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Case Report

# A case report: Cellular (Myoepithelial Rich) pleomorphic adenoma of hard palate: A diagnostic dilemma

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ABSTRACT

Salivary gland tumors account for <3% of the head and neck tumors. Pleomorphic Adenoma is the most common salivary gland tumor which constitutes for about 60% of all major and minor salivary gland tumors. Among the minor salivary glands tumors, pleomorphic adenoma makes about 70% and the most common site in the oral cavity is the palatal area, followed by the lip, buccal mucosa, floor of mouth, tongue, tonsil, pharynx, retromolar trigone, and gingiva. Females are more commonly affected than males. Pleomorphic adenoma of the hard palate presents as a painless firm submucosal mass without tenderness, ulceration, or surrounding inflammation; usually lacking a well-defined capsule and frequently involves periosteum or bone.These tumors are located laterally, and they rarely cross the midline.



## 1. Introduction

Pleomorphic adenoma is a benign neoplasm characterised by dual cell type differentiation and melting of the outer basal/myoepithelial cells into a stroma which commonly shows chondromyxoid features.[1] The coexistence of epithelial and mesenchymal elements gives rise to the synonym mixed tumor, but pleomorphic adenoma is now widely accepted as a monoclonal epithelial tumor with divergent differentiation.[2]

## 2. Case Report

A 66-year-old Muslim male patient came with chief complaint of swelling over hard palate since 4 years. Patient was asymptomatic before 4 years and it was gradual in onset with increase in size. MRI findings of paranasal sinuses shows A well defined lobulated T2WT hyper intense lesion in relation to the floor of left maxillary sinus and adjacent to the hard palate- Anterior most soft palate on left side projecting in oral cavity with resultant significant thinning of the bones. The lesion causes mild compression over dorsal of the tongue on left side. The lesion appears to involve maxillary alveolar arch in relation to last molar tooth on left side. No evidence of extension in pterygopalatine fossa or masticator space. Fare in favor of benign neoplasticism lesion - ? Pleomorphic Adenoma- Mild reactive mucosal thickening involving left maxillary sinus. FNAC findings suggest evidence of moderately cellular smears showing benign looking epithelial cells arranged in sheets and groups on hemorrhagic background. It also shows stromal fragments with spindle cells suggesting Benign Epithelial Neoplasm.

### *2.1. Intervention*

Local excision of lesion or tissue over bony palate was performed and resected tissue was sent for histopathological examination.

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### 2.2. Grossly

Specimen consist of multiple whitish brownish tissue portion total measuring 7 x 4.3 x 2 cm. Largest tissue portion is measuring 4 x 3 cm.(Figure 1)

**Figure 1:** Gross examination of lesion

### 2.3. Microscopic examination

1. Well circumscribed neoplasm
2. Various growth patterns
3. Low mitosis activity (Figure 2)
4. No evidence of necrosis or cystic change
5. No equivocal evidence of chondromyxoid storms or perineural invasion after all for sections for tissue.

Special stain and immunohistochemistry report:

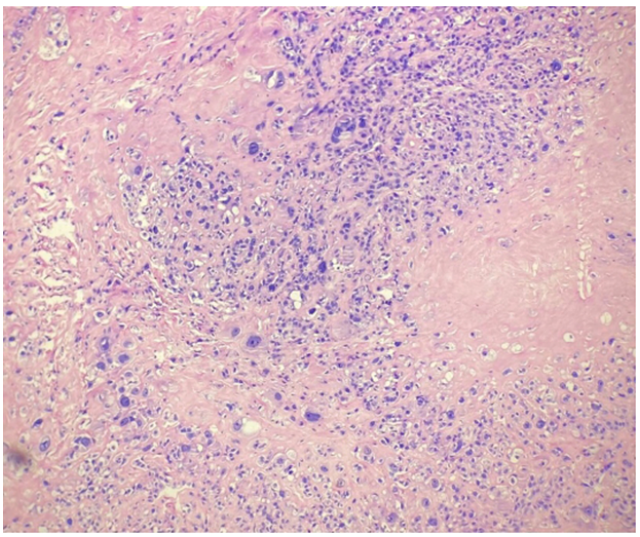

**Figure 2:** Medium power view of various growth patterns with low mitotic activity

## 3. Discussion

The prototypic histologic appearance consists of tubular structures enveloped by myoepithelial mantles submerging in a chondromyxoid stroma.[3] The interface between the tumor islands and the stroma is usually poorly demarcated.[4]

