

## PLEOMORPHIC ADENOMA – SOFT PALATE: A CASE REPORT

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### Abstract

*Pleomorphic Adenoma is the most common benign tumor of the salivary gland. It predominantly occurs within the parotid gland, less than 3% of salivary gland tumors have been reported of pleomorphic adenoma of minor salivary gland. A case of a 47 year old woman presenting with Pleomorphic Adenoma of minor salivary gland is reported. Though Malignancies are very common in the minor salivary glands occasionally benign tumors like Pleomorphic Adenoma can also occur. Fine needle aspiration cytology study has to be established before planning surgery. The incidence of recurrences is low when a wide excision is planned.*

**Key words :** minor salivary gland tumor, benign salivary gland tumor, oro pharyngeal tumor

### Introduction

Pleomorphic adenoma is the most common benign salivary gland tumor. It is characterized by the proliferation of epithelial and myoepithelial cells of the ducts and increase in stromal component. The stroma is made up of myxoid, chondroid, fibroid, or osteoid tissue. It presents as a slow growing swelling, if the tumor is in oral cavity change in voice quality, a muffled or hot potato voice, is observed, patient can also complain of difficulty in swallowing. Elsevier health science - 2007 survey for salivary gland tumors show 60% of minor salivary gland tumors are malignant (Table 1).

*Table 1: Distribution of Benign and Malignant Neoplasms of the salivary gland in various salivary gland*

|                       | Malignant (%) | Benign (%) |
|-----------------------|---------------|------------|
| Parotid               | 20            | 80         |
| Submandibular         | 50            | 50         |
| Minor salivary glands | 60            | 40         |

Investigations like Fine Needle Aspiration Cytology, Hematological Investigation, Radiological Investigation, Speech evaluation is required for appropriate diagnosis.

The british salivary gland tumour panel reviewed 2519 salivary gland tumour, of these the principal site of tumour was parotid followed by minor oropharyngeal gland. Pleomorphic adenoma formed the largest group of tumour in most sites and more common in parotid.

Pleomorphic Adenoma occurring in unusual anatomic sites includes the hard palate the soft palate para pharyngeal space. Pleomorphic adenoma can arise in the deep lobe of the parotid

gland or, a minor salivary gland in the oropharynx.

Treatment is complete excision; the tumor has a false capsule. It is usually nodular and bosselated in appearance. Small projection of the tumor may penetrate the capsule causing recurrence. If the excision is incomplete it is followed by radio therapy. It accounts for about 65% of salivary gland neoplasm. Inadequate excision causes recurrence; malignant transformation can occur in 2.10 % of these tumors and is called carcinoma expleomorphic adenoma.

### Case Report

A 45 year old female presented with a swelling of the soft palate and uvula of 6 months duration. It started as a small swelling in the area of the soft palate and uvula and gradually progressed to attain a size of 2 cm x .5 cm. It was a well circumscribed firm non tender mass with a smooth surface (Fig 1). The swelling was embedded in the mucosa of the soft palate; there was no extension to nasopharynx, hypo pharynx, tonsil, hard palate or any other part of oral cavity. Endoscopic evaluation reveals a normal larynx. Initially the patient was asymptomatic, except for the appearance of the mass, later she observed a change in voice, and then it was followed by difficulty in swallowing solid food. Apparently there were no other complaints, or systemic problems.

Patient underwent Fine Needle Aspiration Cytology. (FNAC) smears showed scantily cellular and few scattered and clustered epithelial cells with round to oval nucleus and moderate eosinophilic cytoplasm and basal nuclei. Features are suggestive of pleomorphic adenoma of minor salivary gland .surgery was planned under general anesthesia.

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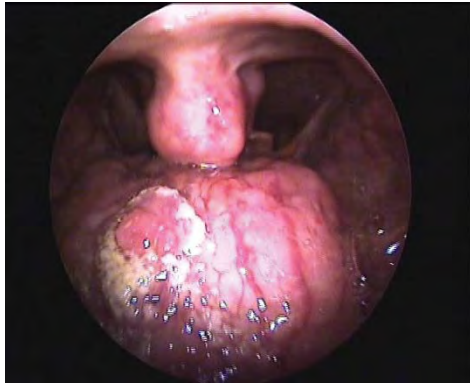


Figure 1: Pre operative picture

Under General Anesthesia with Nasotracheal intubation patients was placed in tonsillectomy position, a doyens mouth gag was applied.

A horizontal incision was placed over the swelling. The capsule was dissected from the embedding mucosal surface with blunt dissection with a tonsil dissector and was excised completely. The redundant mucosa was excised and the palate was sutured with 3-0 chromic catgut after ensuring haemostasis. Patient was followed up for a period of 6 months and there was no recurrence (Fig 2).



