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MYOEPITHELIOMA OF PAROTID: A DIAGNOSTIC DILEMMA: A CASE REPORT.

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ABSTRACT
Myoepithelioma is a benign neoplasm of salivary glands, which account for about 1-1.5% of all salivary gland neoplasms. They most commonly affect the parotid gland. Here we discuss the case of a 52 year old male with left parotid swelling, which on cytology was diagnosed as a pleomorphic adenoma but on histopathological and immunohistochemical studies, was proven to be a myoepithelioma.

KEYWORDS: Myoepithelioma, parotid, tumour, salivary gland, histopathological, immunohistochemical

INTRODUCTION

Myoepitheliomas constitute about 2.2% of all benign major salivary gland and 5.7% benign minor salivary glands neoplasms respectively. Almost in 40% of cases the parotid gland is affected, followed by sublingual gland, submandibular gland and oral cavity is decreasing order respectively. Overall myoepitheliomas constitute about 1% of all salivary gland neoplasms. Most of them are benign but malignant transformation can occur in recurrent and untreated cases.[1-3] In spite of having documented cytological features, these tumours are rarely diagnosed preoperatively by fine needle aspiration cytology.[3] Here is a case of myoepithelioma of the left parotid gland in our institution.

CASE REPORT

A 52 year old male presented to ENT opd with chief complaint of gradually progressive, painless swelling in the left pre-auricular region. On palpation, there was a 2.5cm × 2.5 cm swelling, mobile, smooth surfaced, and well-defined margins. There were no signs of facial nerve palsy or cervical lymphadenopathy. There were no associated comorbidity or significant past history.

On fine needle aspiration, smears from left parotid gland show moderate cellular it's composed of benign epithelial Cell's, both loose and in clusters. The background shows mucoid material and myxoid matrix. A cytological diagnosis of a benign neoplasm of salivary gland, possibly a pleomorphic adenoma was given.

MRI of the face and neck was done which showed a homogenous round well defined altered signal intensity lesion involving the superficial lobe of left parotid gland indenting/abutting the adjacent intraparotid facial nerve but not encasing or infiltrating it. No evidence of perineural spread seen. No evidence of extension into the deep lobe. No evidence of parapharyngeal spread/extension was seen. Laterally the lesion extended up to the outer surface of parotid gland. Adjacent subcutaneous fat and skin appeared normal. **(Fig 1-2).**

Left superficial parotidectomy under general anaesthesia was performed while preserving the facial nerve (**Fig-3**) and tissue was sent for histopathological diagnosis. Grossly cut surface of the tissue showed well circumscribed tumour (grey white are). Sections showed fibroadipose tissue, reactive lymph nodes, normal salivary tissue and multinodular tumour with features suggestive of a tumour of myoepithelial origin. Tumour cells showed diffuse positivity for S100, SMA, Vimentin and CK 7 and focal positivity of Pan CK (less than 5%). A final histological diagnosis of Myoepithelioma was made.

