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Case Report

Myoepithelioma of parotid: an unusual clinical entity with immunohistochemistry

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ABSTRACT

Myoepithelioma was recognized as a histological distinct entity by World Health organization (WHO) in 1991. Only 1% of all salivary gland neoplasms are myoepithelioma. Most commonly affect parotid in approximately 40%. Myoepithelioma is usually a benign tumour arising from neoplastic myoepithelial cells which lack ductal differentiation. The salivary gland tumors in which the ducts comprise less than 5% of the section are classified as myoepitheliomas and in contrast to pleomorphic adenoma myoepithelioma does not show chondroid or osteoid formation. Immunohistochemical analysis can aid in the diagnosis with immunoreactivity to S-100, P63, Calponin, GFAP and myogenic markers. In this report we present a case of myoepithelioma in retroauricular region.

Keywords: Benign tumour, Immunohistochemistry, Myoepithelioma

INTRODUCTION

Myoepithelioma of salivary gland were first described by Sheldon et al in 1943 and they were considered as a variant of pleomorphic adenoma.[1] Myoepithelioma account for 1% of all salivary gland neoplasms. The parotid gland affected in approximately 40% cases.[3] The salivary gland tumors in which the ducts comprise less than 5% of the section are classified as myoepitheliomas.[2] Also in contrast to pleomorphic adenoma myoepithelioma does not show chondroid or osteoid formation. Myoepithelioma are rare benign neoplasm composed of ectodermally derived contractile smooth muscle cells that is myoepithelial cells which lack ductal differentiation.

They present as asymptomatic slow growing masses in the patient with an average age of 40 years without gender predilection.[4] The majority of myoepithelioma are benign but malignant transformation can take place in recurrent cases and cases left untreated.

CASE REPORT

A 38 years old male patient presented with history of painless swelling below the left ear that gradually grew over last few years. On clinical examination it was a firm swelling measuring 4×3×2 cm. No evidence of cervical lymphadenopathy or facial nerve palsy seen. The soft tissue swelling was excised and sent for histopathological examination.

On gross examination it was a globular firm mass measuring 4×3×2 cm. Cut section was grey white to tan yellow in appearance (Figure 1). Histologically the tumour was well encapsulated and tumor cells having epithelioid, plasmacytoid and spindle shaped cells arranged in nests and sheets with round to oval nuclei, vesicular chromatin, inconspicuous nucleoli and moderate amount of eosinophillic cytoplasm. Occasional mitotic activity seen (Figures 2 and 3). No cellular atypia, necrosis, atypical mitosis or readily identifiable mitotic figures are noted.

Immunohistochemistry was performed and these tumour cells were S-100 positive (Figures 4 and 5), SMA positive (Figure 6) and P63 positive. The final diagnosis of salivary gland myoepithelioma was made. The patient remained tumour free at 6 months of follow up.

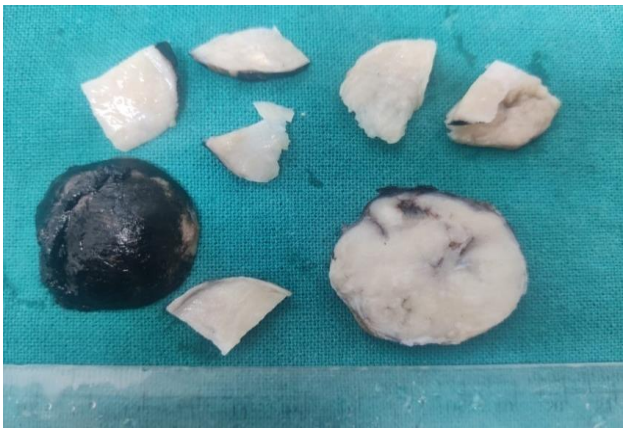

Figure 1: Gross photograph showing globular grey white mass.

