

Case Report

Carcinoma of maxillary sinus mimicking a deep fungal infection- a rare case report

Melisha Rolita Pinto¹

From ¹Senior Lecturer, Department of Oral Medicine and Radiology, Coorg Institute of Dental Sciences, Virajpet, India. From

Correspondence to: Dr. Melisha Rolita Pinto, Department of Oral Medicine and Radiology, Coorg Institute of Dental Sciences, Virajpet, India. Email ID: melisha.pinto@gmail.com

Received - 2 March 2020

Initial Review - 15 March 2020

Accepted - 24 March 2020

ABSTRACT

Carcinoma of maxillary sinus is an uncommon tumor of head and neck region. The clinical presentation depends on the involvement of sinus wall. The nonspecific nature of the presentation often leads to delayed diagnosis which results in poor prognosis and survival rate. Here we report a case of carcinoma of left maxillary sinus with an intraoral swelling and extraoral swelling with ulcer at infraorbital region mimicking a deep fungal infection. Because of extensive involvement, the patient was subjected to chemoradiation.

Key words: Carcinoma, maxillary sinus, ulcer, swelling, deep fungal

Head and Neck Squamous cell carcinoma (HNSCC) represents 90-95% of all malignant neoplasms of the human body [1]. Nasal cavity and paranasal sinuses carcinomas account for 0.2-0.8% of all human malignant neoplasms. It predominantly affects maxillary sinus (60%-70%) and less frequently the nasal cavity (12-25%), ethmoid (10-15%) and sphenoid/frontal sinuses (1%) [2, 3]. Middle aged men are commonly affected and has high correlation with alcohol and tobacco consumption [1]. It is considered to be a disease with worst outcome as it is diagnosed in advanced stages. At times, the deep fungal infections mimic the maxillary sinus carcinoma clinically and radiographically, therefore it is important for oral physicians to understand the differential diagnosis of such lesions [3, 4]. Here we present a case of carcinoma of maxillary sinus with intraoral swelling and extraoral swelling and ulcer at infraorbital region, mimicking a deep fungal infection.

CASE REPORT

A male patient aged 61 years reported to the dental clinic with swelling of left side of the face since four months. Patient was apparently normal four months ago. He noticed a small swelling on the left side of the face under the eye which was of size of a pea which gradually enlarged to attain the current size. Swelling was associated with discharge. Positive history of on/off fever, cold and heaviness in the left face was (sinus area) elicited. No history of vision impairment of left eye and also no history of discharge from nose and eye. He visited the doctor with same complaint and was given antibiotics and analgesics. No improvement was noted. Patient had habit of smoking bidi half packet per day for 30 years and also chewing arecanut with slake lime 4 times daily since 35 years.

On extraoral examination, well defined solitary swelling was seen in upper third of the face measuring around 4 x5cm in diameter. Extending superiorly from infraorbital rim to the corner of the mouth inferiorly, medially from nasolabial fold obliterating it to frontozygomatic area laterally. Skin over the swelling was stretched with erythematous surface. Ulcerative

lesion was seen along with pus discharge from its superior extension of the swelling (Figure 1). On palpation, rise in temperature was evident. Swelling was tender on palpation, soft in consistency at the center and hard at the medial border of the lesion and slightly compressible. Submandibular and cervical lymph nodes were palpable, tender, less than 6cm in diameter and were fixed to underlying structures.



Figure 1: Extraoral swelling with ulceration at superior border

On intraoral examination, Solitary well defined oval swelling was seen on the left side, measuring around 2cm x 3cm extending from 23 to 26 buccally till the vestibule obliterating it and palatally 0.5cm distal to midpalatine raphe. Gingiva appeared erythematous. Swelling was tender on palpation soft in consistency pus discharge from the vestibule. Grade II mobility with 22, 23, Grade III mobility with 23, 25, 26 was noted (Figure 2). Considering the patient history and clinical findings, suspected malignancy of maxillary sinus was thought as provisional diagnosis with deep seated fungal infection as first differential diagnosis.



Figure 2: Buccal and palatal swelling

Investigations like Biopsy, CT of head and neck, Haematological, Chest X-ray and Ultrasound of abdomen and pelvis was carried out. CT Head and Neck revealed large well defined heterogeneously enhancing lobulated soft tissue space occupying lesion measuring 7x6x5.5 cm in left maxillary sinus, eroding the mesial walls of maxillary sinus and orbit and extending to the adjacent soft tissues (figure 3). Biopsy revealed poorly differentiated

Squamous Cell Carcinoma of left maxillary sinus. Haematological examination showed low levels of RBC, Hb and high ESR levels. Microbiological examination of sputum was negative for fungus and there were no signs of metastasis. The final diagnosis of poorly differentiated Squamous Cell Carcinoma of left maxillary sinus was given. Patient was referred to Department of Oncology for chemoradiation.

