Research Paper

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# Oncocytic Variant of Mucoepidermoid Carcinoma of the Parotid Salivary Gland – A Rare Case Report

Medical Science

**KEYWORDS :** Mucoepidermoid, Oncocytic,Parotid,intracytoplasmic

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| *** Dr.K.R.Umadevi** | Associate Professor,Dept of Pathology, Sri Muthukumaran Medical College Hospital and Research Institute.,Affiliated to Tamilnadu Dr.MGR Medical University,Guindy Campus,Chennai,Tamilnadu,India. * Corresponding Author |
| **Dr.J.Srivani** | Assistant Professor, Dept of Pathology, Sri Muthukumaran Medical College Hospital and Research Institute.,Affiliated to Tamilnadu Dr.MGR Medical University,Guindy Campus,Chennai,Tamilnadu,India. |
| **Dr.Ezhilvizhi.A** | Professor,Dept of Pathology, Sri Muthukumaran Medical College Hospital and Research Institute.,Affiliated to Tamilnadu Dr.MGR Medical University,Guindy Campus,Chennai,Tamilnadu,India. |

## ABSTRACT

*Here we present a 50-year-old female who came with a painless mass gradually increasing in size in the left parotid gland since 3 months to our Surgical OPD. With the help of CT ,Ultrasound and FNAC we came to a conclusion pf Parotid Neoplasm. She underwent Superficial Parotidectomy and the specimen was sent to Histopathology and diagnosed as Oncocytic variant of Mucoepidermoid carcinoma. Oncocytic metaplasia in salivary glands is a benign change that is associated with increasing age and also seen in a few salivary gland neoplasms', which include oncocytoma, Warthin's tumor, and the rare, oncocytic carcinoma. Oncocytic cells comprised the majority of this low-grade lesion and demonstrated granular cytoplasmic phosphotungstic acid-hematoxylin staining as well as strong immunohistochemical reactivity to antimitochondrial antibody. Oncocytic differentiation in mucoepidermoid carcinoma (MEC) is uncommon.*

**Introduction**

Mucoepidermoid carcinoma is a tumour composed of neoplastic mucin-producing cells and epidermoid cells. Although it most frequently affects the salivary glands it has also been reported in the ophthalmological literature in the conjunctiva, lacrimal gland, and lacrimal sac. Mucoepidermoid carcinoma can also be found in other organs, as bronchi, and thyroid

Only twelve well-documented cases of oncocytic MEC have been reported previously all of which occurred in the parotid gland. The recognition of this entity is important, since most of the other primary oncocytic lesions of the salivary gland are benign. Oncocytic change is not typically a prominent feature of mucoepidermoid carcinoma of the salivary glands. Because most salivary gland lesions with oncocytic change are benign, it is important to distinguish mucoepidermoid carcinoma from other entities that may show prominent oncocytic change.

**Case Report**

A 50-year-old female presented with a painless mass in the left parotid gland to our Surgical OPD.Mass was gradually increasing in size since 3 months. It was firm to Hard in Consistency. No cervical lymph nodes were clinically palpable. CT of Head and Neck showed a well defined Heterogeneous mass lesion measuring 2.5 * 2 * 2.2cm is seen in the inferior aspect of the Parotid gland. The mass shows both solid and cystic areas with hyper dense contents suggesting Neoplastic lesion.She underwent Superficial Parotidectomy and the specimen was sent to Histopathology.

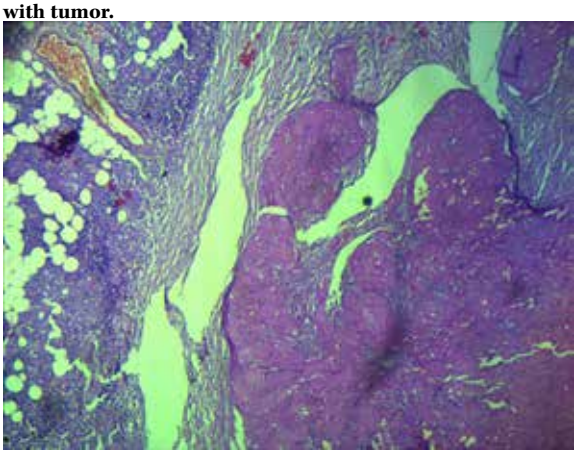
**Gross**

Well circumscribed Nodular mass measuring 2 * 2 * ! cm Outer surface congested with attached normal salivary gland tissue. Cut surface gray-white,with solid and cystic areas..

