Case Report

International Journal of Dental and Health Sciences
Volume 04, Issue 01

INTRAOSSEOUS MUCOEPIDERMOID CARCINOMA OF MAXILLA IN DENTURE WEARER PATIENT: SHORT TIME OBSERVATION

Lina G Chandak[1] ,Vidya K Lohe[2], Krushna P Gandhi[3]

1. Senior Lecturer, Dept. of Oral Medicine and Radiology,V Y W S Dental College and Hospital, Amravati
2. Associate Professor,Dept of Oral Medicine and Radiology,SPDC DMIMS (DU), Sawangi, Wardha
3. Senior Lecturer ,MD Radiodiagnosis,I G M C Nagpur

ABSTRACT:

Intraosseousmucoepidermoid carcinoma (MEC) of jaw bones is a rare lesion. It is commonly seen in the posterior part of the mandible; its occurrence in the maxilla is rare. The aetiopathogenesis is not completely understood. Abundance of clear cells in an intraosseousmucoepidermoid carcinoma may complicate its histopathologic diagnosis. It becomes extremely important to distinguish this lesion from other lesions of jaw region. Radiographic examination along with advanced investigations like CT scan is one of the effective methods for detecting .The involvement of the surrounding vital structures such as the floor of both the maxillary sinus and the orbit, and the nasal fossa will greatly change the treatment and prognosis of such cases. Here, we report a case of intraosseousmucoepidermoid carcinoma of maxilla in a 50 year old male denture wearer patient.

Keywords: Intraosseousmucoepidermoid carcinoma, maxilla, Clear cells, mucicarmine staining, PAS

INTRODUCTION:

Mucoepidermoid carcinoma is the most commonly occurring malignant salivary gland neoplasm, comprising 2.8%–15% of all salivary gland tumors. Aberrant salivary gland neoplasms arising within jaws as primary central bony lesions are extremely rare, comprising 2%–4.3% of all MECs reported.

Central MEC is a rare but well-known entity affecting the jaw bones. Its pathogenesis and radiological and histopathological aspects have been extensively discussed. Most primary central MEC lesions occur in the mandible, but are rare in the maxilla.[1] We report a case of a primary central MEC of the maxilla in a 50-year-old male patient

CASE DETAIL:

A 50-year-old male patient reported to the Department of Oral Medicine and Radiology with the chief complaint of growth in upper left front and back region of jaw of one year's duration. The patient was apparently alright one year back when he noticed small pea sized growth on upper left alveolar region of jaw which gradually increased to present size of 5x3.5cm approx. The patient gives history of wearing complete dentures since 3 years, also gives history of reduced salivation, nasal regurgitation of fluids,

*Corresponding Author Address: Dr. Lina ChandakEmail:linagchandak@gmail.com

watery discharge from left eye and history of voice change. The patient was operated for malignant mixed salivary tumor on right side under general anesthesia, 10 years back. One year after which he got prosthesis in upper and lower arch done. The patient did not have a history of cigarette smoking, alcoholism or ‘‘betel quid’’ use. No significant medical or family history was noted.

On extraoral Clinical examination there was no facial asymmetry however, TMJ movements revealed restricted lateral excursive movements bilaterally and no regional lymph nodes were palpable. Intraoral examination revealed that mouth opening was adequate. Upper and lower arches were edentulous and a proliferative growth of 5x3.5 cm approx roughly oval with smooth and granular appearance and colour reddish pink with areas of bluish discoloration with ill-defined margins was present on left side of maxilla involving the alveolus and hard palate. On palpation tenderness was present; consistency was soft to firm, bleeding on provocation was present.

OPG showed edentulous upper and lower arches with severe destructive resorption of upper alveolar arch causing communication of oral cavity with maxillary sinuses [figure 1]. CT scan images showed 47x27mm size soft tissue attenuation with destructive lesion involving medial wall of left maxillary sinus, hard palate with extension into left maxillary antrum, left nasal cavity, with associated bony erosion [figure 2]

Evaluating the clinical and radiographic findings, the working diagnosis considered was of a malignancy of left maxillary sinus. Incisional biopsy andhistopathological examination showed two to several layered thick epithelial lining consisting of cuboidal to short columnar cells showing excessive proliferation into underlying stroma at places with mucous and goblet cells. Islands consisting of epidermoid and mucus cells having eosinophilic material in cystic spaces were seen in the connective tissue stroma which were positive for PAS and mucicarmine. Connective tissue stroma varied from loose edematous to hyalinized fibrous. These epithelial islands showed cellular pleomorphism and nuclear hyperchromatism along with prominent intercellular junction. Histopathological diagnosis of a low grade MEC of the left maxilla was made. [figure 3]

As a treatment modality, wide local excision of lesion was done with total maxillectomy on left side involving orbital fat without involving eyeball and reconstruction of defect using left free fibular graft and closure of donor defect done by split skin graft under GA and patient is under follow up at intervals of 3 months.