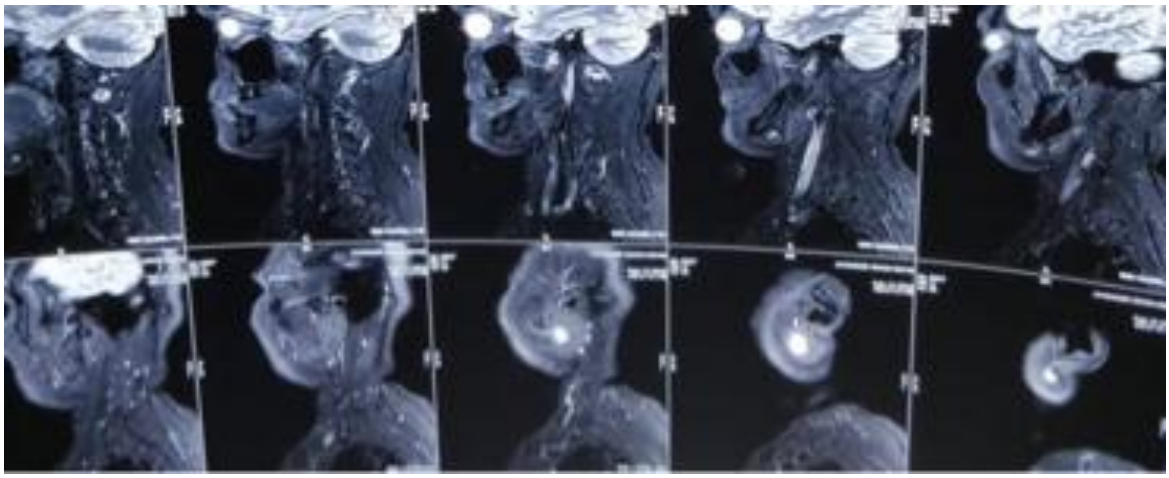

Fig 1: MRI face and neck, sagittal sections showing an oval altered intensity lesion in superficial lobe of parotid gland with no evidence of extension into the deep lobe.

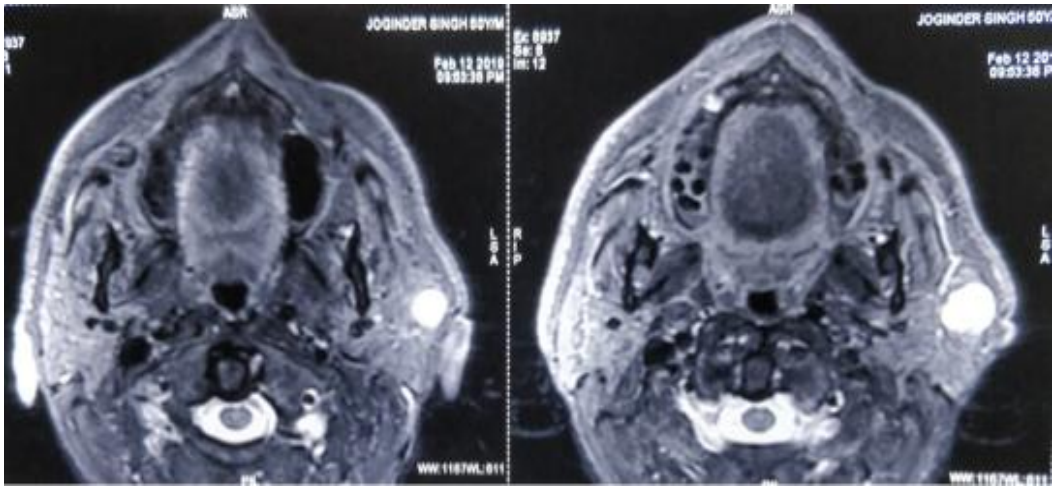

Fig 2: MRI face and neck, axial sections showing an oval altered intensity lesion in superficial lobe of parotid gland abutting facial nerve but not encasing or infiltrating it.

