

**Pleomorphic adenoma of minor salivary gland of palate - A case report**

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**Abstract:-** Pleomorphic adenoma (PA) is a benign neoplasm consisting of cells exhibiting the ability to differentiate to epithelial (ductal and non-ductal) cells and mesenchymal (chondroid, myxoid and osseous) cells. . Pleomorphic adenoma is the most common salivary gland tumor. It accounts for 53% to 77% of parotid tumors, 44% to 68% of submandibular tumours and 33% to 43% of minor gland tumors. The aim of this article is to present a case of PA of minor salivary gland of palate, which was treated successfully by surgical excision.

**Introduction**

Pleomorphic adenoma (PA) is the most common tumor of salivary glands and affects mostly the parotid gland, less frequently the accessory salivary glands. The parotid

gland is the most common site of the pleomorphic adenoma. It may occur in any of the major glands or in the widely distributed intraoral accessory salivary glands. Seventy percent of the tumors of the minor salivary glands are pleomorphic adenomas, and the most common intraoral site is the palate, followed by the upper lip and buccal mucosa. It derives its name from the architectural pleomorphism seen by light microscopy. It is also known as “mixed tumor, salivary gland type”, which describes its pleomorphic appearance as opposed to its dual origin from epithelial and myoepithelial elements. Wide local excision with removal of periosteum and involved bone is the treatment of choice. The potential risk of the Pleomorphic adenoma becoming malignant is about 6%.

Pleomorphic adenoma tumors are painless, they grow slowly and increase in size, may show intermittent growth, are well-delineated and covered with normal mucous membrane. In most cases, does not cause ulceration of the overlying mucosa. Pleomorphic adenomas have shown consistent cytogenetic abnormalities, chiefly involving the chromosome region 12q13-15. The putative pleomorphic adenoma gene (PLAG1) has been mapped to chromosome 8q12. Many other genes have also been implicated; however, cytogenetic or molecular studies do not as yet have an established role in the diagnosis of pleomorphic adenoma

#### **Case report**

A 55-year-old male patient reported to our Department of Oral Surgery in the KD Dental College, Mathura, complaining about a painless swelling on the upper posterior jaw region. History revealed that the swelling was evident since one and half years. The lesion initially was very small in size and had gradually progressed to the present size. Intraoral examination revealed a solitary, oval-shaped, circumscribed lesion, adherent to the underlying structures, covered with normal appearing palatal mucosa (Fig. 2). The size of this lesion was about 2 cm in diameter. Anteroposteriorly, the swelling extended from the distal aspect of left first premolar to the junction of the soft and hard palate. Mediolaterally, it extended from mid palatal area to the palatal surface of maxillary molar teeth. The patient had a faulty prosthesis in upper anterior jaw region fabricated by some quack. Aspiration of the lesion with 22 gauge syringe was negative and does not yield any fluid. The maxillary occlusal view radiograph (Fig. 3) did not reveal any pathological changes in the bony structures and then due to the clinical examination,

outlook and the history of the disease the decision concerning surgical excision of the lesion was made. Excision of the mass was done under local anesthesia (Fig. 4). The whole tumor mass was separated out with careful dis-section. Mucosa around the lesion was marked and incised using the electrocautery colarado micro tip. Then the wide dissection was performed and the whole encapsulated tumor mass was excised (Fig. 4) along with the mucoperiosteum. Greater palatine vessels sutured with 3-0 black breaded silk suture (fig 5). The biopsy site was irrigated and left to granulate.(fig 6) and the mass sent for histopathological

#### **Examination**

In the meantime the patient was under antibiotic coverage and NSAIDs. The result of the histopathological examination after the tumor excision was compliant with the specimen taken before the surgery and confirmed the diagnosis of benign pleomorphic adenoma of minor salivary gland of hard palate. On second month follow-up we removed patient's faulty prosthesis along with the periodontally compromised teeth in the upper jaw (fig -8). The patient's postoperative course was uneventful. Patient was willing for fabrication of complete denture hence we referred him to the Dept of Prosthodontics for the needful.

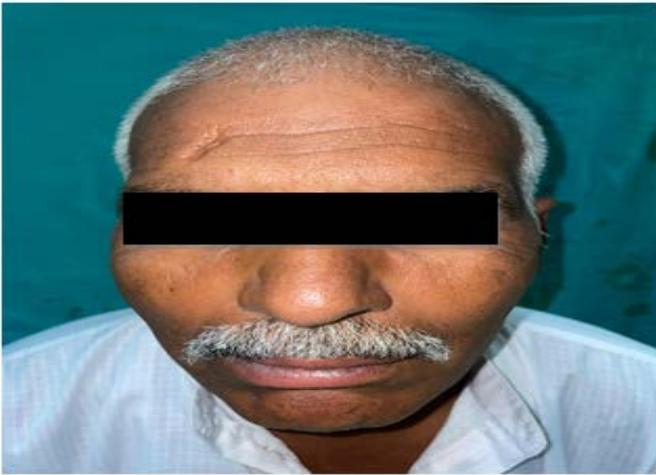


Fig. 1: On Extra-Oral examination the face appeared bilaterally symmetrical with competent lips



Fig 2: A diffuse swelling over the left side of the hard and soft palate.



Fig 3: maxillary occlusal view radiograph showing no bony involvement.



Fig 4: surgical procedure.