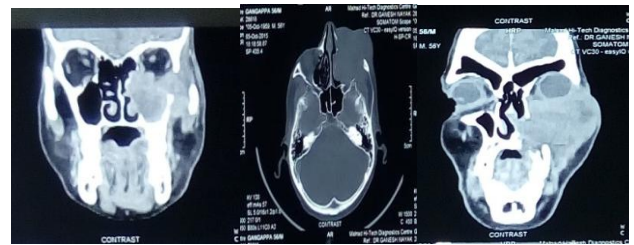


Figure 3: CT scan head and face

DISCUSSION

HNSCC is one of the sixth most common malignancy in the world with well-established risk factors [1]. Although rare, 3% of all head and neck cancers are known to originate from the paranasal sinuses, of which 80% originate from the maxillary antrum with an ominous prognosis. It commonly affects male patients in the sixth and seventh decade of life. Chronic exposure to nickel, chlorophenol, formaldehyde, textile dust, wood, cigarette smoking and history of chronic sinusitis have been frequently reported as the risk factors [2, 3].

Clinical presentation varies from nasal fullness, stuffiness, obstruction, epistaxis, rhinorrhea, pain, paresthesia to tooth mobility, tooth loss, proptosis, diplopia, and lacrimation. Early stages of the disease will be asymptomatic followed by localized mild pain which later spreads to the adjoining tissues and either pushes the structures or invades it. When the nerves in the vicinity are affected, sensory disturbances of the cheek will become evident. However our patient did not show paresthesia [5].

Maxillary sinus is pyramidal in shape, with the invasive nature of the disease the tumor can spread to the borders can breach and can locally spread to neighboring tissues and produce symptoms. When the tumor progresses superiorly, the orbital floor gets affected leading to orbital infiltration. In our patient, although there was difficulty in opening the left eye, the orbital wall was intact. Inferiorly the border is formed by the maxillary sinus floor and dental alveolus and be present as a proliferative growth in the palate. Our patient showed a well-defined intact palatal

swelling. They extend medially toward the nasal cavity and anterolaterally, they may reach soft tissues and posteriorly, they may reach the pterygopalatine fossa and pterygoid muscles. We noted an ulcer on the infraorbital region of the left side [2, 3].

Given the devastating consequences of maxillary sinus carcinoma, early diagnosis and rapid treatment remains a major goal. The early symptoms of these lesions are inconsistent and are often misdiagnosed as dental infections, chronic sinusitis, nasal polyp or lacrimal gland obstructions. The reason for delay in clinical symptoms in sinus malignancy is due to the presence of large air space which allows asymptomatic expansion of the tumour [6]. Chronic deep ulcers can also be confused as a deep fungal infection as they have similar clinical and radiographic features. Although, effective imaging techniques play an increasingly important role in facilitating the improvement of early diagnosis cytological study of nasal-lavage washings and smear, fungal culture and biopsies of the region helps to differentiate deep fungal infection from maxillary sinus malignancy [4].

After appropriate radiographic staging, the management of maxillary SCC could be radical surgical resection followed by adjuvant radiotherapy or radiotherapy and concomitant chemotherapy. In the presence of nodal metastasis, therapeutic neck dissection followed by adjuvant radiotherapy is advisable. Surgical treatment aims to promote local control and preserve or restore facial contour and function, nonbiologic obturator, microvascular, free-tissue transfer are the reconstructive options available. In our case the patient underwent adjuvant chemoradiotherapy [1, 2].

Survival rate depends on the stage of the disease and ranges from 40% to 60% and most patients die in 2 year's time. 5-year overall survival rate improvement has remained unaltered over the last decades, ranging from 17% to 75% [2]. As the patients often present in advanced stages and due to the complex anatomy and the close proximity of critical structures make surgical excision a challenge, hence making prognosis poor [3].

CONCLUSION

Maxillary sinus carcinomas are rare but have a poor prognosis due to delayed diagnosis. With its variable presentations, misdiagnosis of maxillary sinus carcinoma is not uncommon. Therefore it is highly important that the oral physician understand the differential diagnosis of facial and intraoral swellings. Proper investigations with CT and MRI and confirmation with a histopathologic examination followed by a prompt treatment planning will greatly improve the disease outcome.

REFERENCES

1. Mehanna P, Smith G. Maxillary carcinoma- A wolf in sheep's clothing. *Canadian Family Physician*. 2009;55:262-4.
2. Santos MRM, Servato JPS, Cardoso SV, et al. Squamous cell carcinoma at maxillary sinus: clinicopathologic data in a single Brazilian institution with review of literature. *Int J Clin Exp Pathol* 2014;7(12):8823-8832
3. Praveena N, Maragathavalli G (May 13, 2018) Carcinoma of the Maxillary Antrum: A Case Report. *Cureus* 10(5): e2614. DOI 10.7759/cureus.2614
4. Ren K, Wang W, Ma X, et al. Nasopharyngeal carcinoma mimicking Aspergillosis rhinosinusitis: an unusual case report and review of the literature. *Int J Clin Exp Pathol* 2014;7(12):9050-9055
5. Vasudevan V, Kailasam S, Venkatappa M, et al. Well-differentiated squamous cell carcinoma of maxillary sinus. *Indian Aca Oral Med Radiol*. 2012;24(3):250-4.
6. Ramachamparambathu AK, Vengal M, Mufeed A, et al. Carcinoma of Maxillary Sinus Masquerading as Odontogenic Infection. *Journal of Clinical and Diagnostic Research*. 2016 Sep, Vol-10(9): ZD11-ZD13

How to cite this article: Pinto MR. Carcinoma of maxillary sinus mimicking a deep fungal infection- a rare case report. *J Orofac Res*. 2020;9(1):11-13.

Funding: None; Conflict of Interest: None Stated.