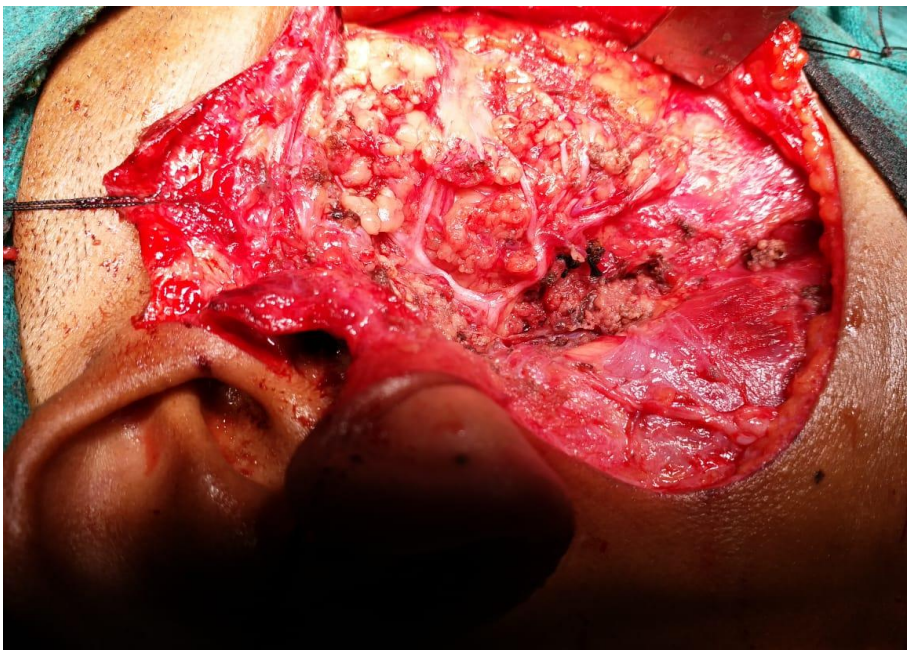

Fig-3: Intra-operative field showing facial nerve and its branches.

DISCUSSION

Myoepitheliomas are rare benign salivary gland neoplasm which are of ectodermal origin. They are made up of myoepithelial cells (basket cells) which are contractile smooth muscle cells composed of smooth muscle actin, myosin, and intermediate filaments. Myoepithelial cells are thought to have contractile units that aid in excreting glandular secretions.

The tumour is most commonly seen in the parotid gland. Most studies show no gender or age predilection. Myoepitheliomas are mostly asymptomatic and slow growing.[5]

Grossly myoepitheliomas are well-circumscribed, gray-white or yellow solid masses with smooth surfaces devoid of any degenerative changes.[6,7]

They show four distinct cellular patterns, spindle cell, plasmacytoid, epithelium and clear cell. Spindle cell type is the most common (65%) followed by plasmacytoid (20%).

The spindle cell histology is the most common (65%), they have central fusiform nuclei with eosinophilic cytoplasm and tapered ends arranged in an interlacing fascicle. Epithelioid cell myoepithelioma is second most common (20%), large polygonal cells with central nuclei and eosinophilic cytoplasm are present. Often they form pseudoacini/pseudoglandular structures. In plasmacytoid cell myoepithelioma , cells are round to ovoid with abundant eosinophilic cytoplasm and eccentric nuclei. It is frequently found in palatal myoepithelioma. Clear cell myoepitheliomas are the rarest one and have polygonal cells with clear cytoplasm due to glycogen content.[8]

For a diagnosis of pure myoepithelioma to be made, the epithelial component should be less than 5% - 10% with absence of fibromyxoid stroma.[9]

It is very important to distinguish a myoepithelioma from a pleomorphic adenoma as the former shows a more aggressive behaviour. The distinction can be established based on features like cellular atypia, cellular pleomorphism, necrosis, increased mitotic figures and infiltrative growth pattern which are more in favour of myoepitheliomas.[5,9]

Myoepitheliomas generally show positive for pancytokeratin, CK-14, CK-7, S100, GFAP, calponin and actin. In our case the tumour showed positivity for S-100, pancytokeratin, CK-7 and GFAP. Calponin has been found to be the most sensitive myogenic marker.[10]

Generally the diagnosis is as a combination of imaging and tissue histology. CT scans show well circumscribed, smooth or lobulated, homogenous enhancing lesions, whereas typical MRI studies show well-defined homogenous isointense and hyperintense mass on T1 and T2 weighted imaging, respectively.[11]

Alterations in chromosome 1, 9, 12, and 13 and dysregulation of the p16INK4a pathway can also lead to development of myoepithelioma.[12,13]

Rate of recurrence of myoepitheliomas is 15–18%. While long standing and recurring tumours have shown to have malignant transaformation. Malignant transformation can occur due to overexpression of c- kit receptors and p53 mutations.[8]

The treatment of choice for myoepitheliomas is surgical excision with an uninvolved tissue margin. Incomplete resection can give rise to recurrence in 15% - 18% of cases.[9]

CONCLUSION

Myoepitheliomas of salivary glands are rare in clinical practice. Pre-oparative cytological diagnosis though possible is often difficult. Approtiate immunohistochemical markers help ascertain their diagnosis which plays an important role as these tumours can show aggressive behaviour and most can also be cured by adequate excision.

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