

## Case Report

# Mucoepidermoid carcinoma of the palatine tonsil: a case report and review of the literature

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### ABSTRACT

Mucoepidermoid Carcinoma is the most common malignant salivary gland neoplasm. It is seen in both the adults and children and shows a slight female predilection. It presents, usually, as a painless, slow-growing, firm mass, with varied clinical behaviour depending on its clinical stage and histological grade. The majority of the cases occur in the major salivary glands, though it can also arise from minor salivary glands. It occurs, most commonly, in the buccal mucosa and palate in the oral cavity. Other sites, in which it has been reported, include maxilla, mandible, breast tissue, skin and thymus. To our knowledge, only three cases, have been reported in tonsils so far, and hence we report an uncommon case of mucoepidermoid carcinoma of the Palatine tonsil.

**Keywords:** Mucoepidermoid carcinoma, Palatine tonsil, Lingual tonsil

### INTRODUCTION

Squamous cell carcinoma is the most common malignant neoplasm of palatine tonsils, accounting for more than 85% of all malignancies.<sup>1,2</sup> Malignant lymphoma is the next common malignancy with diffuse, large B cell lymphoma (DLBCL), constituting 30% of those cases.<sup>3</sup> Among malignant salivary gland tumors, mucoepidermoid carcinoma is the commonest and 89.6% of those cases are seen in parotid.<sup>4</sup> Mucoepidermoid carcinoma is also the commonest malignant salivary gland tumour in minor salivary glands.

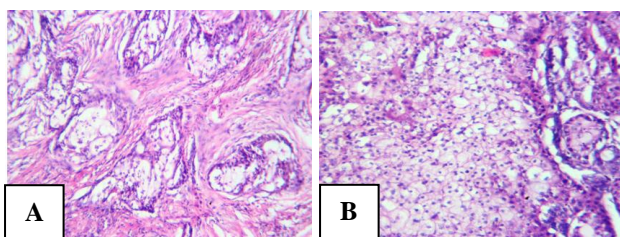
Tumors of minor salivary glands may arise, anywhere, in the oral cavity. However, malignant salivary gland tumor is uncommon in palatine tonsil and only few cases of mucoepidermoid carcinoma, adenoid cystic carcinoma and polymorphous low grade adenocarcinoma, have been described in the medical literature.<sup>5-7</sup> Mucoepidermoid carcinomas show a broad spectrum of clinical behaviour,

depending on their clinical staging and histological grading. Low grade tumors exhibit a favourable outcome, usually. But, high grade tumours with metastases and mortality have also been reported.<sup>5</sup> Hence, we present a case of low grade mucoepidermoid carcinoma of the left palatine tonsil.

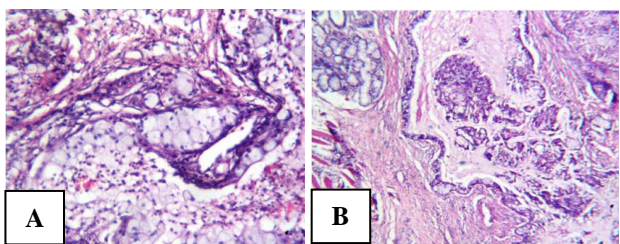
### CASE REPORT

A 42 year old female presented with complaints of throat pain and difficulty in swallowing. Physical examination revealed enlargement of the tonsil on the left side. She underwent tonsillectomy for the left side and the specimen was sent for histopathological examination. Grossly, the specimen measured 3.5×3×2.5 cm. One focus showed cystic change. Multiple H&E stained sections showed ulcerated, hyperplastic squamous epithelium, covering inflamed subepithelial connective tissue and an unencapsulated neoplasm. The neoplasm was composed of squamoid cells, intermediate cells and

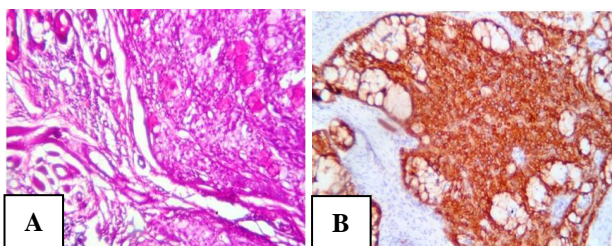
mucin secreting cells, arranged in islands and large nests. The intermediate cells predominated and merged with other types of cells (Figure 1A, B and 2A). The cyst was lined by columnar, mucin secreting cells and the nests contained polygonal and goblet shaped mucinous cells (Figure 2B). The mucinous cells were found to be PAS-DR positive. There were no significant nuclear atypia or abnormal mitoses. The tumour islands were seen infiltrating into the underlying muscle and other stromal structures. The histological features of <20% cystic component, absence of neural invasion, necrosis, mitosis and anaplasia were indicative of a low grade mucoepidermoid carcinoma.



**Figure 1: (A) Nests of squamoid cells, mucinous cells and intermediate cells, (B) high power view squamoid cells and clear cells.**



**Figure 2: (A) Nests of mucinous cells, (B) a cyst lined by columnar, mucin secreting cells, infiltrating into muscle layer.**



**Figure 3: (A) PAS-DR +ve mucinous cells amidst squamoid and intermediate cells, (B) CK +ve tumor cells.**

Immunohistochemical staining with cytokeratin was performed and found to be positive in the neoplastic cells.

## DISCUSSION

Mucoepidermoid carcinoma (MEC) is a slow growing, invasive, malignant neoplasm. It occurs in any age group, from first to ninth decades, with highest incidence in

fourth decade. MEC is the commonest malignant neoplasm of both major & minor salivary glands. About 45% occur in parotid and 21% occur in palate.<sup>8</sup> It has also been described in nasal cavity, paranasal sinuses, nasopharynx, breast, bronchus, thymus, skin & uterine cervix.<sup>9-15</sup> Histologically, it is characterized by mucous, intermediate and epidermoid cells and columnar, clear cell and oncocytes may be present. It is classified as low-grade, intermediate-grade, or high grade, according to the percentage of cystic components, quantity of the three types of tumour cells seen and on histologic features such as necrosis, mitosis and anaplasia. Majority of tumours, however, belong to low-grade and intermediate-grades. High-grade MEC can resemble squamous cell carcinoma and necessitates careful search for mucinous cells, for correct diagnosis. Variants of MECs include clear cell MEC, oncocytic MEC, sclerosing variant and sclerosing MEC with eosinophilia. Prognosis is good for low & intermediate grade tumours and cure is possible in these grades. Unfavorable prognostic features include involved surgical margins, extracapsular lymphnode spread, perineural and vascular invasion, aneuploidy, mitotic count >2/10 hpf, expression of MUC1 and lymphnode metastasis.

Only few cases of tonsillar mucoepidermoid carcinomas have been reported in the literature. One 47 year old male, presented with inoperable lesion in the right tonsil, and was given chemotherapy and radiotherapy. However the patient died six months later.<sup>16</sup> Another case was from lingual tonsil and the 66 year old man, presented with cervical lymphnode metastasis.<sup>17</sup> Another case also had been described in lingual tonsil in a 31 year old African American male.<sup>18</sup>

## CONCLUSION

To our knowledge, this is the only second case of MEC of palatine tonsil, reported in medical literature. Hence, the case is reported for its rarity. MEC is to be considered, in differential diagnosis of oropharyngeal malignancies. It becomes necessary to diagnose such rare tumors, since early diagnosis and appropriate management are the determining factors in the prognosis of these malignancies. This case report emphasizes the fact, that though mucoepidermoid carcinoma is the most common malignant salivary gland tumour, it is very rare in the tonsils, particularly in the palatine tonsil.

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