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# MUCO-EPIDERMOID CARCINOMA ON THE PALATE- A RARE CASE REPORT

Oral Medicine

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## ABSTRACT

Mucoepidermoid carcinoma (MEC) is a malignant epithelial tumour. As the name implies, the tumour is composed of both mucous-secreting cells and epidermoid type cells in varying proportions. Most of the malignant neoplasms of the salivary gland occur in the parotid gland. Only a few have been well-documented in minor salivary glands. Epithelial neoplasms originating in the minor salivary glands account for approximately 15% of all salivary gland neoplasms. The following is a case report in which a 46-year-old lady presented with a painless swelling on the palate which was status quo for two years. Such lesions on the palate can be ignored or misdiagnosed if they are asymptomatic. Hence, this case report is an attempt to emphasize the need for early and prompt diagnosis of MEC to avoid complications and ensure better prognosis.

## KEYWORDS

MEC- Mucoepidermoid carcinoma, Palatal swelling, Minor salivary gland tumours, Palatal tumours, Epithelial neoplasms.

## INTRODUCTION

Mucoepidermoid carcinoma (MEC) is a malignant epithelial tumour, first studied and described as a separate entity by Stewart et al in 1945. As the name implies, the tumour is composed of both mucous-secreting cells and epidermoid type cells in varying proportions. [1] It accounts for <3% of all head and neck tumors. It occurs most frequently in adults during the fifth and sixth decades of life. [2],[3] About 5% of these tumors occur in patients younger than 18-year-old with women mostly affected. [2], [4], [5] About two-thirds of them arise within the parotid gland, and one-third arise within the minor salivary glands. When MEC arises in minor salivary glands, it can be located on the palate, retromolar area, floor of the mouth, buccal mucosa, lips, and tongue. Rarely, it can arise as primary jaw tumor or as laryngeal, lacrimal, nasal, paranasal, tracheal, or pulmonary tumor. Here we present a rare occurrence of mucoepidermoid carcinoma on the palate.

### Case Report

A 46-year-old female patient came to the department with the chief complaint of a pea sized painless swelling on the palatal region 2 years ago. At that time, she was undergoing root canal treatment for a tooth adjacent to it and was adviced by the dentist that, it was an infective swelling which would subside after pus drainage. Since there was no change in the size of the swelling, ever since she noticed it, she reported to us. The patient had no positive history of any ill-healthy habit or any systemic illnesses

On examination, there was an oval, irregularly shaped mass, pink in colour, interspersed with erythematous areas, approximately 1x2 $cm^2$ in size in posterior palate on the right side. It extended from the mesial of tooth 17 to distal of 18, the surface of which was irregular. On palpation the mass was soft to firm, nontender and non- compressible with regular smooth borders. (Fig. 1) Patient had a metal bridge prosthesis from 16 to 18. Lymph nodes were not palpable. The soft tissue mass on the palate was provisionally diagnosed as a benign neoplasm and a differential diagnosis of minor salivary gland neoplasm was given.

Periapical pathology in relation to 16, 17 or 18 was ruled out with an intra-oral periapical radiograph. (Fig. 2) CBCT scan presented with only a homogenous hypodense mass in the posterior palatal region with no hyperdensities. (Fig. 3) A benign non-odontogenic neoplasm on the right posterior palate was given as the radiographic diagnosis. On performing fine needle aspiration biopsy of the mass, there was a reddish white aspirate. (Fig. 4)

An incisional biopsy was done and the specimen was examined histopathologically. (Fig. 5) Histopathological picture revealed cystic spaces with presence of mucous and epidermoid cells. In some of the cystic spaces, areas of degeneration were noticed in the centre. Intermediate cells were appreciated in few cystic areas. The cystic spaces were seen infiltrating the salivary gland tissue. (Fig. 6 and 7) Hence, the histopathological report suggested mucoepidermoid carcinoma of the posterior palate.