DISCUSSION:

CMEC affects female twice more than male and involves the mandible (molar angle region) twice more often than the maxilla [2]. Primary centra l MEC has been reported in the first to seventh decade; however, cases occurring in the fourth and fifth decades are most common.[1]

In our case, the tumor was present in relation to the anterior maxilla in a 50 year old male patient. Pires FR et al in 2003, reviewed 173 cases of MEC and stated that among 173 cases, only 7 cases were originating from the maxillary sinus and no case was found in maxilla [3], unlike our case.

MEC usually presents as a painless swelling. As similar to present case, Pain, paraesthesia, numbness and tooth mobility are usually occasional and late findings.[1, 2] The mucosa overlying the swelling is generally intact with normal color and smooth texture.[4] MEC of maxillar tend to be asymptomatic at early stages, appearing more frequently at late stages once extensive local invasion has occurred[5].

The origin of these lesions in the jaws is thought to be due to neoplastic transformation of the sinus epithelium; entrapped retromolar mucous glands and developmental embryonic remnants of the submandibular gland within the mandible or neoplastic transformation of the mucous-secreting cells commonly found in the pluripotential epithelial lining of dentigerous cysts.[6]

The origin of the lesion in our case could be from ectopic salivary gland tissue of the maxilla or from the sinus epithelial lining since the lesion was grossly involving the maxillary sinus with minimal involvement of the palate, which was confirmed on CT imaging. Our case showed positive staining for PAS and mucicarmine which confirms presence of mucin.

Differential diagnosis should include metastatic renal cell carcinoma, clear cell odontogenic carcinoma, and clear cell variant of calcifying epithelial odontogenic tumor. Clear cells in metastatic renal cell carcinoma are positive for glycogen and lipid. A diagnosis of renal cell carcinoma can be made only by clinical evaluation of a renal primary tumor. Clear cell odontogenic carcinomas are made up of clear cells of uniform size with a delicate, but well-defined cell membrane. MECs do not contain such a majority of clear cells as in clear cell odontogenic carcinoma.

Intraosseous MEC should also be distinguished from cystic primary intraosseous carcinoma where it is a squamous cell carcinoma that demonstrates a cystic component with a lumen-containing fluid or keratin and a stratified squamous epithelium showing cytological atypia. Clear cell variant of calcifying epithelial odontogenic tumor shows a pleomorphic cellular picture with typical calcifications and amyloid formation which are not found in MEC.[4]

Mucoepidermoid carcinoma can be differentiated from odontogenicmyxomawhich appear as unilocular or multilocular radiolucency, sometimes showing a fine soap bubble or honey comb appearance occasionally with fine trabeculations. It frequently displays aggressive infiltration of the adjacent tissues as well as tendency to re-occur after surgical removal. Variations in radiographic presentation make a radiological differential interpretation of myxoma of upper jaw challenging because

the radiographic features overlap with those of other benign and malignant neoplasms. A biopsy is therefore necessary to ascertain an accurate diagnosis.[7]

Our case fulfilled the diagnostic criteria for intraosseous MECs proposed by Alexander, modified by Brow and and Waldron.

CONCLUSION:

In conclusion, central MEC in the jaws is a rare entity. Overall 5-year survival for maxillary sinus MEC is 36%.The early diagnosis is critical for better prognosis of this tumor.

Thus, a diligent search for the rare neoplasms or common neoplasms in rare sites needs to be remembered when confirming a diagnosis. Use of CT scan greatly helps in the diagnosis as well as to identify involvement of adjacent vital structures, which may change the treatment as well as the prognosis. Central MEC cases should be followed-up for a longer period due to the possibility of late recurrence or regional metastasis.

