Pleomorphic adenoma of palate: Two case reports and literature – A review
Sunil Vasudev, G. R. Maneesha Sree, S. Deepak, Partha Pratim Debnath
Department of Oral and Maxillofacial Surgery, D. A. Pandu Memorial RV Dental College, Bengaluru, Karnataka, India

Abstract
Pleomorphic adenoma exists as benign lesion of the salivary glands. Both epithelial and mesenchymal tissues of benign lesion commonly seen in the parotid or submandibular glands. Commonly seen arising from minor salivary glands, may present as an intraoral mass over the palate or lip. They seems painless, firm mass without overlying mucosa ulceration. Author presents a case series of a patient with swelling at the junction of hard and soft palate and the surgical protocol employed for the excision of the tumor mass.

Keywords: Excision, Hard and soft palate, Pleomorphic adenoma

Correspondence:
Dr. G. R. Maneesha Sree, Department of Oral and Maxillofacial Surgery, D. A. Pandu Memorial RV Dental College, Bengaluru, Karnataka, India. Phone: +91-7010234273. E-mail: g.r.maneesha@gmail.com

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Introduction
Pleomorphic adenoma is common benign lesion of the salivary glands. Both epithelial and mesenchymal tissues seen.\(^1\) The most commonly site are parotid or submandibular glands. It may arise from the minor salivary glands also present as an intraoral mass over the palate or lip. Other intraoral sites include the labial mucosa, floor of mouth, tongue, tonsil, gingiva, retro molar area, pharynx, and nasal cavity. Palatal lesions frequently involve periosteum or underlying bone. Around 25% of benign mixed tumors encounter malignant transformation and the treatment of choice is radical surgery for those lesions. Inadequate resection may lead to recurrence of the lesion. Pleomorphic adenomas seen at any age group, but commonly affect people at the 4th–6th decades of life. Females are commonly affected with the ratio of 2:3. On clinical presentation, pleomorphic adenomas are well-delineated, painless swelling and enclosed with normal mucous membrane. Sometimes, mucosal ulcerations are observed. Singular and mobile nodules seen. Encapsulated tumors are usually preset in major gland, in contrast with minor gland tumors. In literature, various studies have shown that mixed tumor of epithelial origin can be linked to chromosome abnormalities with involving 8q12 and 12q15.\(^2\) The tumor frequently shows typical translocations between chromosomes 3 and 8 leading the PLAG gene contiguity to the gene for B-catenin which initiates catenin pathway and induces inappropriate cell division. Wide excision along with involved periosteum and bone is considered to be choice of treatment.

Case Report
Case 1
A 70-year-old male patient reported to the department of oral and maxillofacial surgery with chief complaint of a painless swelling slowly growing in size along in soft palate. The swelling was noted 4 weeks back, there was a history of neem stick bitting twice daily for the past 20 years and no relevant medical history or drug allergy. On examination, there was a 2 × 3 cm sized, well-circumscribed, smooth lesion at the junction of hard and soft palate [Figure 1]. On palpation, the swelling was unilocular, immovable with well-defined margins, non-tender, non-pulsatile, and firm the mucosa over the lesion was non pinchable and stretched. The area did not involve any teeth and no secondary changes noted. FNAC was performed, which implies of pleomorphic adenoma. There was no cervical lymphadenopathy. CBCT reveals soft tissue growth noted on the right side of with expansion. MRI reveals right posterior soft palate solid lesion with minimal cystic changes as described possibility including minor salivary gland tumor (likely benign pleomorphic adenoma), nerve sheath tumor. S-shaped deviation nasal septum is noted [Figure 2].
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Treatment
Tumor excision under general anesthesia was planned. All the routine hematological tests were done. The patient was prepped and draped under aseptic environment and the left nasal intubation was done. Dingman retractor was applied to achieve good visualization of the surgical field. The surgical site was infiltrated with lignocaine of 1:80,000 dilution with adrenaline and an elliptical incision was placed at the periphery of the swelling using No.15 blade, through the mucosal layer of the palate revealing the capsular lining of the tumor. Careful dissection performed and the tumor mass was separated out as whole. Using surgical blade, mucosa around the lesion was marked and incised. Blunt dissection was performed to release the encapsulated mass from all the sides. The tumor was completely enucleated from the socket and the walls were curetted to remove any residual attachments. Primary closure was achieved using 3-0 Vicryl sutures [Figure 3]. A nasogastric/Ryle’s tube was inserted through the patient’s nose to assist with feeding for 1 week of post-operative period. The patient was put on standard antibiotic therapy and postoperatively care was taken to prevent any excessive bleeding, infection, and dead space in the palatal region.

Case 2
A 67-year-old female patient with a chief complaint of growth in palate region for the past 2 years came to the department of oral and maxillofacial surgery. History revealed a localized slow-growing swelling. Lesion noticed for the past 2 years got traumatized frequently while eating food. On intraoral examination swelling noted of 1*1 cm, lesion are well circumscribed, oval shape, slightly erythematous on palatal mucosa and its not adherent to underlying structures [Figure 4]. On palpation lesion is smooth, firm in consistency, without any ulcer or bleeding points noted. CT reveals isodense structure in the palate and showed no signs of bony erosion of the palatal region [Figure 5]. FNAC biopsy was suggestive of pleomorphic adenoma. There was no cervical lymphadenopathy.

