



## Carcinoma of Maxillary Antrum: A Rare Case Report

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### Abstract

Maxillary sinus squamous cell carcinoma is a rare aggressive tumor, usually diagnosed at a progressive stage, and most patients present with extreme poor prognosis and poor survival rates. In this article, we report a case of a patient who presented with pain and swelling in the left maxillary region. The symptoms of maxillary sinus carcinoma can be non-specific, leading to late diagnosis. It is pertinent for the maxillofacial physician to be aware of these sinus pathologies and arrive at an early diagnosis to improve the survival rate.

**Keywords:** Maxillary Antrum; Squamous Cell Carcinoma; Tumor

### Introduction

Maxillary sinus cancer is a relatively rare neoplasm with an incidence representing a small percentage (0.2%) of human malignant tumors and only 1.5% of all head and neck malignant neoplasms [1]. Asian countries report a very high incidence of maxillary sinus carcinoma, which makes it important for us to raise general awareness among oral stomatologists [2]. It predominantly occurs within the maxillary sinus (60%-70%) and less frequently in the nasal cavity (12%-25%) and the ethmoid (10%-15%) and sphenoid/frontal sinuses (1%) [3]. With respect to squamous cell carcinoma (SCC) from the maxillary sinus (MxSSCC), it affects mainly middle-aged men (55-65 years old) from Eastern countries and has, as the major risk factors some chemicals and viruses [4]. Maxillary carcinoma has one of the highest incidences as compared to other paranasal sinus carcinomas, and it incurs the worst prognosis. It is important for oral physicians to understand the differential diagnosis of such lesions.

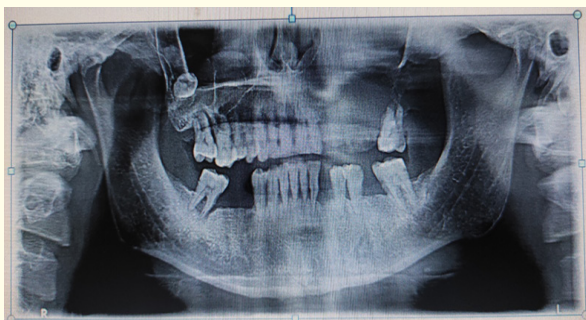
### Case Report

A 37-year-old male patient reported to the Department of Oral Medicine and Radiology with a chief complaint of mild swelling and pain in the upper left region of the jaw for 7-8 months. The history of presenting illness revealed that the patient was apparently alright 8 months back, he induced a traumatic injury by pricking a toothpick in the associated site; a few days later the patient noticed a small swelling which gradually increased to attain the present size. History of extraction w.r.t 23 and 24 was done 5 months back and for the past 3 months, the patient noticed blood discharge from the nose while cleaning and also noticed numbness on the affected side. The patient was a known hypertensive and diabetic who was under medication. He had a habit of smoking beedi for the past 15 years. He smoked almost 20 beedis per day. The clinical examination revealed obliteration of the left labial and buccal vestibule with the mesial-distal extent from 23 to 28. There was an expansion of the buccal cortical plate in the region of 24, 25, and 26 towards the buccal vestibule (Figure 1).

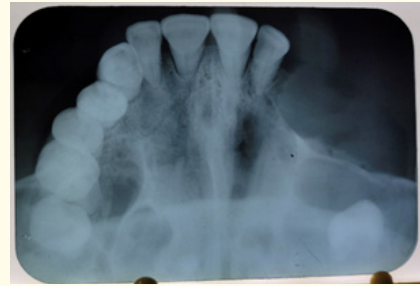


**Figure 1:** Clinical examination revealed expansion of the buccal cortical plate in the region of 24, 25, and 26 towards the buccal vestibule not crossing the midline.

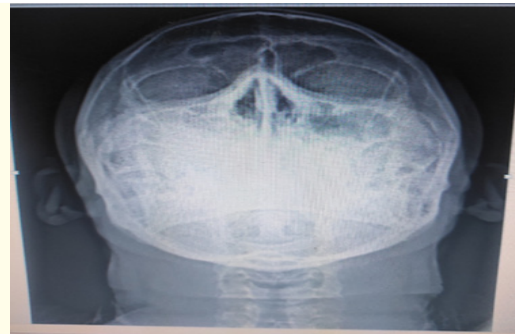
The patient was unable to occlude on the left side. The color of the swelling was red, and it appeared stretched, lobulated, and ulcerated. The intraoral examination revealed an ulcerative growth measuring 4 cm to 6 cm in dimension approx. The left maxillary region had significant paresthesia, nasal obstruction, and episodes of pain. A palpable left submandibular lymph node was present, which was also tender. The other teeth in the quadrant were missing 23, 24, 25, and 26. There was grade I mobility in 21 and 22 and grade III mobility w.r.t 28. A provisional diagnosis of malignancy of the maxillary antrum was made. A panoramic radiograph revealed missing teeth i.r.t 23, 24, 25 and 26 (Figure 2). There was increased radiopacity in the left maxillary sinus (Figure 3).



