



## A Rare Case of Mucoepidermoid Carcinoma of Minor Salivary Gland Presented with Cervical Lymph Node Metastasis

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### Abstract

*Mucoepidermoid carcinoma (MEC) is malignant epithelial tumors arising in major and minor salivary gland. Mucoepidermoid carcinoma of a hard palate presents as a non-healing ulcer. Primary presentation as a metastatic tumor is a rare occurrence.*

*Cytopathological diagnosis is more challenging in metastatic disease as squamous cell carcinoma is the closest differential.*

*We present a case of metastatic MEC to submandibular lymph node diagnosed on FNAC.*

**Keywords:** *Mucoepidermoid carcinoma, Metastasis to cervical lymph node, FNAC diagnosis.*

### Introduction

Mucoepidermoid carcinoma (MEC) is a most common malignant salivary gland tumor. It accounts for 5-9 % of all salivary gland neoplasm.<sup>(1)</sup> Most of the tumors occur in major salivary glands, commonly seen in parotid gland and minor salivary glands of the palate.<sup>(2)</sup>

It is first described as a separate pathologic entity by Stewart et al in 1945. As its name suggest mucoepidermoid carcinoma is composed of

mixture of cells including mucous producing, epidermoid or squamous and intermediate type.<sup>(3)</sup>

The peak age of occurrence of mucoepidermoid carcinoma was in the older age group with a mean age of 44.5 years.<sup>(4)</sup> Involvement of minor salivary glands is commonly seen in region of hard palate, soft palate, retromolar region, buccal mucosa, floor of mouth and labial mucosa. Palate is the most common site for mucoepidermoid carcinoma (28%) followed by retromolar region

(23%), buccalmucosa (11%) and lower lip (9%).<sup>(5)</sup>

^ Presentation of mucoepidermoid carcinoma of hard palate is variable and depends on grade of tumor and stage of detection .

Our patient initially presented with enlarged right submandibular cervical node. On FNAC it was diagnosed as mucoepidermoid carcinoma. Oral examination thereafter carried out for search of the primary. There was an ulcero-infiltrative tumor involving hard palate got detected. So, we present this rare case to put more emphasis on diagnosis by FNAC of cervical lymph nodes.

**Case Report**

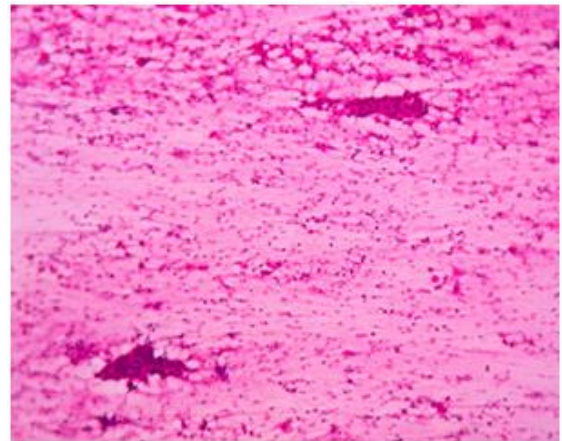
A 65 year old man presented to our oncology department with right sided submandibular swelling. Swelling was initially small in size and gradually increased to present size. The swelling was present for last 5 months. The patient gave positive history of tobacco chewing. Patient was referred to cytopathology department of our hospital for FNAC. On physical examination there was 3x2 cm, hard, non-tender, non- mobile right sided submandibular lymph node noted.(Fig.1)



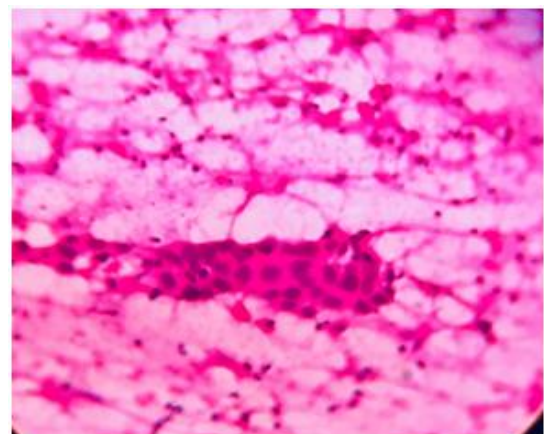
**Fig.1**-Right enlarged Submandibular Lymph node

Cytological smears obtained by FNAC of this lymph node revealed predominant population of epithelial cells arranged in clusters, acini on the background of pink, eosinophilic mucinous substance. Few of the epithelial cell were showing intra cytoplasmic mucin. Few cells resembling metaplastic squamous epithelial cells of cervical PAP smears were also noted. Few clusters of

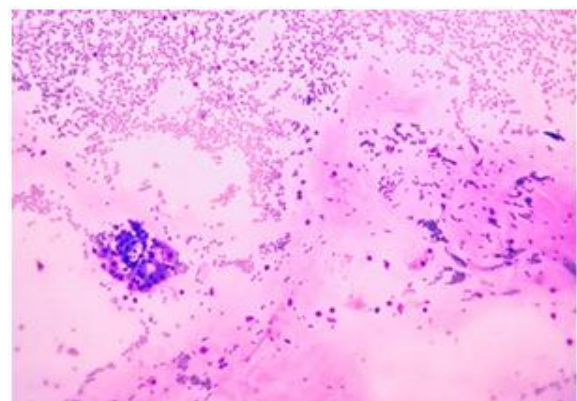
squamous epithelial cells showing intra cytoplasmic keratin were present. In the background, lymphocytes in varying stages of maturation were present. Based on these cytological findings diagnosis of metastatic mucoepidermoid carcinoma to right sided submandibular lymph node was offered. (Fig.2,3,4,5,6)



