Mucoepidermoid carcinoma of the hard palate: A case report

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ABSTRACT

Mucoepidermoid Carcinoma is an epithelial salivary gland tumor which usually occurs in younger patients and females. The following case report deals with a case of mucoepidermoid carcinoma in a 38-year-old male patient who reported with a chief complaint of swelling in the palatal region for 1 year. At first, it was diagnosed as a benign minor salivary gland tumor of the palate. Upon incisional biopsy, an impression was made according to the features present. Complete excision of the lesion was done which was then diagnosed as mucoepidermoid carcinoma. The conflict between whether the lesion was a benign minor salivary gland tumor of the palate or a malignant counterpart, was resolved and confirmed after excisional biopsy.The article focuses on various diagnostic aspects of this tumor and its surgical management.

Keywords: *Excisional biopsy, Extravasated mucous cyst, Mucoepidermoid carcinoma.*

Mucoepidermoid Carcinoma is an epithelial salivary gland tumor which usually occurs in younger patients. It is more prevalent in females (approximately 1.5 times) as compared to males and seen in the third to sixth decade of life [1]. It is composed of mucous, squamous and intermediate type of cells. Mucoepidermoid carcinoma of the hard palate presents as a slow-growing, persistent swelling which is usually painless and soft in consistency [2]. However, pain with pus discharge through a sinus tract may be seen in a lesion with secondary infection. Ulceration, resorption of the underlying bone, numbness of adjacent teeth, tooth mobility, root resorption, and firm mass are the indications of high-grade mucoepidermoid carcinoma. The other regions, where this carcinoma presents itself, include the mandible body, ramus and the major salivary glands [3].

The occurrence of this carcinoma in this region (hard palate) is very rare and hence, we felt the presenting case we encountered in our department worthy of documenting. Here, report the case of mucoepidermoid carcinoma in a 38-year-old male.

CASE REPORT

A 38-year-old male patient reported to the Department of Oral and Maxillofacial Surgery with a chief complaint of swelling in the palatal region for the last 1 year. Initially, the swelling was small, painless and not associated with fever or discharge but gradually became bigger in size. The patient gave a history of consultation in a private clinic for the same. No relevant medical history obtained from the patient (Fig. 1). No extra oral clinical significance.

Figure 1: Front and lateral profile of the patient.

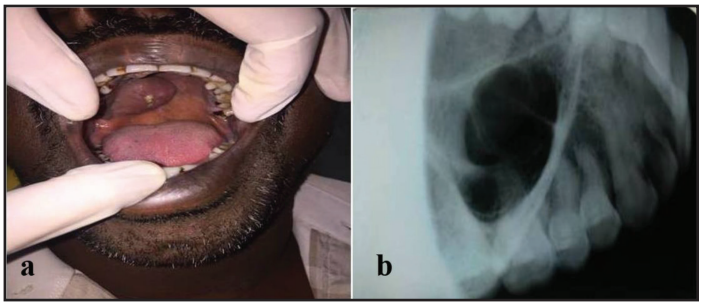


Figure 2: (a) Intraoral palatal swelling as noted on intraoral examination; (b) Occlusal radiograph of the patient.

On intraoral examination, a localized swelling of size 5x4cm was seen which was extending anteroposteriorly to the mid-palatal region of 14 and 18 and mediobucally from mid-palate to 10mm short of marginal gingival of 14 to 18. An erythematous area was seen over the swelling. The swelling was firm in consistency, non-tender on palpation and fixed to the underlying structures (Fig. 2a). No visible pulsation was present over the swelling and vestibular tenderness was absent. There was no obliteration of buccal sulcusfrom 14 to 18.

Preoperative Orthopantomograph (OPG) was taken which reveals generalized horizontal and angular bone loss. Radiographically, teeth 45 and 38 were absent which was correlating with the clinical findings. On right oblique occlusal radiograph, a well-defined radiolucency was found with 14, 15, 16 involving the right palatal region (Fig. 2b).