REFERENCES

1. Raut D L and Khedkar S A. Primary intraosseousmucoepidermoid carcinoma of the maxilla: a case report and review of literature. Dentomaxillofacial Radiology (2009); 38: 163–168.
2. Munde A, Karle R, Metgud R, Rudgi BM. Central mucoepidermoid carcinoma of the mandible. Indian J Dent Res 2010 ; 21(4)
3. Bansal A, Shetty D C, Rai H C ,Singh H P primary intraosseousmucoepidermoid carcinoma of maxilla - A rare occurrence. e-Journal of Dentistry Jan - Mar 2011; 1: 1
4. Varma S, Shameena PM, Sudha S, Resmi G Nair R G, Varghese I V. Clear cell variant of intraosseousmucoepidermoid carcinoma: Report of a rare entity. Journal of Oral and Maxillofacial Pathology 2012; 16 : 1
5. Daryani D, Gopakumar R, Nagaraja A. High-grade mucoepidermoid carcinoma of maxillary sinus. Journal of Oral and Maxillofacial Pathology 2012 ; 16 : 1
6. Sherin S, Sherin N, Thomas V, Kumar N and Sharafuddeen KP. Central mucoepidermoidcarcinoma of maxilla with radiographic appearance of mixed radiopaque-radiolucent lesion: a case report. Dentomaxillofacial Radiology (2011); 40 : 463-465
7. Arul A K J ,Verma S, Arul A S J, and Verma R. Infiltrative odontogenicmyxoma of the posterior maxilla: Report of a case. J Nat Sci Bio Med (2013); 4 (2): 484-487

FIGURES:

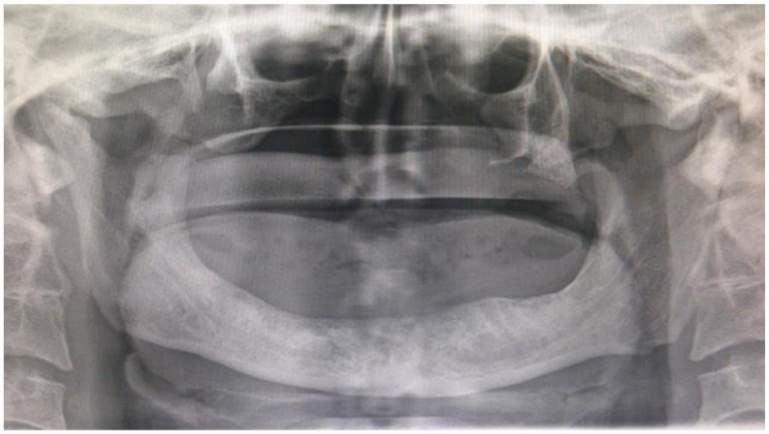

Figure 1. Panoramic image showing severe destructive resorption of upper alveolar arch.

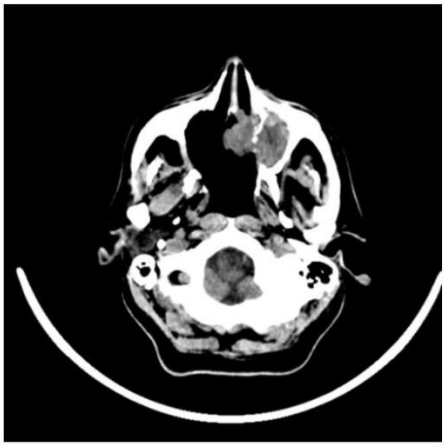

Figure 2 CT scan image revealing destructive lesion involving left maxillary sinus and medial wall of nose.

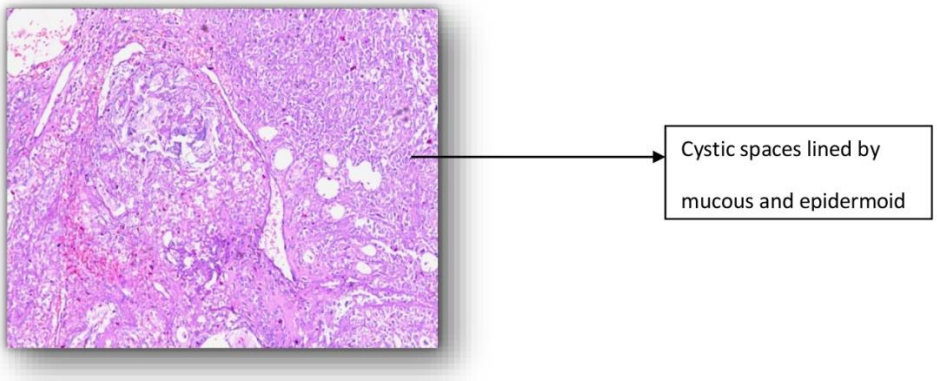

Figure 3 showing predominantly epidermoid cells with cystic spaces and mucous cells.