



## PLEOMORPHIC ADENOMA OF LATERAL WALL OF NOSE – A RARE PRESENTATION

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### ABSTRACT:

The aim of the article is to present a rare case of pleomorphic adenoma arising in lateral wall of nose. Pleomorphic adenoma arises mainly in the major salivary glands (65%), especially in the parotid and, less frequently, in accessory salivary glands (35%). Rare cases have been reported in the lip, the hard and soft palate, the lacrimal gland, and the external auditory canal. It is extremely rare to find these in the respiratory tract. The incidence is even lower in the upper respiratory tract, such as the nasal cavity, maxillary sinus and nasopharynx. In that approximately 80% of intranasal pleomorphic adenomas are found in the septum. Only about 20% are found in the lateral wall or turbinate. They are essentially benign but prolonged duration; incomplete resection may lead to recurrence and increased chances of malignant transformation. So, they should be diagnosed early by using fine needle aspiration, ultrasonography and removed in their entirety with its pseudocapsule and surrounding margins.

**Key words:** Fine needle aspiration, Lateral wall of nose, Pleomorphic adenoma.

## **INTRODUCTION:**

Pleomorphic adenomas are benign primary neoplasms composed of both stromal and epithelial components<sup>1</sup>. Salivary gland tumours constitute about 3% of all neoplasms<sup>2</sup>. Pleomorphic adenoma arises mainly in the major salivary glands (65%), especially in the parotid and, less frequently, in accessory salivary glands (35%). Rare cases have been reported in the lip, the hard and soft palate, the lacrimal gland, and the external auditory canal. It is extremely rare to find these in the respiratory tract. The incidence is even lower in the upper respiratory tract, such as the nasal cavity, maxillary sinus and nasopharynx<sup>3</sup>. In that approximately 80% of intranasal pleomorphic adenomas are found in the septum. Only about 20% are found in the lateral wall or turbinate<sup>4</sup>.

Computerized Tomography (CT) and Magnetic Resonance Imaging (MRI) appearances of intranasal pleomorphic adenomas have been described though a definitive diagnosis of the entity is made by histopathological examination<sup>5</sup>.

## **CASE REPORT:**

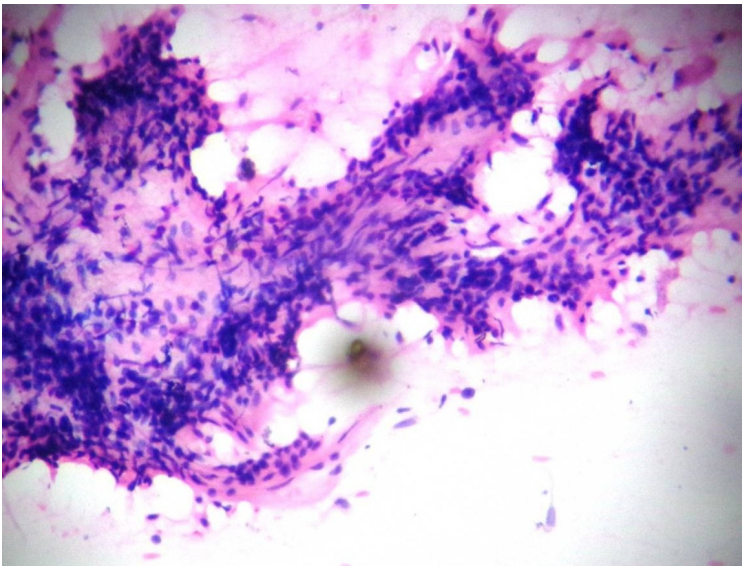
A 25years female presented with history of nasal blockage, watery discharge and mass in right nasal cavity since 3 months. Mass has been gradually increasing in size. On anterior rhinoscopy, a pale polypoidal mass was seen arising from the lateral wall of the nose measuring 1cm x1 cm (Fig. 1). Mass was sensitive to touch and does not bleed to touch. No destruction of surrounding tissue was noted. Computed tomography showed a mass in the right nasal cavity measuring 1cm x1 cm x 1cm.

**Figure 1:** Clinical photograph showing mass arising in right nose from lateral wall of nose.



Fine needle aspiration of the nasal mass was advised and it showed moderate cellularity which was composed of epithelial cells in clusters with background of fibrillary chondromyxoid ground substance which was concluded as benign mixed cell adenoma (Fig. 2).