## DISCUSSION

Most of the malignant neoplasms of the salivary gland occur in the parotid gland. Only a few have been well-documented in minor salivary glands. [5] Epithelial neoplasms originating in the minor salivary glands account for approximately 15% of all salivary gland neoplasms. [9][10] Mucoepidermoid carcinoma (MEC) is a malignant epithelial tumour reported to be more prevalent in females (approximately 1.5 times) as compared to males and the case reported here also is a 46-year-old female. It is commonly seen in the third to sixth decade of life. The most common site of its occurrence is parotid gland followed by the palate, retromolar area, and buccal mucosa. [6]

Among minor salivary glands, the tumor shows predilection to the hard and soft palate. [6][7] Palatal tumors are reported to be more benign than malignant. [8] MEC of the hard palate presents as a slow-growing, persistent, painless swelling which is soft in consistency. However, pain and pus discharge may be seen in lesion with secondary infection. Ulceration, resorption of underlying bone, numbness of adjacent teeth, tooth mobility, root resorption, and indurated/firm mass are the symptoms of advanced disease. In the present case, the lady had presented with a painless swelling on the palate which was status quo for two years. Such lesions on the palate can be ignored or misdiagnosed if they are asymptomatic. Further, late diagnosis of a similar lesion can cause extensive spread, with possibility of perforation of the hard palate and invasion into maxillary antrum or nasal cavity. [11]

Fortunately, in the present case, though the palatal swelling was asymptomatic, she grew anxious and reported to our department and was promptly diagnosed. Etiology of MEC is not known but prior exposure to ionizing radiation can be considered as a contributing factor since cases of MEC have been recorded after radiation therapy for thyroid carcinoma or leukemia. Tobacco either in chewing or smoking form has not been implicated as a causative factor of MEC. [12]

Histopathologically, the tumors are graded into low, intermediate, and high grade. A low-grade MEC presents as a slow-growing swelling with a characteristic size of <3 cm. Histologically, these tumors show predominance of mucous-secreting cells. They are partially encapsulated and contain cystic spaces filled with mucin, lined by mucus-secreting, intermediate, and epidermoid cells, whereas the high-grade tumors predominantly consist of epithelial cells, with few mucinous cells. These are rapid-growing tumors and have a tendency of local tissue invasion in early stages. In long-standing cases, distant metastasis to lungs is observed with an unfavourable prognosis. [13] The present case has features similar to low-grade MEC clinically as well as histopathologically as it was slow growing and consisted of cystic spaces filled with mucin, lined by mucus-secreting, intermediate, and epidermoid cells. This could possibly be the reason for asymptomatic nature of the case presented. Treatment of MEC depends on its aggressiveness and the extent of its spread. When the tumor is confined to the palatal mucosa with intact periosteum, wide excision of lesion along with underlying mucoperiosteum is advised. [14] When the tumor

infiltrates the periosteum with erosion of underlying bone, excision of lesion along with the underlying bone is indicated. Failure to detect lesion in its early stage leads to involvement of overlying maxillary sinus and the nasal cavity, requiring more extensive surgery including palatectomy, infrastructure maxillectomy, or extended maxillectomies.[15] Hence, to avoid such damage and extensive surgeries a prompt diagnosis and early treatment is necessary for MEC. Through this case an attempt is made to emphasize the need for early and prompt diagnosis of MEC to avoid complications and ensure better prognosis.

**Figure 1: Clinical picture**

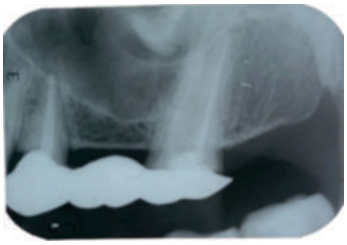

**Figure 2: Intra-oral periapical radiograph ruling out odontogenic cause**

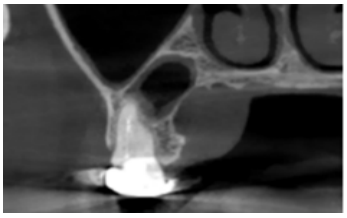

**Figure 3: Coronal section of CBCT showing soft tissue enlargement**

**Figure 4: Fine needle aspiration biopsy**

**Figure 6 and 7: Histopathological picture.**

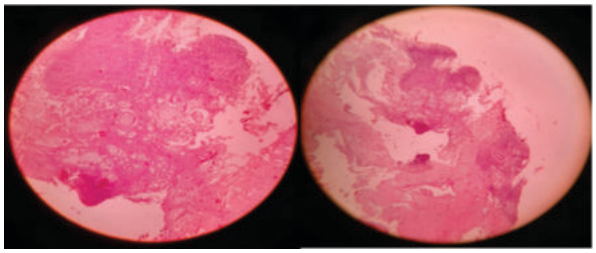

**Figure 6 and 7: Histopathological picture.**

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