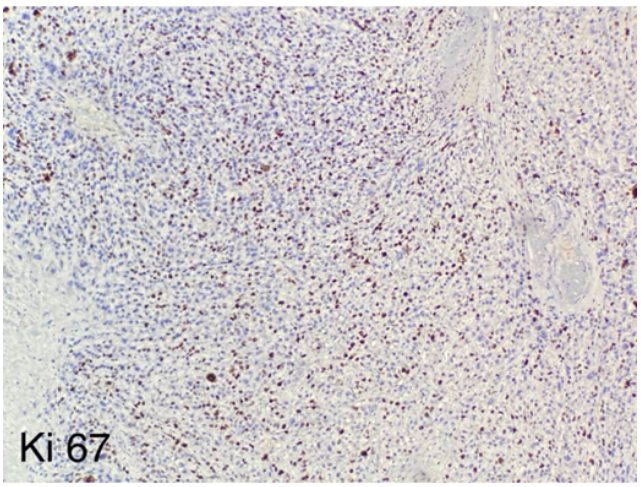


**Figure 3:** Marker of cell proliferation

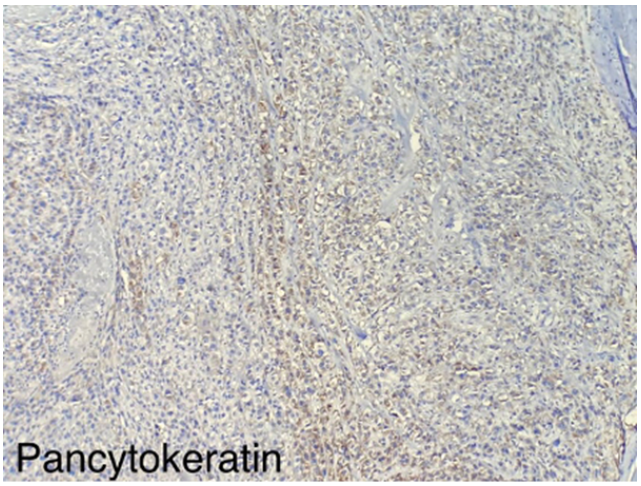


**Figure 4:** Pancytokeratin- Cytoplasmic staining

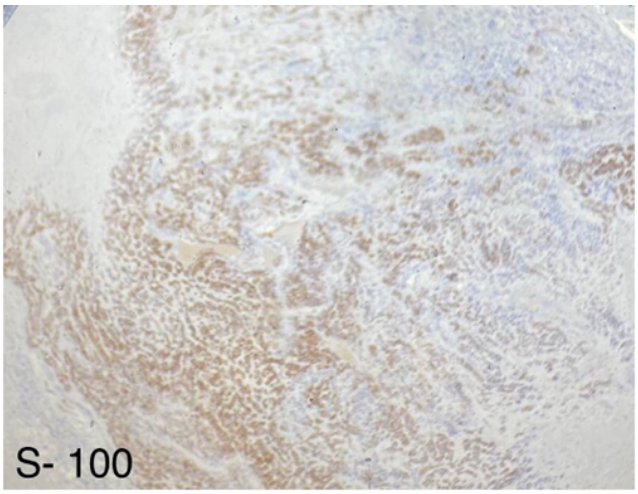


**Figure 5:** S 100- Focally positive

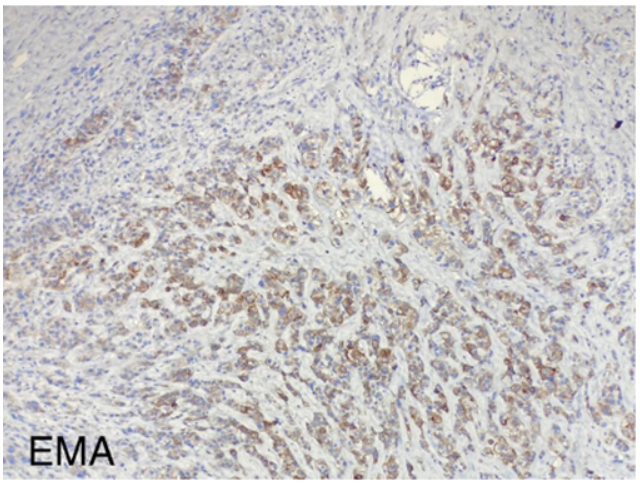


**Figure 6:** EMA- Membranous staining

The myoepithelial mantle radiates centrifugally, forming sheets, clusters, lattices, and isolated cells, where they appear to melt colloid-like material, which is PAS-positive diastase resistant and variably mucicarmine positive.[5] Rarely, metaplastic change to squamous, sebaceous, oncocytic, or clear cells can occur. Very occasionally, the epithelium may form goblet or mucous cells, which in association with squamous epithelium can lead to an erroneous interpretation of mucoepidermoid carcinoma.[4]