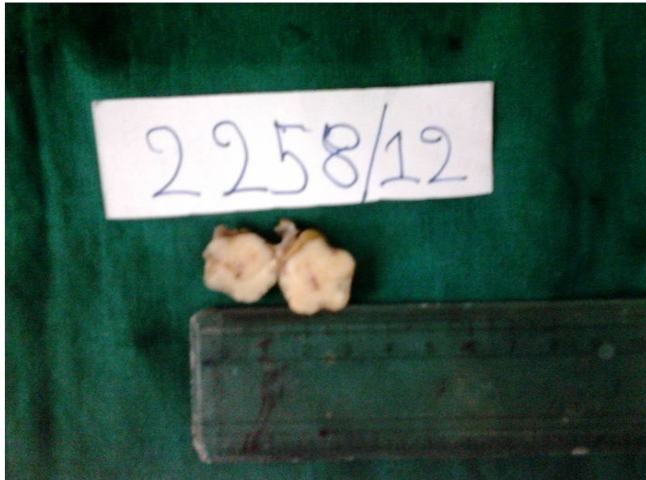
**Figure 2:** Photomicrograph (Cytology) showing clusters of epithelial and myoepithelial cells in a myxoid background. (H&E stain 20X).



Patient was taken for excision. Local anesthesia was given using 2% xylocaine with adrenaline. Under endoscopic guidance complete excision of the mass with clear margin was done. Later mass was sent for histopathological evaluation.

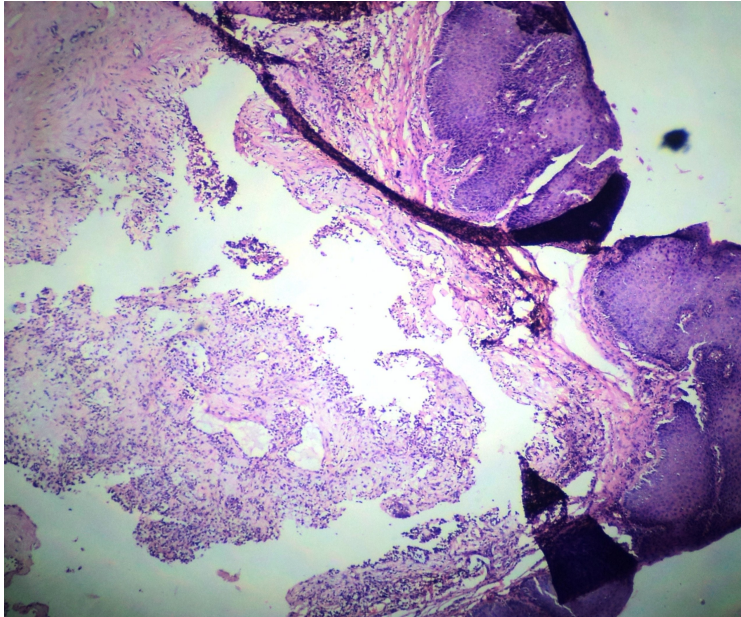
Macroscopically the excised tumor tissue was pale-white, irregular nodular mass measuring 1.2 x 1.2 x 1cm. Cut- section was solid, pale-white homogenous and firm in consistency (Fig. 3).

**Figure 3:** Gross photograph showing cut surface of the mass with irregular, pale-white homogenous areas.

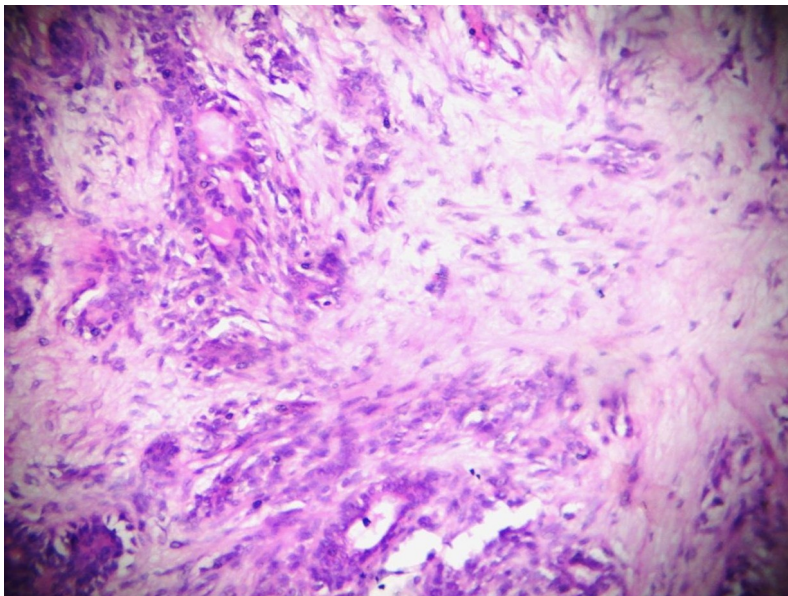


Light Microscopy showed tumor tissue beneath the stratified squamous epithelium comprised of epithelial & stromal component (Fig.4). Epithelial tissue comprised of cuboidal to columnar epithelial cells forming many acini & also arranged in sheets & trabaculae (Fig.5).

