



ORIGINAL RESEARCH PAPER

Otorhinolaryngology

THE GREAT MIMIC- SINONASAL MELANOMA VERSUS SINONASAL POLYPOSIS

KEY WORDS: sinonasal melanoma, sinonasal malignancy, polyposis

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ABSTRACT

Sinonasal mucosal melanoma (SNMM) is a rare, highly aggressive tumour deriving from melanocytes within the mucosal lining of the nasal cavity and paranasal sinuses[1][2]. Due to its often subtle and nonspecific clinical manifestations, Sinonasal melanoma can be mistaken for benign inflammatory conditions such as sinonasal polyposis, delaying the diagnosis and treatment[3][4]. We discuss a 55-year-old male who presented with complaints of intermittent right-sided nasal bleeding and nasal obstruction for over three months. Early clinical and imaging findings suggested an infected sinonasal polyp, but histopathological evaluation ultimately confirmed Sinonasal mucosal melanoma, with immunohistochemistry demonstrating HMB-45 positivity and negative results for p40, cytokeratin, and synaptophysin. Postoperative PET-CT found no residual disease, and the patient remains recurrence-free one year post-treatment. This case highlights the diagnostic challenges posed by Sinonasal melanomas and emphasizes the necessity of early biopsy and immunohistochemical analysis for accurate identification and optimal management[2][4].

INTRODUCTION

Tumors originating in the sinonasal region are varied, and their presentations can be surprisingly deceptive. Among these, sinonasal melanoma is particularly rare—comprising less than 1% of all melanomas and fewer than 5% of sinonasal tract malignancies[1][5][6]. Although most often presenting as chronic sinusitis or nasal polyps, as in our case, histopathological assessment is essential for accurate diagnosis[6][7].

CASE REPORT

A 55-year-old male, who is a farmer by occupation, residing from Kanchipuram, visited our ENT outpatient clinic with history of epistaxis from the right nasal cavity, which was intermittent in nature, and was associated with nasal block, for a duration of 3 months, and not associated with symptoms such as headache, visual disturbances, or anosmia. He had no known comorbidities.

Initial anterior rhinoscopy was unrevealing, but diagnostic nasal endoscopy identified a congested, slough-covered mass in the right spheeno ethmoidal region.

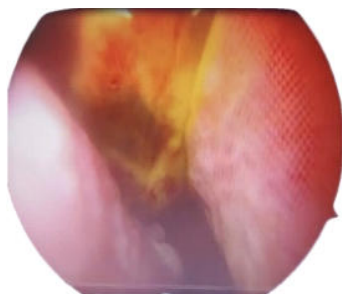


Figure 1- A Diagnostic nasal endoscopy image showing a mass covered with slough in the right nasal cavity.

Computed tomography of the nose and paranasal sinuses revealed a ill defined soft tissue mass lesion (2.2 x 1.9 x 1.7 cm) eroding the superior aspect of nasal septum and encasing superior and middle turbinates along with thinning of ethmoid roof. Mucosal thickening of right posterior ethmoid cells and sphenoid noted. There was no other evident bony erosion.

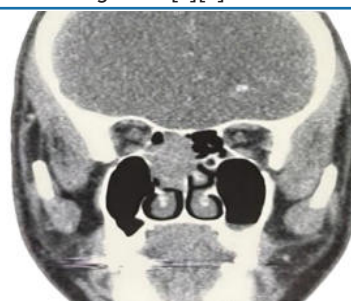


Figure 2- CT PNS showing a mass lesion occupying the right posterior ethmoid and sphenoid regions with erosion of septum.

The patient underwent Microdebrider assisted Excision and Biopsy of the sinonasal mass under general anaesthesia. Intraoperatively there was no obvious bony erosion noted, and the mass was completely removed in toto and sent for histopathological examination.