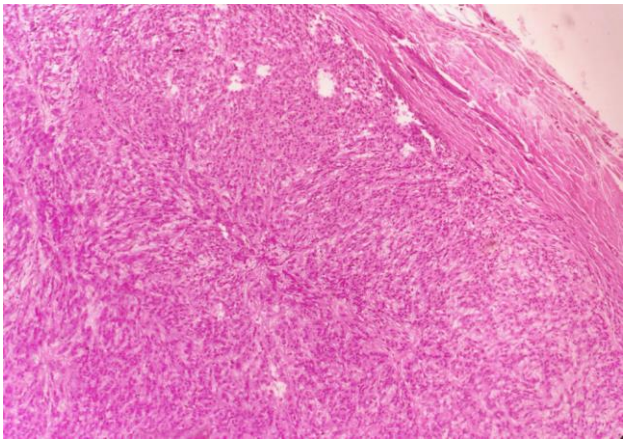

Figure 2: H&E stained section showing encapsulated tumour arranged in nests (10x).

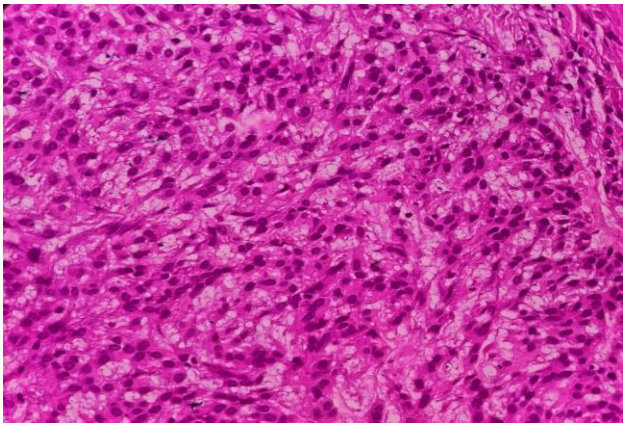

Figure 3: H&E stained section showing tumour having epithelioid, plasmacytoid and spindle shaped cells arranged in nests (40x).

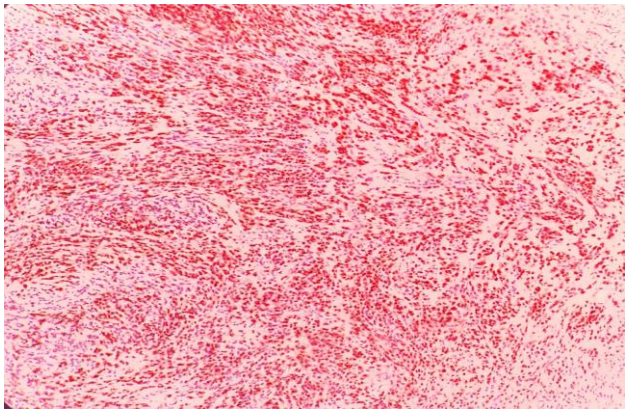

Figure 4: Showing S-100 positive staining (10x).

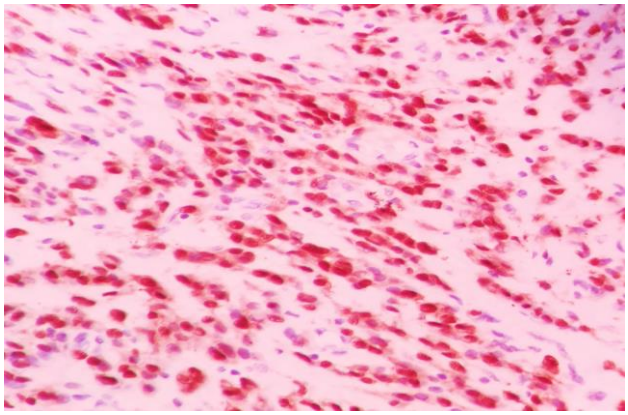

Figure 5: S-100 positive staining (40x).

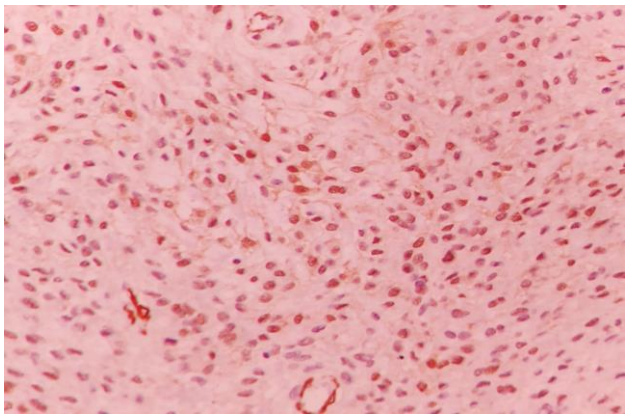

Figure 6: Positive SMA staining (10x).