**Microscopy**

Multiple sections show salivary gland tissue with an adjoining tumor composed of Cords, sheets and clusters of, squamous,and intermediate cells.

**Fig 1 Low power view showing Normal salivary gland along with tumor.**



Numerous cluster of oncocytic cells with uniform nuclei and eosinophilic cytoplasm are also seen with focal mucin secretions in the back ground of dense fibrous stroma infilterated by sheets of plasma cells, Lymphocytes,and occasional Eosinophils.

**Fig 2,3 – Low power view showing the Tumor with Oncocytic cells.**

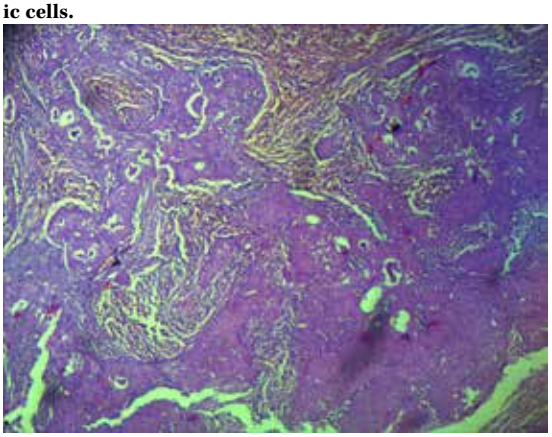
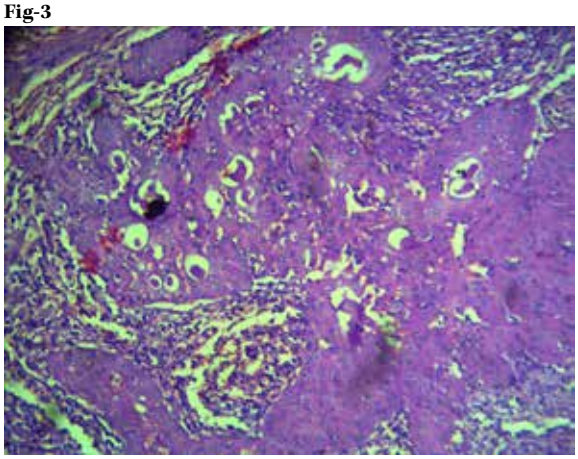
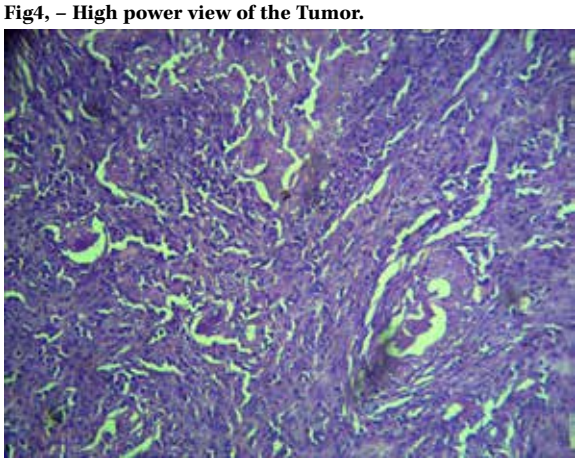


**Fig-3**



**No evidence of Perineural or perivascular invasion in the material studied.**

**Fig4, – High power view of the Tumor.**



**Impression:**

Oncocytic variant of Low grade Mucoepidermoid Carcinoma. Immunohistochemical staining with antimitochondrial antibody showed granular cytoplasmic positivity in oncocytic cells. The resulting histogram for DNA ploidy analysis was of diploid type. OMEC of the parotid gland is a recently described rare neoplasm. Only six cases have been previously reported in the literature. For an accurate approach in the management of patients, OMEC should be considered in the differential diagnosis of oncocytic lesions of the parotid gland, most of which are benign.