Treatment
Tumor excision under general anesthesia was planned. All the hematological tests were within normal limit. The patient was prepped and draped under aseptic environment and left nasal intubation was done. The surgical site was infiltrated with lignocaine...
of 1:80,000 dilution with adrenaline and an incision was placed at the most dependent part of the swelling using No.15 blade, through the mucosal layer of the palate revealing the capsular lining of the tumor. Blunt dissection was performed to release the encapsulated mass from all the sides. The tumor was completely enucleated from the socket and the walls were curetted to remove any residual attachments [Figure 6]. 3–0 Vicryl sutures used for primary closure. Follow-ups were done at intervals of 1 week, 1 month, and 6 months and scarring was not noted on the palate and the healing was uneventful.

Discussion

The pleomorphic adenoma name is derived due to pleomorphism structure on microscopic findings and known as “mixed tumor.”

It constitutes 20–40% of all salivary gland tumors, approximately 22%, according to Spiro. The smaller the salivary gland the more likely to trigger a malignant tumor.

Pleomorphic adenoma generally presents as a slow-growing, unilateral firm mass that may become large if is untreated. Usually, asymptomatic lesion seen as a firm or rubbery submucosal mass without ulceration or surrounding ulceration in the minor salivary glands. Concentration of salivary gland is high on the soft and hard palate so tumor occurring on these sites is common. Histological characteristic of pleomorphic adenoma seen is inner layer of epithelial cells, outer layer of myoepithelial cells, and islands of spindle cells over myxoid background. The main diagnostic modalities are FNA biopsy and imaging like CT MRI plays a main diagnostic modalities. Palatal erosion is ruled out by imagining. Ultrasound is frequently used to guide FNA or core needle biopsy. USG, CT, and MRI are advanced diagnostic aids. CT scan and MRI can provide information on the location, size, and spread of tumor to surrounding structures. Bony invasion of palatal lesions is shown on CT images. In all the radiological images of these lesions, we notice intact fat plane presence, which rules out malignancy. For this case, the differential diagnosis could be odontogenic tumors, palatal abscesses, and soft-tissue tumors such as lipoma, neurofibroma, fibroma, lymphoma, and neurilemmoma or non-odontogenic cysts.

The treatment modality for a salivary gland tumor includes surgical resection of the tumor with adherent margin of normal tissue. Involving periosteum or bone on excision is must if these are included. Adjuvant radiotherapy should be advised to improve local control, if complete resection cannot be achieved. High recurrence rate noted on enucleation of pleomorphic adenoma so not advised. Pleomorphic adenomas are commonly seen in buccal mucosa, palate, and lip or sometimes may involve the normal host tissue as tumor growth due to lack encapsulations so wide excision is necessary incase biopsies report turns out to be benign nature. Recurrence rate of approximately 2–44% of pleomorphic adenomas noted on the minor salivary glands. Reason for recurrence includes multiple, separate nodules within the remaining salivary gland, periparotid tissues, or scar tissue after the initial surgery. Failure of the treatment plan mainly occurs due to inadequate surgical resection. Surgical issues are pseudopodia, tumor rupture while distant metastases and capsular penetration are frequently encountered. Intraoral/transoral, transcervical, transparotid, transmandibular, and infratemporal approaches are used for the lesion present on soft palate and parapharyngeal space. The chosen approach should provide adequate tumor visualization and to aid complete tumor removal along with preservation of the surrounding nerves and vessels and to control any hemorrhage. Main parameters for selecting the best approach while treating tumors of the soft palate and PPS given by Bartkowski are size of tumor, vascularity, proximity of the lesion and the projection of the tumor to the oropharyngeal wall or the neck, suspicion level of malignancy, relation of the tumor to the neurovascular bundle, and neck.
In our case, author recommends preservation of the overlying mucosa and placing of incision on the periphery of the swelling or on the dependent part of the swelling which helps in achieving the primary closure without stretching the palatal mucosa and less scarring we also preferred intraoral approach as it provides direct access to the soft palate and had good cosmetic reason. At present, this approach is reticent for avascular tumors more or equal to 3 cm, well-defined tumors projecting in the oropharynx or very near to the mucosa. When approaching such scenario, surgeon should keep in mind to maintaining speech, swallowing, and anterior facial projection of the patient.

**Conclusion**

From the above-reported cases, it was concluded that pleomorphic adenoma constitutes a major part of the benign tumors of the salivary glands. Lesion commonly seen within the palate, it rarely exceeds 2 cm in size. The tumor is encapsulated and is treated with excision include sufficient margin of normal tissue surrounding it. The author prefers the use of conservative methods of resection but with aggressive curettage of the bony socket to prevent any residual tissue lining to remain. This helps to achieve primary closure of the palatal mucosa which otherwise would require a rotational or free flap for coverage. These procedures are done not only to reduce the complication rates associated with the treatment but also to minimize the chances of recurrences of such tumors.

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