The Histopathological examination reports revealed multiple fibrocollagenous tissue with a fragment lined by respiratory epithelium infiltrated by malignant neoplastic cells arranged predominantly in sheets and nests. The individual neoplastic cells has round to oval moderately predominant nuclei,vascular chromatin and prominent eosinophilic nuclei. The diagnosis was confirmed to be Sinonasal Melanoma after immunohistochemistry being positive for HMB-45 and negative for p40,cytokeratin,synaptophysin.

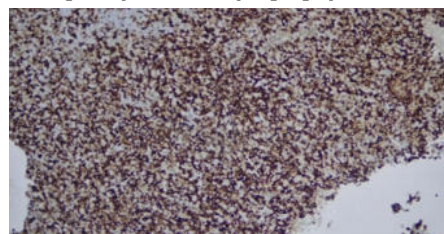


Figure 3- Histopathological image- positivity for HMB 45, negative for P40,cytokeratin,synaptophysin.

Post operative diagnostic nasal endoscopy showed no mass

or residual lesion. Pet CT done postoperatively revealed no obvious residual lesion or distant lymphadenopathy or metastasis. Repeat PET CT done after 6 months showed no residual disease. The patient is on regular followup since a year and no evidence of recurrence has been noted.

DISCUSSION

Epidemiology and Pathogenesis

Sinonasal mucosal melanoma (SNMM) is a notably rare yet aggressive malignancy arising from melanocytes within the mucosal lining of the nasal cavity and paranasal sinuses. It comprises approximately 0.5% to 2% of all melanomas and a small fraction of sinonasal malignancies. Despite its rarity, it exhibits aggressive behavior with a tendency for advanced-stage presentation and metastasis. The precise molecular mechanisms driving this disease remain obscure but likely involve genetic abnormalities affecting melanocyte proliferation and differentiation, distinct from those seen in cutaneous melanomas [1][2][5][6].

Clinical Presentation

The clinical symptoms of Sinonasal mucosal melanomas are notoriously nonspecific and easily mistaken for benign conditions such as sinonasal polyposis or chronic rhinosinusitis. Common presentations include nasal obstruction, intermittent epistaxis, facial pain, and rhinorrhea. These overlapping features often delay suspicion and diagnosis. Furthermore, mucosal melanomas may be amelanotic, lacking the characteristic pigmentation seen in cutaneous melanoma, complicating early identification [2][4][7].

Diagnostic Workup

Accurate diagnosis relies on a combination of meticulous clinical examination, imaging studies, and definitive histopathological analysis. Computed tomography (CT) and magnetic resonance imaging (MRI) are essential for delineating tumor extent and involvement of adjacent anatomic structures, assisting surgical planning. Immunohistochemical staining is critical to confirm melanocytic origin, with markers such as HMB-45, S100, and Melan-A demonstrating high sensitivity and specificity. These markers help differentiate Sinonasal melanomas from other sinonasal malignancies like squamous cell carcinoma and neuroendocrine tumors [4][6][7].

Histopathology and Immunohistochemistry
Microscopic examination typically reveals large, pleomorphic malignant cells which may or may not contain melanin pigment. Amelanotic tumors require immunohistochemical confirmation for melanocytic lineage. Positivity for HMB-45 and S100 proteins, combined with negativity for cytokeratin and epithelial markers, is diagnostic. This immunoprofile is key in distinguishing Sinonasal melanomas from morphologically similar carcinomas or neuroendocrine neoplasms, especially when clinical presentation mimics benign entities such as nasal polyps [1][6][8].

CONCLUSION

Sinonasal mucosal melanoma remains a challenging disease due to its rarity, aggressive course, and frequent clinical mimicry of benign sinonasal conditions. Maintaining high clinical suspicion, performing early biopsy, and employing immunohistochemical markers are paramount for timely and accurate diagnosis. Given the tumor's aggressive nature, prompt surgical excision with clear margins and appropriate multidisciplinary management are critical to improving outcomes.

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