**Epidemiology**

MEC Occurs in adults, with peak incidence from 20–40 years of age. A causal link with Cytomegalovirus (CMV) has been strongly implicated in a 2011 research.[1]

**Differential diagnosis**

Adeno squamous Carcinoma has anaplastic nuclear features

Poorly differentiated adenocarcinoma

Acinic cell carcinoma Metastatic Adeno carcinoma similar to lung, kidney, breast metastases

Oncocytic carcinoma

Oncocytoma,Pleomorphic Adenoma

**Discussion**

Epithelial-myoepithelial carcinoma (EMCa) is an uncommon, biphasic salivary gland malignancy composed of ductal epithelial cells and myoepithelial cells with a broad morphologic spectrum. Among these variants was the oncocytic as seen in our case or oncocytic-sebaceous EMCa (OEMCa), which was initially described by Savera and Salama in 2005 [2]. This variant was defined by prominent oncocytic change in the ductal and/or myoepithelial component. Oncocytic carcinoma may occur in many sites in addition to the salivary glands, including the nasal and thoracic cavities, ovary, kidney, thyroid gland, breast and parathyroid. Oncocytic salivary gland carcinoma is uncommon representing only 0.05–0.4% of salivary gland neoplasms and about 5% of oncocytic neoplasms [3]. Similar to their benign counterparts, nearly 80% occur in the parotid gland. Interestingly, the majority is presumed to arise in a preexisting oncocytoma but they also may occur de novo [4,5]. Diagnostic criteria for salivary gland oncocytic carcinoma include destructive invasion of adjacent salivary or non-salivary tissue, perineural and/or vascular invasion, and metastases. Thus in our case Oncocytic carcinoma is ruled out since there was no perineural or perivascular invasion.Oncocytic carcinoma is an unusual proliferation of cytomorphologically malignant . Rare Malignant Tumors of the Parotid Glands: Oncocytic Neoplasms oncocytes and adenocarcinomatous architecture phenotypes mainly found in glandular tissue [6]. The terms oncocytic carcinoma, oncocytic adenocarcinoma, malignant oncocytoma and malignant oxyphilic adenoma are synonymous. Its malignant nature is distinguished from oncocytoma by abnormal morphological features and infiltrative growth [3]. The majority of oncocytic carcinoma cases have occurred in the parotid glands.

**Conclusion:**

In summary, oncocytic carcinomas of salivary gland origin are low-grade tumors with local recurrences, regional metastases, diagnosis of which based on a combination of clinical and histopathological features. Immunohistochemistry for mitochondria is considered helpful for the adjuvant diagnosis. Complete surgical excision is the treatment of choice while the role of radiotherapy or chemotherapy is still controversial, and careful long-term follow-up is necessary.

## REFERENCE

1. Melnick, M.; Sedghizadeh, P. P.; Allen, C. M.; Jaskoll, T. (2012). "Human cytomegalovirus and mucoepidermoid carcinoma of salivary glands: Cell-specific localization of active viral and oncogenic signaling proteins is confirmatory of a causal relationship".Experimental and Molecular Pathology 92 (1): 118–125. | 2. Savera AT, Salama ME. Oncocytic epithelial-myoepithelial carcinoma of the salivary gland: an underrecognized morphologic variant. Mod Pathol. 2005; 18(suppl 1):217A. | 3. Capone RB, Ha PK, Westra WH, Pilkington TM, Sciubba JJ, Koch WM, Cummings CW. Oncocytic neoplasms of the parotid gland: a 16-year institutional review. Otolaryngol Head Neck Surg 2002;126:657-662. | 4. Goode RK, Corio RL. Oncocytic adenocarcinoma of salivary glands. Oral Surg Oral Med Oral Pathol 1988;65:61–66 | 5. Nakada M, Nishizaki K, Akagi H, Masuda Y, Yoshino T. Oncocytic carcinoma of the submandibular gland: a case report and literature review. J Oral Pathol Med;1998;27:225–228. | 6. Ellis GL, Auclair PL: Malign epithelial neoplasms. In: Tumors of the salivary glands. Atlas of Tumor Pathology. 4 edition. Washington, DC: Armed Forces Institute of Pathology; 2008, 173-439