Myoepithelial or modified myoepithelial cells appear as cuboidal, spindle, stellate, plasmacytoid hyaline, nondescript epithelioid, or hydropic clear cells.[6] The spindle or cuboidal cells surround the ducts in a single layer, thick mantle, or radiating corona. They can form nondescript sheets, trabeculae, and even cribriform structures.[7] Plasmacytoid hyaline cells represent the most distinctive form of modified myoepithelial cells; they are oval shaped, with homogeneous eosinophilic hyaline cytoplasm.[8] The nucleus is round and eccentrically located, with a tendency for peripheral margination of the dense chromatin.[9] Plasmacytoid hyaline cells are so named because of their superficial resemblance to plasma cells, but they are larger, show less coarse clumping of the chromatin, lack a perinuclear Golgi zone, and possess eosinophilic rather than amphophilic cytoplasm.[10] They are usually arranged in aggregates or sheets, often with focal areas of noncohesive growth.[9] Since their occurrence is restricted to pleomorphic adenoma and myoepithelioma, their identification is of great diagnostic value, especially in small biopsies.[11] There can be cells with morphologic features intermediate between plasmacytoid hyaline cells and other types of myoepithelial cells. Stellate or spindled myoepithelial cells occur singly or form anastomosing strands, suspended in an abundant myoepithelial cells, and is positive for Alcian blue but variably positive for PAS.[6]

Tumors with very scanty or no extracellular stroma are often called cellular pleomorphic adenomas; they can be recognized by the focal melting of the myoepithelial mantles.[12] It has been suggested that recurrence is more frequent for stroma-rich tumors, which have a higher chance of spillage of mucoid stroma during operation.[13] Highly cellular tumors, on the other hand, may be more prone to malignant change.[13]

## 4. Conclusion

Pleomorphic Adenoma of the hard palate is a relatively rare tumor whose diagnosis is dependent on clinical features as well as cytological and histopathological reports.[14]Treatment measure includes wide local excision as recurrence rate is low.[14]

## 5. Sources of Funding

None.

## 6. Conflict of Interest

None.

## References

1. Rahmana M, Orzedala-Koszel U, Czupkallo L, Lobacz M. Pleomorphic adenoma of the palate: a case report and review of the literature. *Contemp Oncol (Pozn)*. 2013;17(1):103–6.
2. Patigaroo SA, Patigaroo FA, Ashraf J, Mehfooz N, Shakeel M, Khan NA, et al. Pleomorphic adenoma of hard palate: an experience. *J Maxillofac Oral Surg*. 2014;13(1):36–41.
3. Spiro RH. Salivary neoplasms: overview of a 35 year experience with 2807 patients. *Head Neck Surg*. 1986;8(3):177–84.
4. Orabona GDA, Bonavolontà P, Iaconetta G, Forte R, Califano L. Surgical management of benign tumors of the parotid gland: extracapsular dissection versus superficial parotidectomy–our experience in 232 cases. *J Oral Maxillofac Surg*. 2013;71(2):410–3.
5. Lewis JE, Olsen KD, Sebo TJ. Carcinoma ex pleomorphic adenoma: pathologic analysis of 73 cases. *Hum Pathol*. 2001;32(6):596–604.
6. Weinreb I. Translocation-associated salivary gland tumors: a review and update. *Adv Anat Pathol*. 2013;20(6):367–77.
7. Bittar RF, Ferraro HP, Ribas MH, Lehn CN. Facial paralysis after superficial parotidectomy: analysis of possible predictors of this complication. *Braz J Otorhinolaryngol*. 2016;82(4):447–51.
8. Bron LP, O'Brien CJ. Facial nerve function after parotidectomy. *Arch Otolaryngol Head Neck Surg*. 1997;123(10):1091–6.
9. Witt RL. The significance of the margin in parotid surgery for pleomorphic adenoma. *Laryngoscope*. 2002;112(12):2141–54.
10. Jain S, Hasan S, Vyas N, Shah N, Dalal S. Pleomorphic adenoma of the parotid gland: report of a case with review of literature. *Ethiop J Health Sci*. 2015;25(2):189–94.
11. Saito C, Kanazawa T, Yamaguchi T, Nakamura K, Ichimura K. Primary pleomorphic adenoma of the external auditory canal: a case report and review of the literature. *Case Rep Otolaryngol*. 2014;2014:975151.
12. Bradley PJ, McGurk M. Incidence of salivary gland neoplasms in a defined UK population. *Br J Oral Maxillofac Surg*. 2013;51(5):399–403.
13. Foresta E, Torroni A, Nardo FD, Waure C, Poscia A. Pleomorphic adenoma and benign parotid tumors: extracapsular dissection vs superficial parotidectomy–review of literature and meta-analysis. *Oral Surg Oral Med Oral Pathol Oral Radiol*. 2014;117(6):663–76.
14. Verma P, Sachdeva SK, Verma KG, Sachdeva K. Pleomorphic adenoma of cheek: a rare case report and review of literature. *Indian*

*J Dent Res*. 2014;25(1):122–4.

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