



## MUCOEPIDERMOID CARCINOMA PRESENTING AS FRONTAL SPACE OCCUPYING TUMOR-A RARE CASE

### Pathology

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### ABSTRACT

Mucoepidermoid carcinoma (MEC) is a low grade malignant tumor of salivary gland. Aggressive behaviour is seen in only high grade of MEC. MEC in male patients who present at the late age have poor survival. We highlight a case of high grade mucoepidermoid carcinoma in a 65 years old male patient who presented as frontal space occupying tumor.

### KEYWORDS

Mucoepidermoid Carcinoma, High Grade Type, Invasive Potential.

### INTRODUCTION

Mucoepidermoid carcinomas (MEC) are low grade malignant tumors and comprise of 6% of major and 19% of minor salivary gland tumors. These tumors are slowly growing tumors.<sup>1,2,3</sup>

Low grade MEC are locally invasive tumors while high grade tumors are highly aggressive and manifest with local invasion as well as distant metastasis<sup>4</sup>. Metastasis are commonly seen in lungs, bone and liver<sup>5</sup>. We highlight a highly aggressive nature of high grade MEC in a 65 years old male patient presented as frontal space occupying tumor.

### CASE REPORT

65 years male presented as 5 x 6 cm swelling over right side of forehead since 3-5 months, right ptosis, restriction of lateral eye movements of right eye and severe headache. MRI of brain revealed a mass in frontal sinus. His routine investigations were within normal limits. The patient underwent bifrontal craniotomy and excision of space occupying lesion. As the mass was extending in ethmoidal sinuses, anterior ethmoidectomy was done along with orbital decompression. The mass was eroding the cribriform plate and was polypoidal in nature. The excised tissue was sent for histopathological examination.

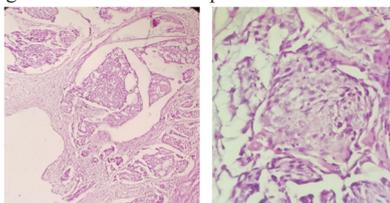
### Histopathological report

**Gross-** The mass was received in multiple, irregular, gray white to gray brown soft tissue bits weighing 20 grams.



**FIG.No.1-** Gross- Multiple, irregular, gray white to gray brown soft tissue bits.

**Microscopic examination-** It revealed neoplastic cells arranged in sheets, nests showing enlarged round to oval, vesicular nuclei with prominent nucleoli and moderate amount of eosinophilic cytoplasm. Admixed with these were seen squamoid cells with high nuclear atypia as well as intermediate cells and mucinous material. Mucicarmine stain highlighted the mucinous component.



**FIG.NO.2,3-** Neoplastic cells in sheets, nests ( Squamoid, intermediate cells with mucoid material H & E 100x and 400x)

Considering high grade nature of tumor IHC was performed which revealed positivity for p63 and high Ki67 index (80-85%). Thus confirming the diagnosis of high grade mucoepidermoid carcinoma. The patient was advised radical radiotherapy.

### DISCUSSION-

Salivary gland malignancies have an estimated evidence of 0.5 to 2.5 per 100000 population.<sup>5,6,7</sup> Mucoepidermoid carcinomas comprise about 6% of the major & 19% of minor salivary gland tumors. These tumors occur at any age. This tumor has been divided into low, intermediate and high grade based on microscopic features.<sup>2,8</sup> The prognosis depends on tumor grade. Low grade tumors are locally invasive and have high survival rate. The distant metastasis is seen in high grade tumors.<sup>1</sup> Microscopically MEC is composed of combination of mucinous, squamous and intermediate type cells in variable proportion. Squamous cells are seen in nests, solid sheets in conjunction with mucinous component and have large nuclei with prominent nucleoli. Mucinous cells have abundant foamy cytoplasm, while intermediate cells are small, round to oval with basaloid morphology and scanty cytoplasm.<sup>1,2,8</sup> Similar microscopic features were revealed in our case. Also mucinous cells are positive for mucicarmine and PAS-Alcian blue (pH 2.5) as seen in present case.

Low grade MEC present as a well circumscribed mass with cystic areas filled with mucinous material.<sup>8,10</sup> High grade MEC are solid tumors with infiltrative growth and marked nuclear atypia with high mitotic activity. Our case revealed features of high grade MEC with extensive tumor necrosis and early infiltration in the frontal sinus, thus reveals the aggressive behaviour.

The immunohistochemistry helps in confirmation of MEC. The important IHC markers are Ki 67 and P63.<sup>11</sup> These markers have prognostic significance also. High Ki 67 index reflects poor survival and aggressive behaviour of this tumor. In our case Ki67 index was also high i.e. 80-85%, thus correlating with aggressive clinical behaviour of tumor in this case. A 5 year survival outcome in low grade MEC is 92-100%, in intermediate grade it is 62-93% and high grade MEC survival is 0-43%.<sup>12</sup>

MEC has been considered radioresistant tumor although post operative radiation has been advised and is reported to improve the local control. The same treatment protocol was followed for our patient. Six months follow up of our patient is uneventful.

### CONCLUSION

MEC displays a variety of biological behaviour. Patients age and histologic grade have greatest prognostic significance. Ki 67 expression is helpful as a prognostic marker. High grade MEC reveal high expression of Ki 67.

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