An incisional biopsy was done to establish a definitive diagnosis and to assess histological grade. The microscopic feature shows squamous epithelium, subepithelial salivary gland acini with predominantly mucous secreting material, clusters of mucin-secreting cells and mild anisonucleosis. Acute and chronic inflammatory infiltrates were seen (Fig. 3a)

Based on these histopathologic features, a differential diagnosis of an extravasated mucous cyst and salivary gland tumor was given. Excisional Biopsy was advised under the general anesthesia and nasal intubation was done. An intraoral palatal crevicular incision was placed from 17 to 27 region, full thickness palatal flap was reflected and the tumor mass was identified. Tumor mass was excised in small fragments and total excision of the tumor was done (Fig. 4 and 5). Complete irrigation was done with betadine and closure was done using 3.0 Vicryl. A palatal sling suture was placed (Fig. 6).

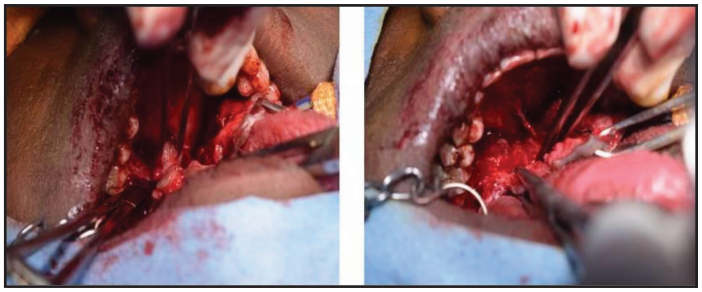


Figure 4: Surgical procedure for the treatment of mucoepidermoid carcinoma.

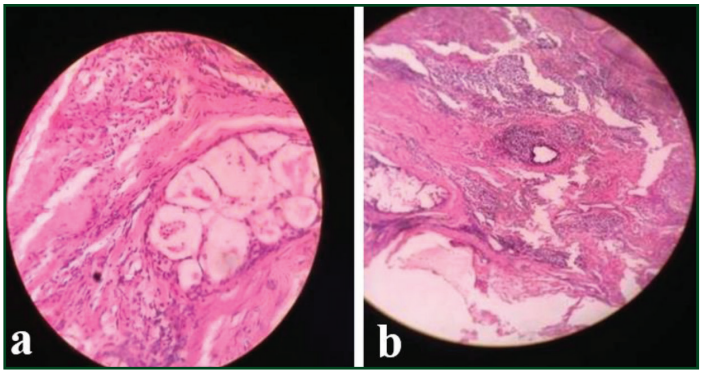


Figure 3: Histological investigation after (a) incisional biopsy b) excisional biopsy.

The histological report of excised specimen showed connective tissue stromal components and infiltrating islands of the epithelium. Most islands show central cystic degeneration in focal areas. The islands consist of the predominance of intermediate cells along with epidermoid cells, mucous cells and clear cells. Minimal cellular atypia with no evidence of considerable pleomorphism and mitotic activity. Perineural invasion in areas of necrosis appreciated. Chronic inflammatory infiltrate in adjacent mucous salivary gland showing areas of acinar atrophy were also noticed (Fig 3b). Based on these histopathological reports, the tumor is confirmed to be mucoepidermoid carcinoma. A follow-up of the patient after 6 months showed no recurrence of the lesion with complete healing of the affected palate site.

DISCUSSION

Mucoepidermoid Carcinoma is the most common malignant neoplasm observed in the salivary gland. It represents 29% to 34% of malignant tumors originating in both major and minor salivary glands. The common site of occurrence is the palate. In addition to the palate, buccal mucosa, tongue and retromolar region may also be involved. It occurs primarily in 3rd and 5th decades of life.

