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## Pleomorphic Adenoma of the Palate: A Case Report

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### Abstract

*Pleomorphic adenoma is a benign mixed tumor composed of epithelial and myoepithelial cells arranged with various morphological patterns, demarcated from surrounding tissues by fibrous capsule. A nonulcerated mucosal swelling on hard palate presents a challenge to the surgeons. Ultimately, complete surgical excision provides the definitive diagnosis and treatment for this salivary gland neoplasm. The mass to be removed by wide local excision with adequate margins. The present case report deals with the diagnosis and surgical management of pleomorphic adenoma in the hard and soft palate region.*

**Keywords:** *Pleomorphic Adenoma, Diagnosis, Management.*

### Introduction

Pleomorphic adenoma of palate is a rare entity usually seen in adults. Most common symptom is slow growing painless submucosal mass on hard palate. Definitive diagnosis lies on histopathological examination. Computed tomography scan (CT scan) is a standard radiographic investigation necessary for ruling out any bony erosion and to demarcate its extensions. Treatment is by wide local excision with removal

of periosteum and curettage of bone. Reconstruction is only necessary if there is full thickness defect in the bone, otherwise excellent results are seen if wound is allowed to granulate and heal by itself. The most common way to reconstruct the defect is either by the use of obturator or loco-regional flaps like palatal flap, buccal fat pad, tongue flap or temporalis myofascial flap.

Recurrences are uncommon but may be seen on long term follow-up. Pleomorphic adenoma is the most common mixed benign tumor of the major salivary glands, especially the parotid gland. Approximately 80% of these tumors arise in the parotid gland, whereas 7% arise in the minor salivary glands<sup>1</sup> with less than 10% in the submandibular, sublingual and minor salivary glands.<sup>2</sup> Palate is the most commonly affected site in the oral cavity. Other intraoral affected sites include the upper lip, buccal mucosa, tongue, and gingiva. Pleomorphic adenoma is mostly seen in women and is most prevalent in the fourth through sixth decades of life. It usually appears as a solitary, painless mass on oral mucosa<sup>3</sup>. The essential components are the capsule, epithelial and myoepithelial cells, and mesenchymal or stromal elements. The capsule varies in thickness and presence. Cells of epithelial origin give rise to ductal structures and are intermixed with mesenchymal component that is mucoid/myxoid, cartilaginous, or hyalinized.<sup>3,4</sup>

### Case Report

A 52-year-old male patient reported with the chief complaint of a painless swelling over the right palatal region since six months. Patient revealed that swelling was initially small in size that gradually increased to the present size. The swelling was not interfering with mastication and no history of trauma or fever. The patient gave a history of occasional tobacco chewing and cigarette smoking. On general examination, it was found that the patient was of normal build and height. His vital signs were normal and no abnormality was detected on his systemic examination. Extraorally, there was no facial asymmetry, and no evidence of any trauma. Nothing abnormal was detected on examination of the lymph nodes. Intra-oral examination revealed a single domed shaped swelling which approximately measured 1.5 × 1.5 cms. The swelling extended anteroposteriorly from the distal aspect of upper Right first molar to the junction of hard and soft palate. Mediolaterally, it

extended from the midpalatal area to the palatal gingival margin maxillary molar teeth. The surface texture was smooth. The overlying mucosa was minimally inflamed. Draining sinus or fistula was not evident. The surrounding mucosa was normal. The swelling was single, nontender, firm in consistency on palpation and was not to the overlying mucosa. The edges of the swelling were smooth. The swelling was compressible, but non-fluctuation, non-pulsation and non-reducibility in nature. Hard tissue examination revealed generalized attrition, stains and calculus with dental caries in maxillary right second premolar. The overlying mucosa was not ulcerated and it was mobile over the swelling (figure 1). Fine needle aspiration cytology suggested benign tumour with features characteristic of pleomorphic adenoma.

A single well encapsulated nodular mass measuring 2 × 2mm specimen was sent to the pathology laboratory (figure 3). Histopathological examination showed well encapsulated tumor composed of ducts lined by epithelial and myoepithelial cells in the sheets, ducts and clusters set in a chondromyxoid and hyalinized stroma were seen. The tumor had focally pushing margins. On the basis of this histological examination, the diagnosis of pleomorphic adenoma was made.

Simple enucleation of this tumour has a high local recurrence rate and thus treatment is wide local excision with the removal of periosteum or bone if they are involved. Rupture of the capsule or tumour spillage is also believed to increase the risk of recurrence, so meticulous dissection is important. So, a wide local excision with adequate margins was done under General anesthesia and a chlorhexidine gauze dressing was placed and sutured at operated site. Patient was kept in regular follow up for dressing and at 1 month there was complete healing and epithelialization of palatal mucosa. The histopathological report of the biopsy specimen confirmed the diagnosis of pleomorphic adenoma.