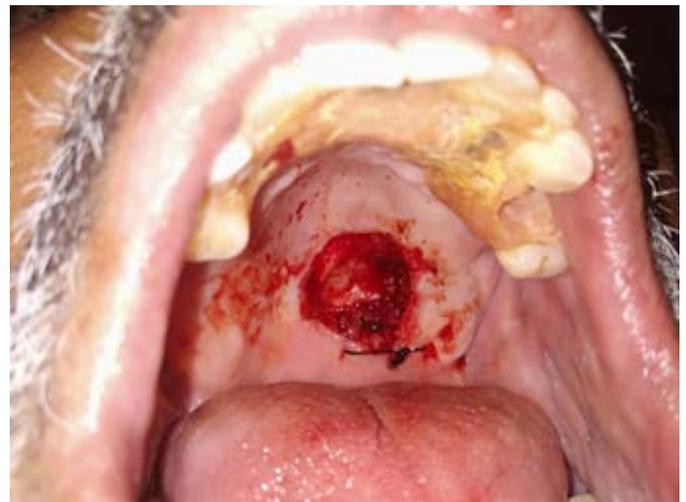


Fig 5: The operating site after surgical excision of the tumor.



Fig 6: Surgically excised lesion(Colorado)



Fig 7: 3 week post-op healing



Fig. 8: 3 months follow-up & removal of faulty prosthesis)

### Discussion

Pleomorphic adenoma appears as a painless slowly growing unilateral firm mass that may become large if untreated. The pleomorphic adenoma of intraoral accessory glands seldom is allowed to attain a size greater than 1–2 cm in diameter. Because this tumor causes the patient difficulties in mastication, & talking, it is detected and treated earlier than tumors of the major salivary glands. It occurs more frequently in females than in males, the ratio approximating 6: 4. The majority of the lesions are found in patients in the fourth to sixth decades. It is the most common salivary gland tumor.

When originating in the minor salivary glands, in most cases it occurs on the soft and hard palate due to the highest concentration of salivary glands there and is typically a firm or rubbery sub mucosal mass without ulceration. The palatal pleomorphic adenoma may appear fixed to the underlying bone, but is not invasive. The history presented by the patient is usually that of a small, painless, quiescent nodule which slowly begins to increase in size, sometimes showing intermittent growth. Pain is not a common symptom of the pleomorphic adenoma, but local discomfort is frequently present. Except for size, the intraoral tumor does not differ remarkably from its counterpart in a major gland.

- Histologically, it is highly variable in appearance. Classically it is biphasic and is characterized by a mixture of polygonal epithelial and spindle-shaped myoepithelial elements in a variable background stroma that may be chondroid, myxoid, or hyaline.

The epithelial component forms ducts and small cysts that may contain an eosinophilic coagulum, the epithelium may also occur as small cellular nests, sheets of cells, anastomosing cords and foci of keratinizing squamous or spindle cells. Myoepithelial cells are a major component of pleomorphic adenoma. They have a variable morphology, sometimes appearing as angular or spindled, while some cells are more rounded with eccentric nuclei and hyalinized eosinophilic cytoplasm resembling plasma cells. Myoepithelial-cells are also responsible for the characteristic mesenchyme like changes; these changes are brought about by extensive accumulation of mucoid material around individual myoepithelial cells giving a myxoid appearance. Vacuolar degeneration of these myoepithelial cells then results in a cartilaginous appearance.

- The diagnosis of pleomorphic adenoma is established on the basis of history, physical examination, cytology and histopathology. CT, and magnetic resonance imaging (MRI), Ultrasonography, are the diagnostic imaging modalities for pleomorphic adenoma.. Computed tomography scan and MRI can provide information on the location and size of the tumor and extension to surrounding superficial and deep structures. MRI accesses the tumor better for soft-tissue delineation, margin description of the tumor, and extension into the surrounding structures and provides better definition of the vertical and inferior tumor extension through its multi planar capacity. Pleomorphic adenomas are hypoechoic, well-defined, lobulated tumors and may contain calcifications in USG imaging. Fine-needle aspiration cytology and incisional biopsy can aid in the diagnosis. The treatment is strictly wide local excision with the removal of periosteum or bone if they are involved.
- The differential diagnosis for this case includes palatal abscesses, odontogenic and non-odontogenic cysts, soft tissue tumors such as fibroma, lipoma, neurofibroma, neurilemmoma, and lymphoma as well as other salivary gland tumors.
- Pleomorphic adenomas of the minor salivary glands, like those on the palate, buccal mucosa or lip, sometimes lack encapsulations and may mix into normal host tissue as tumor growth; hence a wide excision with the removal of periosteum or bone if they are involved is necessary. Enucleation of pleomorphic adenomas leads to a high recurrence rate, so it should be avoided. Rarely, a malignant tumor may arise within this tumor, a phenomenon known as carcinoma ex pleomorphic adenoma. Carcinoma ex pleomorphic adenoma is a high-grade salivary gland carcinoma in which malignant

transformation occurs in a previously benign pleomorphic adenoma. Carcinoma ex pleomorphic adenoma (Ca ex PA), most common site is Parotid gland but among minor Salivary gland pleomorphic adenomas, most common site is palate.

### Conclusion

1. Most salivary gland tumors should be dissected due to the possibility of becoming malignant.
2. Wide excision with negative margins is the optimal strategy for the management of pleomorphic adenomas due to occasional lack of encapsulation, mixing into normal host tissue and pseudopodia. A histopathological examination should be done after the excision of the neoplastic lesion.
3. Adequate surgical excision corresponds with lower risk of recurrence.

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