Mucoepidermoid Carcinoma of the hard palate presents as a slow-growing, persistent, painless swelling which is soft in consistency. The paucity and pus discharge may be seen in lesion

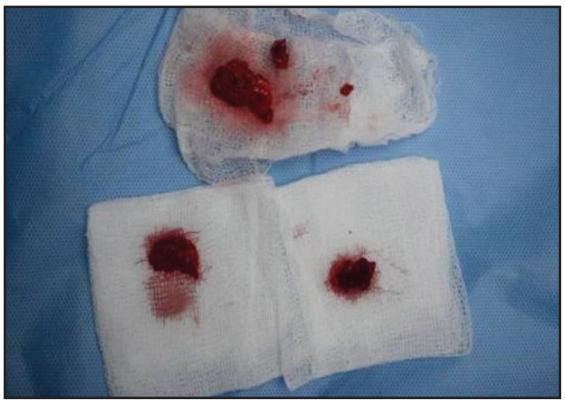
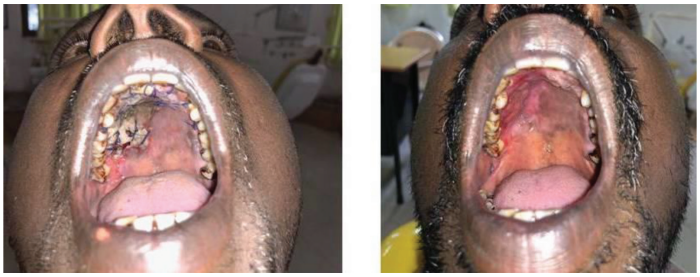


Figure 5: Excisional Biopsy Specimen.



Figures 6: Sutures placed and postoperative outlook.

presenting with secondary infection [4]. Late diagnosis of the lesion may cause perforation of the maxillary sinus. Treatment of mucoepidermoid carcinoma includes surgical resection. High-grade tumors are usually treated with surgical enucleation with wide margins followed by postoperative radiotherapy. Neck dissection is often used when the regional metastasis is present. Elective neck dissection has been used for high-grade cancers. The treatment method used for mucoepidermoid carcinoma of the palate in the present case is similar to the method used in previous case reports that are reported in the literature [5,6].

Histologically, mucoepidermoid carcinoma is divided into low, intermediate and high-grade types [7,8]. Low-grade mucoepidermoid carcinoma is macroscopically small and encapsulated and microscopically, characterized by the presence of more mucous producing cells. Intermediate mucoepidermoid carcinoma comprises solid rather than cystic architecture with an increase in intermediate cells. High-grade mucoepidermoid carcinoma shows solid islands of squamous and intermediate cells which demonstrate considerable pleomorphism and mitotic activity.

Variants of mucoepidermoid carcinoma are: sclerosing which is rare and characterized by intense central sclerosing with inflammatory infiltrate of plasma cells. Tumor infarction or extravasation of mucin results in relative fibrosis. Intraosseous which originates within the jaws, otherwise called as central mucoepidermoid carcinoma. It is thought to form by the malignant transformation of the epithelial lining of odontogenic cyst. The tumor presents as asymptomatic radiolucent lesion and histologically of low-grade malignancy. The mandible is more commonly affected than maxilla [9].

In the present case, the histopathological diagnosis confirmed the lesion to be mucoepidermoid carcinoma. Mucoepidermoid carcinoma demonstrates solid islands of squamous and intermediate cells with minimal cellular atypia and mitotic activity. The histological grade of carcinoma often reflects the clinical manifestation of the tumor. Earlier, there was confusion between the diagnoses of the carcinoma wherein it was suspected to be an extravasated mucous cyst. The reason for that would be the clinical presentation of the lesion. Extravasated mucous cysts are prone to occur in the hard palate region where the minor salivary glands are present as such. Their striking similarity in the clinical representation of a slow-growing mass which is soft on palpation with an absence of tenderness present would make it confusing to arrive at a definite conclusion with the given case having noted the clinical features alone.

CONCLUSION

This case report on Mucoepidermoid Carcinoma handles the perspectives of the case starting from the clinical presentation, to the dilemma presenting if the particular was an extravasated mucous cyst or a salivary gland tumor. The final diagnosis was made after the concerned investigations were performed and the treatment was planned as required for this patient.

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