Figure 2: Post operative picture

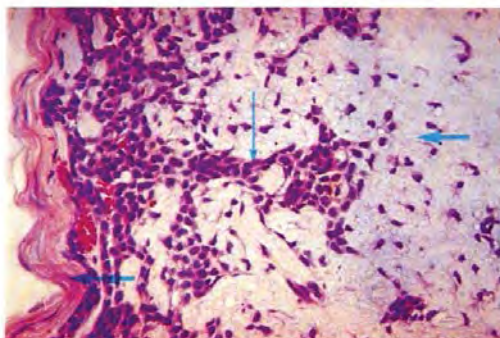


Figure 3: Histopathology FNAC smears show scantily cellular and few scattered and clustered epithelial cells with round to oval nucleus and moderate eosinophilic cytoplasm and basal nuclei are seen.

The excised mass was sent for histopathological examination, Cut section showed grey white tissue, section showed a polypoidal structure lined by stratified squamous epithelium, lying in the sub epithelium is a well circumscribed lesion separated by a grey zone from the overlying epithelium. Lesion show tumor tissue with a biphasic cell population consisting of myoepithelial cells and epithelial cells arranged in nests, cords and trabeculae in a fibro myxoid stroma no atypia is seen( fig 3) Histopathology of the excision specimen confirmed the diagnosis of pleomorphic adenoma.

### Discussion

Majority of salivary gland tumors are benign or low grade malignant. In long standing neoplasm genetic alteration such as p53 mutation and c- erb B2 amplication occurs. This results in malignant transformation, stromal invasion, high grade progression, over growth and dedifferentiation. Pleomorphic adenoma is a benign neoplasm consisting of cells with epithelial (luminal) and myoepithelial (abluminal) differentiation with various amount of stroma (Fig 4). Pleomorphic adenoma is a pure epithelial tumor with divergent differentiation.

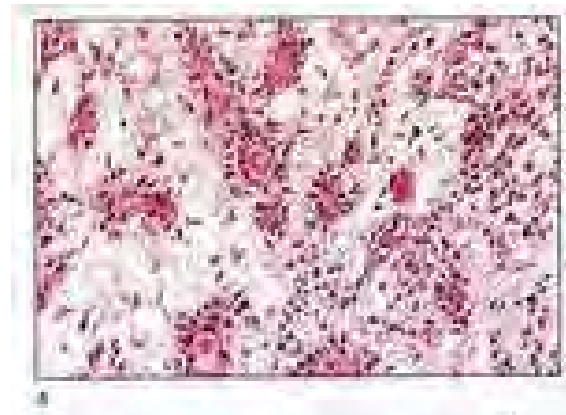


Figure 4: Tubules lined by inner layer of ductal cells and outer layer or modified of myoepithelial cells

The monoclonal origin of both the epithelial and mesenchymal elements has been supported by molecular analysis. It occurs more frequently in women. It is prevalent from fourth to sixth decade. It can occurs in various mucosal sites such as nasal cavity, bronchus, skin, breast tissue and soft tissue.

Treatment of choice is complete surgical excision. Recurrence rate is 3-6 % respectively. Enucleation spillage or rupture of tumour, presence of protuberances, abundance of

chondromyxoid stroma, young age are associated with higher recurrence rate.

**Macroscopic appearance:** The tumour varies from a few millimeters to several centimeters. It is thinly encapsulated and solitary. The cut surface may be rubbery fleshy mucoid or glistening depending on the stroma of the tumor. On microscopic the protuberances may protrude through the fibrous capsule. Histological appearance consists of tubular structures enveloped by myoepithelial mantles submerging in a chondromyxoid stroma.

The luminal cell components are columnar cuboidal or flat forming anastomosing tubules, cysts or ribbons. The duct lumen contains eosinophilic colloid like material. Myoepithelial cells appear as cuboidal, spindle, stellate, plasmacytoid hyaline, nondescript epithelioid and hydrophilic clear cells.

The stroma is mostly composed of acidic mucosubstances produced by the modified myoepithelial cells, and is positive for alcian blue but variably positive for PAS. The stroma is a mixture of myxoid, chondro, chondromyxoid, hyaline tissue.

Immunohistochemistry is to demonstrate the co existence of glandular and myoepithelial components. When the diagnosis is uncertain pleomorphic adenoma shows a low Ki – 67 proliferative index, rare immuno reactivity for P53 protein and weak BCL2 staining.

Cytogenetic studies – shows translocation of genes PLAG 1 or HMGA2. These translocation can be identified by reverse transcriptase polymerase Chain reaction or fluorescence insitu hybridization which may aid in classifying tumour type.

### Conclusion

Pleomorphic adenoma though a common parotid tumour, and tumours of minor salivary gland are mostly malignant. Pleomorphic adenoma can occur in minor salivary gland. A Fine Needle Aspiration Cytology before surgery helps to plan surgery. Wide excision inclusive of surrounding normal tissue would ensure low recurrence rate.

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