

# Benign Mixed Salivary Gland Tumour Arising from Anterior Nasal Septum: Radiologic Dilemma and Case Study

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**Abstract:** Pleomorphic adenomas are the Benign Mixed Salivary gland tumours, typically found in major salivary glands. Their occurrence in the Nasal septum is exceedingly rare. This case report details the clinical presentation, diagnostic process, and treatment of a Pleomorphic adenoma originating from the anterior part of nasal septum in a 63-year-old female patient. The patient presented with a Nasal mass and Epistaxis. The initial diagnosis required the use of both Computerised Tomography (CT) and Magnetic Resonance Imaging (MRI) to accurately identify the tumour's characteristics and extent. Complete Surgical excision was the treatment employed.

**Keywords:** Pleomorphic adenoma, Nasal septum, Benign tumour, Mixed Salivary gland tumours, Nasal mass, Epistaxis, Surgical excision

## Introduction:

Benign Mixed Salivary gland tumour are the most common benign tumours of the salivary glands, usually occurring in the parotid gland <sup>1</sup>. However, their presence in the nasal cavity, specifically anterior part of nasal septum, is unusual. Due to its uncommon location, it presents a diagnostic challenge and may be misdiagnosed as other nasal mass <sup>2</sup>.

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This report aims to present a rare case of mixed salivary gland tumour in the nasal septum, emphasizing its clinical and histopathological features, diagnosis, and management.

### **Case study Presentation:**

A 63-year-old female presented with a six-month history of progressively worsening nasal obstruction and occasional episodes of epistaxis. On examination a smooth, firm mass filling the entire right nasal cavity was noted. Nasal endoscopy confirmed the presence of a nasal mass on the right side, filling the nasal cavity. The endoscope could not be passed on the right side. On the left side, the septum was significantly deviated, likely due to pressure from the right nasal mass.

### **Diagnostic Workup:**

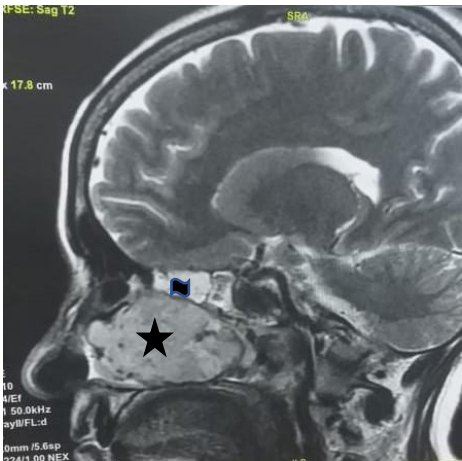
Imaging studies were conducted, initially Contrast Enhanced Computerised Tomography (CECT) scan for Nose and Paranasal sinuses was advised. The CECT scan showed that the non-enhancing mass extended into the right nasal cavity and maxillary sinus, displacing the medial wall of the right maxillary sinus. The mass was found to be separate from the anterior Skull base. The displaced medial wall created doubt about continuation of mass so Magnetic Resonance Imaging (MRI) scan was advised. These studies revealed a non-invasive mass lesion limited to the nasal cavity. The mass occupied the right nasal cavity, appearing isointense on T1-weighted images and hyperintense on T2-weighted images in the MRI. The MRI effectively differentiated the mass in the nasal cavity from the fluid present in the right maxillary sinus which CECT scan could not. Fluid found in maxillary sinus due to blockage of sinus ostia. On Diffusion weighted images mild diffusion restriction was noted.



**Image 1**



**Image 2**



**Image 3**

**Image 1, 2 ,3** - MRI T2 coronal and sagittal section shows well defined rounded Iso to Hyperintense Lesion involving right nasal cavity. Causing blockage of maxillary ostea causing retained secretions in right maxillary sinus. (★ = Nasal Mass, 🌊 = Fluid)



**Image 4**



**Image 5**

**Image 4, 5** - Coronal CT scan images showing mass involving Right Nasal Cavity and maxillary sinus. (★ = Nasal Mass)

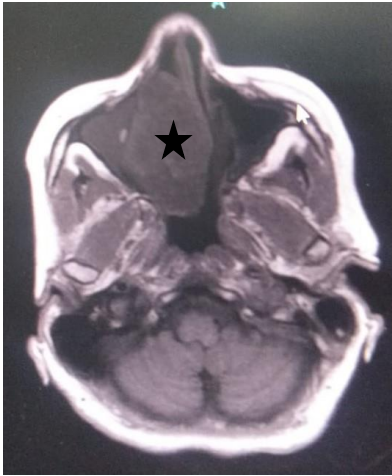


**Image 6**

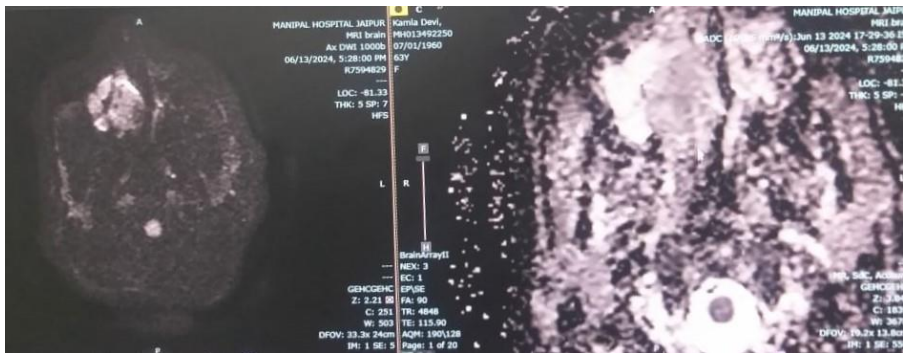


**Image 7**

**Image 6, 7** - Axial CT scan images showing mass involving Right Nasal Cavity. Shows mass filling the entire right nasal cavity antero-posteriorly and filling the right maxillary sinus. (★ = Nasal Mass)