**Figure 1:** Single, unilobular, smooth surface, dome shaped, well circumscribed swelling present on right side of the posterior hard palate.



**Figure 4:** Postoperative intraoral picture shows complete epithelialization in the surgically denuded site.



**Figure 2:** Clinical view after complementary surgery not showing any bone flattening, erosion or perforation which might be created by compressing of the lesion.



**Figure 3:** Excisional biopsy shows a single well-encapsulated nodular mass measuring 1.7 × 1.7 cm

**Discussion**

Pleomorphic adenoma appears as a slow growing, painless, firm mass that rarely ulcerated the overlying skin and mucosa. The tumor can occur at any age, however, it is most common in young and middle aged adults between the ages of 30–60 with a slight female predilection.<sup>1,5</sup> Periapical abscess can be ruled out by clinical examination with non-vital tooth in vicinity<sup>6</sup>. Both odontogenic and nonodontogenic cysts can be ruled out by clinical and radiographical examination and at the time of exploration into the mass as it demonstrate cystic nature.<sup>7</sup>

Adenoid cystic carcinoma is an uncommon, slow growing malignant salivary gland tumor. Intraorally, 50% of adenoid cystic carcinomas occur on the palate. Adenoid cystic carcinoma accounts for 8.3% of all palatal salivary gland tumors and 17.7% of malignant palatal salivary gland tumors. The most common initial symptom of adenocystic carcinoma is the presence of a mass. Less common as first symptoms are pain and tenderness.<sup>8</sup> Carcinoma of the maxillary sinus usually remains asymptomatic for a long period of time. Eventually, the tumor grows to fill the sinus and the diagnosis is made because the lesion has pronounced a bulge on the palatal/alveolar ridge area.<sup>9</sup> Polymorphous low-grade adenocarcinoma is another tumor that almost exclusively occurs in minor salivary glands. Both tumors have the hard palate as the most common site of involvement

when involving minor salivary glands. Frequently, they manifest as painless, slow-growing masses covered by nonulcerated mucosa with potential for bone resorption.<sup>10</sup> Palatal tissues contain components of soft tissue. Therefore, soft tissue tumors such as fibroma, lipoma, neurofibroma, neurilemmoma should also be considered in the differential diagnoses for this case, however, thorough clinical examination can rule out these lesions.<sup>5</sup>

Although the occurrence of pleomorphic adenoma on palate is rare, it should be considered in the differential diagnosis of mucosal swelling of hard palate. Histopathologically, pleomorphic adenoma is an epithelial tumor of complex morphology, possessing epithelial and myoepithelial elements arranged in a variety of patterns and embedded in a mucopolysaccharide stroma. Formation of the capsule is as a result of fibrosis of surrounding salivary parenchyma, which is compressed by the tumor and is referred to as false capsule.<sup>11</sup> CT scan is the best imaging modality for bony involvement of the palatal lesions, and Magnetic Resonance Imaging (MRI) is better to display soft tissue invasion and perineural spread. These help in determining the extent of disease, local spread and also help to some extent in determining the type of tumors. Presence of intact fat plane helps in distinguishing between benign tumors from malignant one. CT scan or MRI should be considered when assessing the presence of bony erosion or soft tissue and nerve involvement. Ultimately, complete wide surgical excision provides the definitive diagnosis and treatment for this noteworthy salivary gland neoplasm.<sup>12</sup>

Our patient showed a nodular palatal lesion with clinical aspects that may resemble a low-grade tumor. The treatment consists of wide local excision with clear margins which involves the periosteum and the associated mucosa, followed by curettage of the underlying bone with a curette or bur under copious, sterile, normal saline irrigation. The overlying mucosa can sometimes be repaired by using a local flap. In our case, the patient did not require reconstruction as there was

no oro-antral fistula formation and the palatal mucosa was regenerated with complete healing in month. Pleomorphic adenoma is encapsulated, and an incomplete excision can leave behind residual tumour cells, resulting in recurrence, because of its high rate of implant ability. Our patient has not experienced any recurrence after 8 months of follow-up.

### Conclusion

Nodular lesions located at palate can mimic a huge spectrum of lesions including infection, benign and malignant salivary gland tumors, fibroma, lipoma, neurofibroma, neurilemmoma and etc. In these cases, the biopsy followed by microscopic analysis is crucial to prove the real lesion nature and contribute for appropriate patient management. In the present case, pleomorphic adenoma was the final diagnosis and, although, it is a benign glandular tumor, a complementary subperiosteal surgery is recommended due to infiltrative pattern of lesion to avoid a local recurrence.

No conflicts of interest.

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