**Figure 4:** Photomicrograph (Histopathology) showing tumor tissue beneath the stratified squamous epithelium (H&E stain 10X).



**Figure 5:** Photomicrograph (Histopathology) showing epithelial & stromal myxoid component (H&E stain 40X).



Stromal tissue composed of pale eosinophilic myxoid tissue containing many stellate cells. The fibrocollagenous tissue surrounding the tumor cells showed congested blood vessels & dense lymphocytic infiltration.

On Immunohistochemistry (IHC) smooth muscle actin and S100 highlighted the presence of an abundant myoepithelial component. So based on histo-morphological and IHC diagnosis of pleomorphic adenoma was confirmed.

Post operative recovery was uneventful and patient was discharged on first postoperative day. On subsequent follow up no fresh complaints or recurrence were noted.

## **DISCUSSION:**

Nasal pleomorphic adenoma is seen predominantly in females usually between the third and fifth decades of life. There is no reported correlation with occupational exposure or inhaled toxic chemical compounds. It is generally known to be a slow-growing tumour and, therefore, clinical symptoms appear after a long silent period<sup>3</sup>.

Various theories have been proposed to explain this observation. According to Stevenson, remnants of the vomeronasal organ, an epithelium-lined duct in the cartilaginous nasal septum degenerated in early foetus, could be the reason for the appearance of these tumours in this particular region<sup>6</sup>. According to Ersner and Saltzman, in 1944, the precursors of the septal pleomorphic adenoma are ectopic embryonic epithelialised cells on the nasal septum mucosa, found during the migration of the nasal buds<sup>7</sup>. According to Evans and Cruikshank, it originates directly from the matured salivary glandular tissue<sup>8</sup>; Dawe, in 1979, proposed a viral aetiology from polyoma virus<sup>9</sup>.

Compared with pleomorphic adenomas of the parotid, intranasal lesions are associated with greater cellularity (more epithelial components), a more benign course overall, and a lower rate of recurrence (10 vs. 50%)<sup>4</sup>.

Differential diagnosis of intra-nasal pleomorphic adenoma includes both malignant and benign tumours such as squamous cell carcinoma (the most common intra-nasal malignancy), adenocarcinoma, adenoid cystic carcinoma, mucoepidermoid carcinoma, melanoma, olfactory esthesioneuroblastoma, polyps, papillomas (including inverted papilloma), angiofibromas and osteomas<sup>3</sup>.

Malignant transformation of pleomorphic adenoma of the nasal cavity has been reported in 2.4 to 10% of cases. The most common variant is [carcinoma ex pleomorphic adenoma](#). A less common form of malignant transformation is the malignant mixed form, in which both the epithelial and stromal components transform and metastasize together. Bone is the most common site of metastasis, followed by the liver, lung, and regional lymph nodes<sup>4</sup>.

The radiographic findings with pleomorphic adenomas of the nasal cavity are nonspecific, much like the clinical presentation. Computerized Tomography (CT) typically shows a well-defined soft-tissue mass; calcification is seen in rare cases. CT allows the clinician to assess bony involvement or destruction, which may occur when a neoplasm has been left untreated over time<sup>10</sup>. Magnetic Resonance Imaging (MRI) is used to assess the epithelial and stromal components of the neoplasm, as well as the surrounding soft tissue. MRI of the stromal components reveals a low signal intensity on T1-weighted imaging and an intermediate to high signal intensity on T2-weighted imaging; epithelial components have a low signal intensity on T2-weighted imaging<sup>4</sup>.

Treatment entails wide local excision with clear margins. If these neoplasms are allowed to progress untreated, their expansion may cause local destruction of the paranasal sinuses. Four approaches to the removal of intranasal pleomorphic adenomas have been

reported in the literature: a transpalatal approach, a lateral rhinotomy, a Le Fort I [osteotomy](#)<sup>4</sup>.

#### **CONCLUSION:**

This case is being presented to make surgeons aware of pleomorphic adenoma, as a differential diagnosis of swelling in nasal cavity, because in the management, surgical treatment should consist of complete excision of the mass with clear margin and with a long term follow-up, both endoscopic and radiologic, to exclude malignancy which is mandatory, even if the tumour appears to be clinically benign and resected completely.

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**LEGENDS:**

1. Figure 1: Clinical photograph showing mass arising from lateral wall of right nose.
2. Figure 2: Photomicrograph (Cytology) showing clusters of epithelial and myoepithelial cells in a myxoid background. (H&E stain 20X).
3. Figure 3: Gross photograph showing cut surface of the mass with irregular, pale-white homogenous areas.
4. Figure 4: Photomicrograph (Histopathology) showing tumor tissue beneath the stratified squamous epithelium (H&E stain 10X).
5. Figure 5: Photomicrograph (Histopathology) showing epithelial & stromal myxoid component (H&E stain 40X).