosis and many lymphocytes are present. For the identification of pigment, Masson-Fontana staining is applied which confirmed the pigment as Melanin.

Discussion

Malignant melanoma arises from pigment containing cells of epidermis named as Melanocytes. It is highly aggressive and rarely develops on mucosal membranes.3 the malignant melanoma of nasal cavity is characterized by early and repeated recurrences. The common site within the nose is the nasal septum, followed by the inferior and middle turbinates.[4] The tumor occurs between 50-70 years of age and is slightly more common in males than females.[5] The large majority of melanomas are associated with sunlight exposure and thought to be due to ultraviolet radiation.6 Therefore, most are found in the head and neck area and on the lower extremities. Malignant melanomas can present as multiple primary tumors.[7] The presence of melanotic nevi, xeroderma pigmentosum, type 1 Neurofibromatosis and solid organ transplant are also associated with increased risk of melanoma. The cause of melanoma in solar-hidden mucosa is unclear, although smoking may have a role in activation of pre-existing melanocytes leading to melanogenic metaplasia.[8] Metastasis is usually found at initial presentation. For both Cutaneous and mucosal melanomas, the single most powerful predictor of survival is the status of regional lymph nodes.

Argentaffin stains are used for demonstration of melanin pigment in H&E sections. Masson-Fontana staining is the most widely used. Immuno-histochemical staining may be useful to distinguish melanomas from other malignancies. Melanomas are likely to be positive for HMB-45, Melan-A, S-100 protein, Mart-1, and tyrosinase.[9]

S-100 Positivity is nonspecific and both nuclear & cytoplasmic reactivity is seen in 90% of cases. HMB-45 is more specific marker than S-100 protein.[10] Hence mainly used to differentiate S-100 positive non-melanocytic tumors. Melan-A is a target antigen for cytotoxic T cells which is detected by monoclonal antibodies. It is positive in 80% cases of melanoma. Mart-1 is a transmembrane protein which is present in normal melanocytes and widely expressed in malignant melanoma. It is more superior marker for diagnosis of melanoma over HMB-45. Tyrosinase enzyme is required for synthesis of melanin. It's positivity is seen in 80 to 90% cases of melanoma.

Figures and Tables

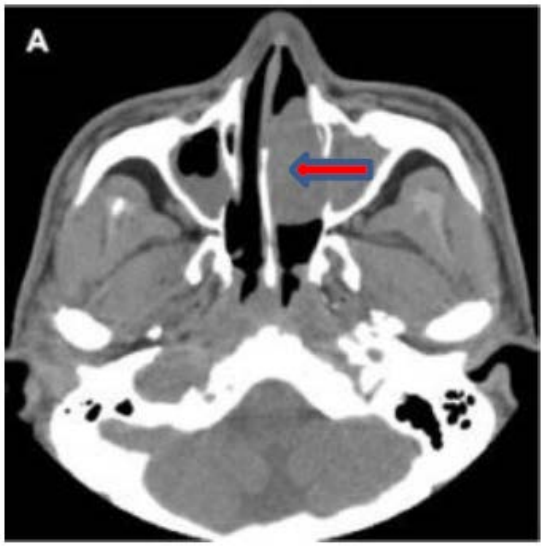

Fig1.Non-contrast-enhanced PNS CT scan showing a mass in the left nasal cavity

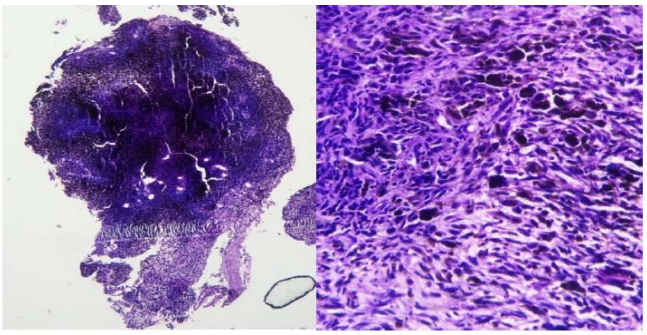

Fig2.(A) A nodule of malignant cells containing brown-blackish pigment (H&E,4x) (B)Highly pleomorphic cells with hyperchromatic nuclei, moderate amount of cytoplasm & pigment(H&E,40x)

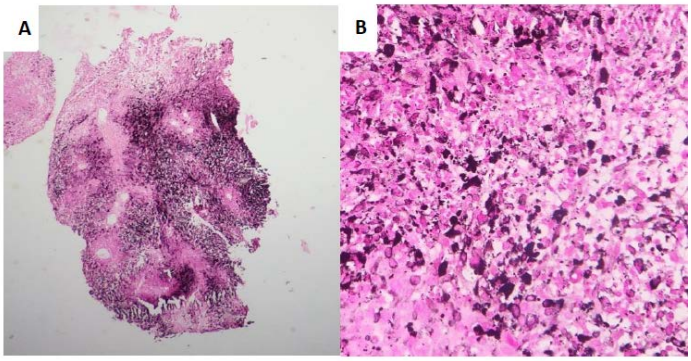

Fig3.(A) & (B) Masson Fontana staining showing presence of Melanin Pigment

Conclusion

Malignant melanoma of nasal cavity is the rare neoplasm with more aggressiveness cutaneous melanoma. It is more common in elderly male. The primary treatment modality is surgical resection with wide margins since incomplete resection is associated with poor survival rate. In addition, postoperative radiotherapy should be considered for most cases because of the high risk of local recurrence even after apparently complete resection.

Acknowledgements

My gratitude to Dr. Vanita Kumar, Professor, Department of Pathology, Sardar Patel Medical College, Bikaner for allowing me to publish this case report.

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