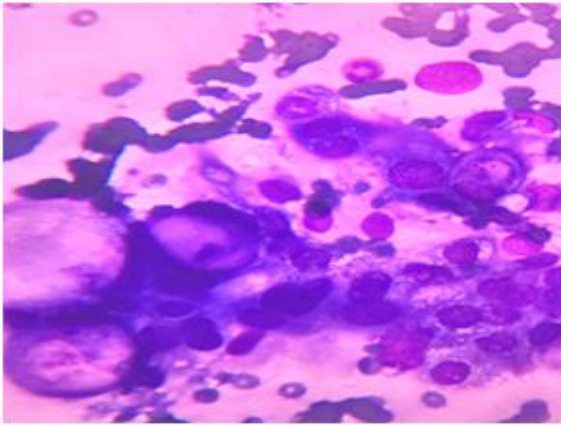
**Fig.2:** Clusters and singly scattered neoplastic squamous cells on keratinous background (40x),



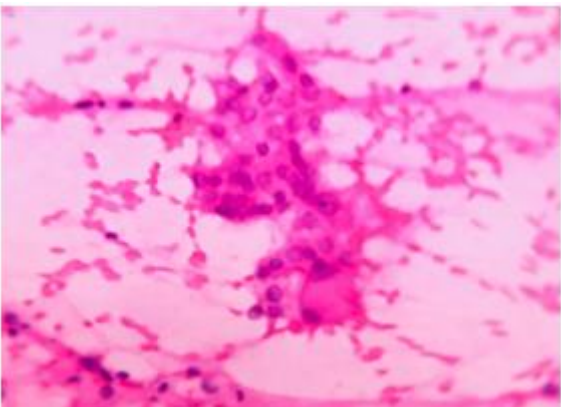
**Fig.3:** Clusters of neoplastic cells on the background of lymphocytes (400x),



**Fig.4:** Mucinous material admixed with blood (40x),



**Fig. 5:** clusters of neoplastic cells showing intracytoplasmic mucin (400x),



**Fig. 6:** Clusters of intermediate neoplastic cells (400x)

Based on cytological report intra oral examination was carried out to search for the primary. An ulcero-infiltrative tumor of size 2x2 cm was seen involving the right side of the hard palate. (Fig.7). Patient underwent subsequent computed tomographic screening for extension of lesion. CT showed an ill-defined destructive lesion involving bony palate and maxilla on right side with destruction of underlying bone.(Fig.8)



**Fig 7** Intra oral ulcero-infiltrative tumor over hard palate



**Fig.8** CT scan image of destructive lesion of palate

**Discussion**

MEC is one of the most common tumor of minor salivary gland representing 5 % -10% of all salivary gland tumors. These tumors are also known to occur in lips, tongue and buccal mucosa.<sup>(6)</sup> They are known to be metastatic to local lymph nodes, distant metastasis are rare. Most of the tumors present as primary lesions of minor salivary glands. However presentation of MEC as a metastasis to local lymph node is rare. As in our case, patient presented with enlarged submandibular node. FNA findings confirm the diagnosis of metastatic MEC.

Search for primary revealed an ulcero-infiltrative lesion at right side of hard palate .Lesion was present since last 10 years. It was slowly progressive and at present extending upto bony palate and involving alveolar process of maxilla. Patient was unaware about primary malignancy and he presented to oncology department because of the enlarged submandibular node.

Etiology of MEC is so far unknown. Putative risk factors include tobacco consumption, genetic pre disposition, viral infections, rubber manufacture workers, cellular phone use. The only well established risk factor is ionizing radiation.<sup>(7)</sup> In our case patient gave history of tobacco chewing for 3 decades, which is the most probable etiological factor.



Grading of Mucoepidermoid carcinoma:- Low, intermediate and high grade depends upon presence or absence of following criteria-

1. Neural invasion
2. Necrosis
3. Anaplasia
4. >4 mitosis /10hPF

All these histological features are indicative of more aggressive neoplasm.<sup>(7)</sup>

Cytological grading of MEC depends upon relative proportion of squamoid cells. As in our case there was more predominance of mucin secreting intermediate cells, cytological grading was likely to be of low grade.

The diagnosis of metastatic MEC on cytopathology is challenging. The close differential diagnosis is squamous cell carcinoma. It is very difficult to differentiate high grade MEC and squamous cell carcinoma on cytopathology.

The diagnosis of metastatic disease from salivary glands was based on expression of GCDFP-15, a marker of glandular differentiation.<sup>(8)</sup> The expression of mucin glycoproteins on MEC has been evaluated in various studies. MUC5 AC in high grade MECs is helpful in differentiating them from squamous cell carcinoma.

Appropriate therapy for MEC depends upon stage of the disease. But it is also influenced by tumor grade and location.

For low grade tumors ,wide local excision suffices and for high grade tumor ,radical excision combined with neck dissection and post-operative radiation therapy is required.<sup>(9)</sup>

### Conclusion

This is to conclude, MEC requires early detection, thus preventing its further spread to adjacent structures and locally to lymph nodes.

We are presenting this case not only for its rare presentation as a metastatic tumor but to put more emphasis on FNAC as a diagnostic modality for enlarged cervical lymph nodes.

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