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KEY WORDS:
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A CASE STUDY OF MUCOEPIDERMOID CARCINOMA OF PAROTID

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ABSTRACT

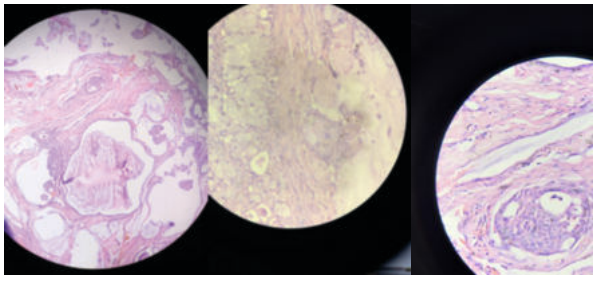
Background: The parotid gland has the highest frequency of MEC among the main salivary glands. The name mucoepidermoid was coined in 1945 by Stewart to describe a unique salivary gland tumor that had a combined pattern of the two primary cell types—epidermoid and mucus-producing cells. **Case Summary:** A 24 year old male came to Department of general surgery, at New Civil Hospital Surat, with chief complain of swelling of left cheek infront of ear for 4 years. The swelling was gradually progressive and increase in size. No past history of fever, TB, Hypertension or any infection or hospitalisation. **Conclusion:** The mucoepidermoid carcinoma of Parotid gland, which was accurately identified from specimen of superficial partoidectomy a method other than the needle biopsy. It is important to conduct thorough investigations and collect enough histology specimens for tumors that arise in infrequently impacted areas, like the anterior lingual glands, in order to guarantee early cancer discovery, precise tumor grading, and optimal treatment.

INTRODUCTION:

The pluripotent reserve cells of the excretory ducts, which can differentiate into squamous, columnar, and mucous cells, are the source of mucoepidermoid carcinoma (MEC) of the salivary gland.[1] One MEC makes up around 30% of all malignant salivary gland tumors, but making up less than 10% of all salivary gland tumors.[2]

The parotid gland has the highest frequency of MEC among the main salivary glands. The name mucoepidermoid was coined in 1945 by Stewart to describe a unique salivary gland tumor that had a combined pattern of the two primary cell types—epidermoid and mucus-producing cells.[3]

The intermediate cell, a third cell type that is neither mucous nor completely epidermoid, is frequently found, nonetheless. Malignant tumors account for about 20 percent of major gland tumors and 50 percent of minor gland tumors. [4] H&E staining of the tumors and a combination of H&E and immunohistochemical assays, such as cytokeratin 5/6 (CK5/6) and transformation-related protein (p63) staining, are the primary methods used to diagnose MECs. Sections stained with H&E for histological diagnosis need enough biopsy material to reveal the entire spectrum of morphological and cytological features, lowering the possibility of misdiagnosis.[5,6]



Case Summary:

A 24 year old male came to Department of general surgery, at New Civil Hospital Surat, with chief complain of swelling of left cheek infront of ear for 4 years. The swelling was gradually progressive and increase in size. No past history of fever, TB, Hypertension or any infection or hospitalisation. No Pain was felt during eating meal. No Difficulty in swallowing, speaking and opening of Mouth was observed. On examination, 44 cm^2, nontender, no skin thickening, round firm swelling, infront of tragus of left ear, no redness over swelling was observed. On blood investigation, all parameters were normal in range. On USG neck examination, heterogenous predominantly hypo echoic solid mass in left parotid gland was found. On preoperative MRI, large well defined, 36*30*37 mm lobulated soft tissue, attenuation lesion on superficial part of left parotid gland without periparotid invasion with closely adherent anteriorly to master muscle which suggestive of pleomorphic adenoma . On FNAC investigation, smears shows benign ductal and myoepithelial cells arranged in groups sheets and scattered singly. Cells are round/oval in shape having blend nuclear features. Cells are entrapped in myxoid stratal fragments which suggestive of benign salivary neoplasm - Pleomorhic adenoma. The operative procedure left superficial parotidectomy was done. On histopathological examination, as per modified brandwein grading system, high grade mucoepidermoid carcinoma surgical margin was involved, perineurial & lymphovascular invasion found. On postoperative MRI investigation, fluid signal intensity cystic area, 1.6*1.1*1.6 cm size seen in left parotid region on outer aspect found following postoperative status. Multiple well defined oval homogeneous signal intensity lymph nodes at bilateral level IB, II, III and posterior triangle region may represent reactive lymphnodes. Review of Biopsy blocks suggestive of mucoepidermoid carcinoma, with no necrosis, and perineurial & lymphovascular invasion. Tumor was reached upto surgical margins.

DISCUSSION:

MEC was initially identified in 1945 by Stewart et al.[7] , and it often affects adults in their fifth and sixth decades of life, [8] albeit it seems to favor people in their 30s and 40s and women. MEC makes up less than 5% of head and neck cancers, although making up 30% of all salivary gland malignancies. The major salivary glands are thought to be the site of 50–60% of these tumors, with the parotid gland accounting for >80%, the submandibular gland for 8–13%, and the sublingual gland for 2-4%. The tongue is the least commonly impacted region, with the remaining 20% occurring in minor salivary glands, primarily in the palate.[9]

It has been emphasized that morphology and ancillary stains in conjunction with immunohistochemistry are the main factors used in the histological diagnosis of MEC. It can be

difficult, nevertheless, especially in high-grade tumors and intraoral MECs that contain a lot of oncocytic material (Warthin-like variation) in small biopsy specimens together with noticeable clear cells. [10] In this instance, an needle biopsy was initially carried out elsewhere, and histological analysis revealed fibrous connective tissue, collagen bundles scattered with many capillaries, and chronic inflammatory cells beneath the squamous epithelium's surface. These results do, in fact, point to an irritant fibroma. At the primary healthcare facility, the specifics of the needle biopsy procedure were unclear. Nonetheless, it can be deduced that either the treatment was executed badly and insufficient tissue was obtained, or the NB was extracted from the damaged and inflammatory tissue surrounding the tumor. A treatment strategy that is suitable for the disease grade can be developed with the help of an accurate preoperative diagnosis. [11]

According to Goode et al. [8] , tumors were histologically assessed based on the presence of certain parameters, including neural invasion, necrotic foci, a mean of ≥4 mitoses per 10 high-power fields, anaplasia, and a <20% intracystic component. They were then graded using a score that ranged from 0 to 14: 0-4, low-grade; 5-6, intermediate-grade; and ≥7, high-grade. Based on this rating, treatment recommendations can be established. For instance, T1 low-grade MEC without radiographic or clinical evidence of osseous invasion should undergo soft tissue resection with a 1-cm mucosal margin. Wide surgical resection is typically adequate for most patients; however, in cases with residual disease, tumor-positive margins, high-grade MEC, or signs of lymph node infiltration, adjuvant therapy is recommended. [12,13]

CONCLUSION:

The mucoepidermoid carcinoma of Parotid gland, which was accurately identified by histopathological Examination of superficial partoidectomy specimen, a method other than the needle biopsy. It is important to conduct thorough investigations and collect enough histology specimens for tumors that arise in infrequently impacted areas, like the anterior lingual glands, in order to guarantee early cancer discovery, precise tumor grading, and optimal treatment. When it comes to getting enough material for a precise diagnostic histopathological examination, the incisional biopsy is probably better than needle biopsy.

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