**Image 8** - MRI Axial Images T1 sections shows Isointense lesion in right nasal cavity. (★ = Nasal Mass)



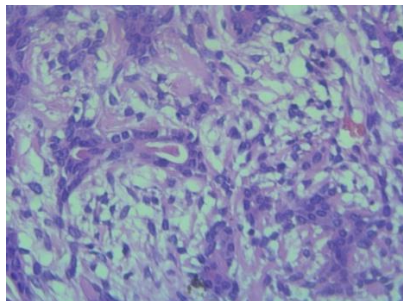
**Image 9** - The lesion reveals mild diffusion restriction appearing hyperintense on DWI and hypointense on ADC

### Treatment:

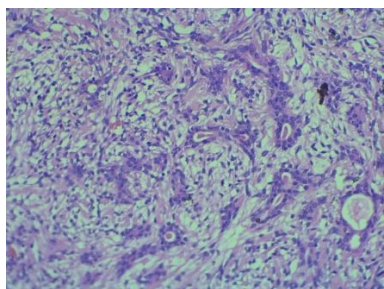
The patient underwent Endoscopic surgery and complete removal was achieved. The mass was found to arise from nasal septum. Post-surgery course was uneventful, and recurrence did not occur during follow-up period.

### **Histopathologic Examination:**

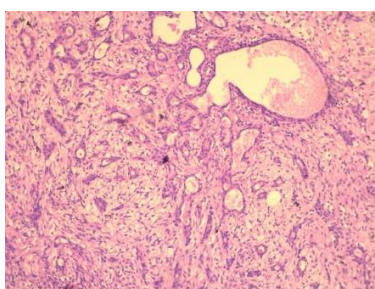
Histopathological examination revealed features consistent with pleomorphic adenoma, characterized by epithelial and myoepithelial cells embedded in a chondromyxoid stroma. No evidence of malignancy was found.



**Image 10** - Histopathologic Image under 40x magnification shows Haematoxylin & Eosin stained section showing closer view of epithelial and myoepithelial components.



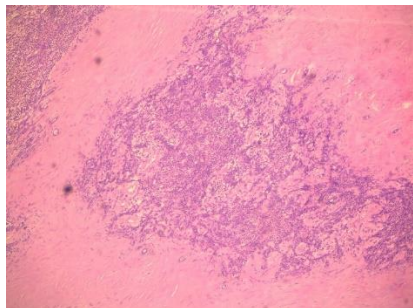
**Image 11**



**Image 12**

**Image 11 and 12** - Histopathologic Image under 20x magnification shows Haematoxylin & Eosin stained sections showing the inner lining of cysts and tubules formed by epithelial cells, while the myoepithelial cells constitute the outer layer of cysts and tubules and are scattered within the myxoid

stroma. The stroma ranges from myxoid to hyaline. No evidence of any cellular atypia, mitosis or necrosis in these sections.



**Image 13** - Histopathologic Image under 10x magnification shows Haematoxylin & Eosin stained section showing a triphasic neoplasm composed of epithelial, myoepithelial and stromal elements.

### **Discussion:**

Mixed Salivary gland tumour is the most frequently encountered benign tumour originating from glandular tissues in the Head-Neck region <sup>3</sup>. Pleomorphic adenomas of the nasal septum are rare, with few cases reported in the literature <sup>4,5,6</sup>. The differential diagnosis includes other benign and malignant tumours of the nasal cavity. Including nasal septal masses like nasal polyps, inverted papilloma, haemangioma, and malignancies such as squamous cell carcinoma and adenocarcinoma. Imaging studies and biopsy are essential for accurate diagnosis <sup>3,7</sup>. Complete surgical excision is the preferred treatment option, with a favourable prognosis and low recurrence rate <sup>8</sup>. Cases have been reported about the recurrence of the tumour <sup>5,9</sup>.

## Conclusion:

This case underscores the importance of considering pleomorphic adenoma in the differential diagnosis of nasal septal tumours. Though rare, pleomorphic adenoma should be recognized as a potential cause of nose blockage and nasal bleed. Accurate diagnosis through imaging and histopathology, followed by complete surgical excision, is crucial for effective management and prevention of recurrence. Due to the variety of potential diseases in the Head-Neck region, a multi-diagnostic modality approach should be employed when in doubt. Endoscopic resection is an effective and safe treatment modality to achieve complete surgical excision.

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### **Declaration-**

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Nil.

### **Conflicts of interest**

There are no conflicts of interest.