DISCUSSION

Myoepithelioma was recognized as subtype of salivary gland neoplasm in 1991.[5] Myoepithelioma account for 1% of all salivary neoplasm and primarily affect parotid gland 40% and minor salivary glands 21%. In salivary glands and other exocrine glands there are star shaped cells of ectodermal origin lying between the basal lamina and acinar and ductal cells. Myoepithelial cells structurally resemble epithelial cells and smooth muscle cells and are made up of cellular elements including smooth muscle

actin, myosin and intermediate filaments. Myoepithelial cells have contractile units which aid in excreting glandular secretions. Myoepithelioma is rare benign tumour arising from neoplastic myoepithelial cells.

Neoplastic myoepithelial tumours can be found in nearly all exocrine gland tisssues such as skin, soft tissue, sweat glands, breast, lacrimal glands, Bartholin glands, nasal septum, nasopharynx, Larynx, trachea, lung, esophagus and prostate except pancreas. A differential diagnosis would include abscess, mucocoele, shwannoma, neurofibroma, leiomyoma, benign fibrous histiocytoma, extarmedullary plasmacytoma, rhabdomyosarcoma, pleomorphioc adenoma, mucoepidermoid carcinoma, myoepithelial carcinoma and other benign and malignant salivary gland neoplasms.[6]

On gross examination myoepithelioma have solid, tan or yellow tan glistening cut surface similar to what was seen in our case. Myoepitheliomas are further subclassified by cell morphology. Spindle (interlacing fascicles with stroma like appearance) epithelioid (nests or cords of polygonal cells with centrally located nuclei and variable amount of eosinophillic cytoplasm) plasmacytoid (polygonal cells with abundant eosinophillic cytoplasm) and clear (polygonal cells with abundant optically clear cytoplasm containing large amount of glycogen. 'Spindle type is most common. Mixture of these subtypes may be present in one tumor as was with our case. Myoepithelioma can sometimes be misdiagnosed as a pleomorphic adenoma due to histological and cytogenetic similiarities. Immunohistochemical analysis can aid in the diagnosis with immunoreactivity to S-100, P63, Calponin, GFAP and myogenic markers. These immunohistochemical marker were found in our case. Most of the tumors occur in adult. Both genders are equally affected. The average age of patient of myoepithelioma is 44 years with age range 9-85 year. In our case the age was 38 years. The most common clinical presentation is slow growing painless mass as seen in clinical presentation in our case.

The recommended management of myoepithelioma is surgical excision. The recurrence rate of myoepithelioma is reported to be 15-18% with possible malignant transformation in long standing tumors or recurring disease. Malignant transformation has been attributed to c-kit receptors and P53 mutation. Myoepithelial carcinoma is known as malignant counterpart of myoepithelioma. Carcinoma only comprise 10% of myoepithelial neoplasm. The characteristic of carcinomaare aggressive behavior, infiltrative and destructive growth, increased mitotic activity, necrosis, lack of myofilaments (therefore more monomorphic than myoepithelioma).[7,8] After complete surgical excision routine follow up is needed in treatment algorithm. Currently in our patient no signs of recurrence. It is possible that the occurrence rate is higher but that some are misdiagnosed as other salivary gland neoplasm such as pleomorphic adenoma or parotid cyst. It is important to use proper IHC in such case when myoepithelioma is suspected so that proper treatment and follow up can be implemented. To consider histomorphological diagnosis of myoepithelioma the epithelial component should be less than 5-10% and fibromyxoid stroma should be absent. The presence of fibromyxoid stroma indicate pleomorphic adenoma

CONCLUSION

Myoepithelioma are rare benign tumors most commonly presenting as slowly growing mass. Differential diagnosis includes pleomorphic adenoma and other salivary gland tumors. The salivary gland tumors in which ducts comprise less than 5% of the section and absence of chondromyxoid stroma are classified as myoepithelioma. Immunohistochemical analysis can aid in the diagnosis with immunoreactivity to S-100, P63, Calponin, GFAP and myogenic markers

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