**Figure 2:** A panoramic radiograph revealed missing teeth 23, 24, 25, 26, 27, 33, 36,46. Orthopantomograph showing a soft tissue shadow in the left palate region.



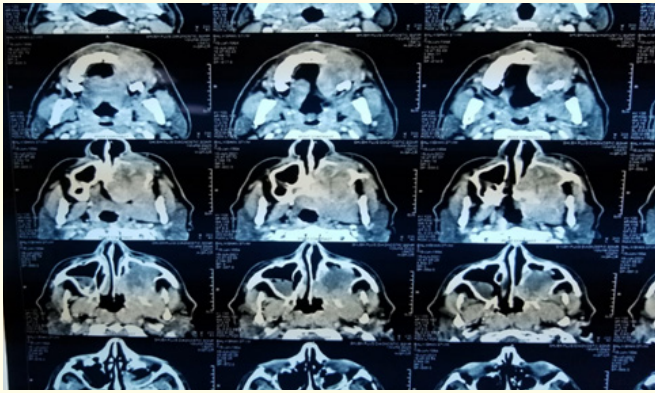
**Figure 3:** Maxillary cross-sectional radiograph showing radiopacity w.r.t 23, 24, 25, 26, 27, 33, 36,46.



**Figure 4:** Paranasal sinus view showing the opacification of the left maxillary sinus.

Water’s view showed the opacification of the entire left maxillary sinus. An intraoral extension of this mass was also evident. The inferior, posterior, lateral, and medial walls of the left maxillary sinus appeared to be destroyed (Figure 4). A computed tomography (CT) scan showed a lesion extending into the maxillary space and the nasal cavity.

A heterodense soft tissue lesion showing heterogeneous contrast enhancement in the left maxillary sinus and hard palate with the destruction of the posterolateral wall, medial wall, and floor of the left maxillary antrum, extending into the adjacent retro maxillary space and medially extending into the left nasal cavity, obliterating all meat with the destruction of nasal turbinates. It was also inferiorly extending into the oral cavity. The CT was suggestive of carcinoma antrum. The CT was sufficient to understand the extensions of the lesions and the destruction of nasal turbinates. Further radiological investigations were, hence, not considered. Considering the patient history and clinical features and the fact that patient



**Figure 5:** Computed tomography of the orofacial region showing heterogenous enhancement in the left maxillary sinus and destruction of the palate and left maxillary antrum.

was experiencing paresthesia, a biopsy was deemed mandatory. On microscopic examination, the given hematoxylin and eosin (H and E)-stained soft tissue section showed dysplastic epithelial islands arranged in sheets and nests, invading fibrovascular stroma.

## Discussion

Head and neck malignant neoplasia is the sixth most common malignancy in the world. In developing Asian countries like India, the oral cavity and pharynx comprise the third-most common malignancy site. Carcinoma of the maxillary antrum, though, is rare [1]. Three percent of oropharyngeal cancers are known to emerge from the paranasal sinuses. Out of these, 80% originate from the maxillary antrum and, histologically, 60%-90% of these are squamous cell carcinomas. Oral squamous cell carcinoma is a disease with well-known risk factors like smoking and alcohol use. Carcinoma of the maxillary sinus is very seldom and its treatment poses several challenges to head and neck surgeons and radiation and medical oncologists [5]. Basically, they often present in advanced stages, and thereafter, the complex anatomy and the close proximity of critical structures make surgical excision an ultimatum. A majority of the patients are likely to present with advanced diseases, making the prognosis poor. The patient usually tends to ignore the symptoms for quite some time. Paresthesia should be considered a pertinent sign of malignancy [6]. Hence, it is imperative that the possibility of a malignant neoplasm be ruled out in a priority basis in all patients presenting with paresthesia. Further, the complexity of the anatomy and the close proximity of critical structures make

surgical excision a challenge. The massacre of the maxillary sinus walls, especially the inferior antral wall, can be identified by panoramic radiography [7]. CT and magnetic resonance imaging (MRI) is the investigation of choice in such situations. On CT studies, all of the cases present, show bony destruction [8]. CT provides more details of bone involvement than MRI. In the differential diagnosis of maxillary sinus carcinoma, it is important to include primary sinonasal neoplasms like undifferentiated carcinoma, esthesioneuroblastoma, nasopharyngeal carcinoma, adenocarcinoma of minor salivary gland origin and lymphoma as well as metastatic diseases. The management of head and neck cancers involves exactly staging the extent of the disease (with the aid of CT or magnetic resonance imaging) in accordance with the TNM (tumor, nodes, metastases) classification of malignancy and determining if surgical resection is feasible [7]. Early diagnosis is, therefore, key to a favorable prognosis. New approaches, such as neoadjuvant or concomitant chemoradiotherapy with aggressive surgery, need to be considered and evaluated in prospective cases.

## Conclusions

It is extremely important that the oral physician/diagnostician to understand the differential diagnosis of these swellings. Careful attention should also be paid to the signs and symptoms of these diseases, as they can be nonspecific and ignored by the patient. An early diagnosis is key to a better outcome. Proper investigations like CT and MRI are prompt to better treatment planning and can greatly improve patient morbidity and mortality rates.

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