

Sinonasal Carcinoma - A Rare Case Report

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Abstract: Sinonasal squamous cell carcinoma is an uncommon but highly aggressive cancer that often presents with vague symptoms, making early recognition difficult. This case describes a 55-year-old man with unilateral nasal obstruction, recurrent epistaxis, and progressive facial swelling. Imaging revealed an infiltrative mass involving the left maxillary sinus with orbital wall erosion. Histopathological examination showed a poorly differentiated non-keratinising squamous cell carcinoma, and immunohistochemistry confirmed its association with human papilloma virus through positive expression of P40, P63, P16, and AE1. The patient had no history of smoking, alcohol use, or occupational exposure, highlighting that this malignancy may also occur without traditional risk factors. Surgical treatment followed by radiotherapy was performed, and regular follow-up was advised because of the high risk of recurrence. The case underlines the value of careful clinicopathological evaluation, imaging, histopathology, and immunohistochemistry in establishing an accurate diagnosis and guiding timely management of this rare malignancy.

Keywords: Sinonasal squamous cell carcinoma, Human papilloma virus, Non-keratinising carcinoma, Immunohistochemistry, Maxillary sinus cancer

1. Introduction

- Sinonasal carcinoma is an uncommon and aggressive malignancy of the nasal cavity and paranasal sinuses. Their deep-seated location and vague presentation often mimic benign inflammatory conditions, leading to delayed diagnosis and advanced disease at presentation.
- They usually occur in fifth and sixth decades of life with males being more affected as compared to females.
- Occupational exposure to wood, nickel, chromium, heavy metals, leather and textile industry for a chronic duration has been seen to play a significant role in its etiology along with cigarette smoking and alcohol consumption

2. Case Report

- A 55-year-old male presented with unilateral nasal obstruction, intermittent epistaxis, and progressive

facial swelling over a period of three months.

- Examination showed a polypoidal mass in the left nostril that bleeds on touch. No paranasal sinus tenderness was elicited.
- Posterior rhinoscopy showed bloody discharge. Rest of the general and physical examination did not reveal any positive findings.
- Relevant haematological and biochemical investigations were within normal range.
- He is a non-smoker and non-drinker. He works in a private company as a sales person without any occupational exposure history.
- Computed Tomography (CT) scan of the paranasal sinuses revealed large ill-defined, infiltrative heterogeneously enhancing soft tissue density mass lesion of about 2.6 cm × 3.8 cm × 3.2 cm centered on the left-sided paranasal sinuses, involving left maxillary sinus with erosion of orbital wall



- A provisional diagnosis of nasal papilloma was made and transmural biopsy was sent for histopathological examination.
- Grossly the specimen consisted of a single grey white soft tissue bit measuring 0.8 cm × 0.5 cm × 0.4 cm.
- Histopathology showed tumour cells arranged in papillary architecture lined by stratified squamous cells having moderate cytoplasm, round to ovoid nuclei and prominent nucleoli.
- Tumour cells show moderate to marked pleomorphism

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occasional atypical mitosis.

- The tumour cells are seen invading underlying stroma.
- Findings are suggestive of poorly differentiated carcinoma- possibility of non - keratinising squamous cell carcinoma is favoured. Immunohistochemistry (IHC) was advised for confirmation.
- IHC report shows tumour cells positive for P40, P63, P16 and AE1 confirming the diagnosis of Human Papilloma Virus (HPV) associated squamous cell carcinoma-non keratinising poorly differentiated type.

3. Discussion

- Sinonasal carcinoma - squamous cell variant is a rare tumour usually seen in the fifth to sixth decades of life with history of occupational exposure to nickel, heavy metals and has a strong association with cigarette smoking.
- Almost 50% tumours occur in the maxillary sinus followed by ethmoid, sphenoid, and frontal sinuses
- The incidence of sinonasal malignancies in India is approximately 1/100, 000 persons per year with squamous cell carcinoma and adenocarcinoma being the most common histological subtypes.
- Other histologic patterns like transitional cell carcinoma, verrucous carcinoma, neuroendocrine small cell carcinoma and undifferentiated carcinomas can also be seen.
- Patients usually present with history of nasal blockage, nasal discharge, pain, and epistaxis
- Imaging studies like CT and Magnetic Resonance Imaging (MRI) are necessary for proper diagnosis and extent of invasion to surrounding critical structures.
- Histopathology remains the gold standard for final diagnosis and identifying the histologic subtype.
- The treatment options include surgery followed by radiotherapy or chemotherapy depending on the stage of the disease.
- In spite of all available investigations options there is often a delay in diagnosis of sinonasal carcinoma due to vague presenting symptoms.
- Till the time final diagnosis is made, surrounding critical structures are often involved and it becomes difficult to operate such cases. The prognosis remains poor in sinonasal carcinomas in spite of early diagnosis, recurrences are common
- In our case, the patient underwent surgery followed by radiotherapy. He is advised regular follow - ups to see for recurrence and prevent any long - term complications.

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