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(CASE REPORT)

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Pleomorphic adenoma of the nasal septum: A rare entity and review of literature

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Abstract

Introduction: Pleomorphic adenoma is a common benign salivary gland tumor, rarely occurring in the nasal cavity. These tumors, predominantly arising from the nasal septum, present diagnostic challenges due to their rarity and resemblance to other nasal masses.

Case Report: A 58-year-old male presented with an 8-month history of left-sided nasal obstruction and occasional epistaxis. Nasal endoscopy and imaging revealed a confined nasal septal mass, confirmed as pleomorphic adenoma on histopathology. The tumor was successfully excised via endoscopic surgery. After two years of follow-up, no recurrence was observed.

Conclusion: Though rare, nasal pleomorphic adenomas should be considered in unilateral nasal masses. Endoscopic excision ensures complete removal and favorable outcomes, with long-term follow-up necessary to detect recurrence or malignant transformation.

Keywords: Pleomorphic adenoma; Nasal obstruction; Nasal septum; Salivary gland neoplasms

1. Introduction

Pleomorphic adenoma (PA), also known as a benign mixed tumor, is the most common benign salivary gland tumor, constituting approximately 3% of all head and neck tumors [1,2]. While 70% of PAs arise in major salivary glands, around 10% originate from minor salivary glands [1,2]. Among these, occurrences in the nasal cavity are extremely rare, with an incidence rate of only 0.4% [3].

PA in the nasal cavity most frequently involves the nasal septum, accounting for 80-90% of cases, followed by the lateral nasal wall [4]. This tumor typically exhibits predominant myoepithelial cellularity and a reduced stromal component compared to PAs located in other sites [5]. On histological examination, it is characterized by a combination of polygonal epithelial and spindle-shaped myoepithelial cells within a stroma that may include mucoid, myxoid, cartilaginous, or hyaline materials [6,7].

The rarity of PA in the nasal cavity, combined with its complex anatomy, presents diagnostic and surgical challenges. Differential diagnoses include benign and malignant tumors such as adenocarcinoma, mucoepidermoid carcinoma, and olfactory neuroblastoma, highlighting the importance of accurate histopathological evaluation [8]. This case report aims to describe a unique presentation of pleomorphic adenoma of the nasal septum and provide a review of the literature to enhance understanding of its diagnosis and management.

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2. Case report

A 58-year-old male with no significant medical or surgical history presented to the Otorhinolaryngology Outpatient Department with complaints of left-sided nasal obstruction. The symptoms had progressively worsened over the past 8 months and were associated with occasional minor epistaxis. The patient reported no other nasal symptoms, such as facial pain, foul-smelling discharge, or history of trauma. No cervical lymphadenopathy was palpated, and the patient denied constitutional, ear, or throat symptoms. (firgure1)

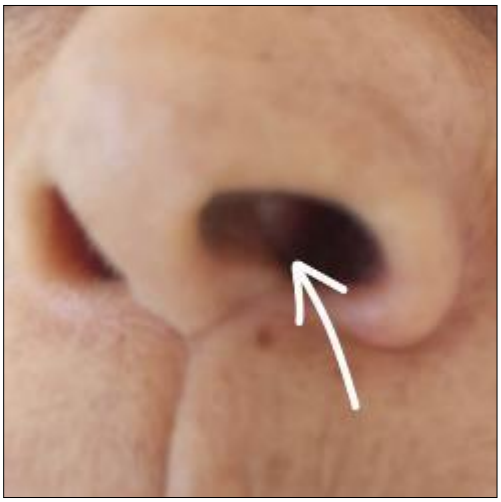

Figure 1 Clinical image showing the mass in the left nasal cavity

Nasal endoscopy revealed a smooth-surfaced mass on the left side of the nasal septum, firm in consistency, originating from the left septum. A computed tomography (CT) scan of the paranasal sinuses showed a well-defined soft tissue lesion located in the left nasal septum, measuring 23 mm x 22 mm x 16 mm, which infiltrated the internal surface of the nasal cartilage (Figure2).

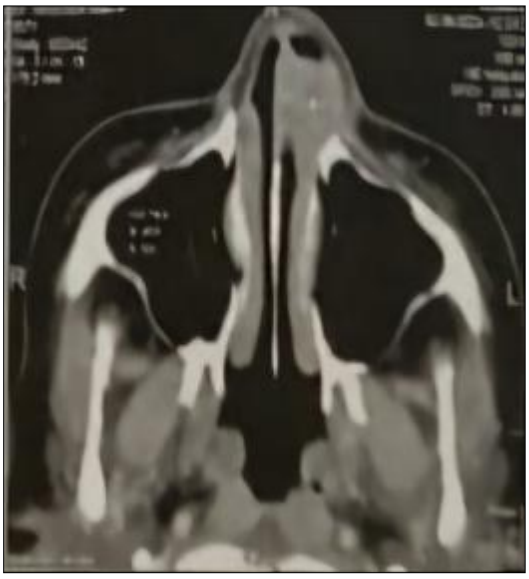

Figure 2 Axial section cervical CT scan: Soft tissue mass in the left nasal septum

Magnetic resonance imaging (MRI) of the sinuses revealed a mass in the left nasal cavity, displaying an isosignal on T1 and hypersignal on T2, measuring 17 mm x 12 mm x 16 mm (Figure 3).

Figure 3 MRI showing the left nasal cavity mass

Endoscopic surgical excision of the mass was performed; with the tumor measuring 18 mm x 13 mm x 10 mm. Histopathological examination confirmed the diagnosis of pleomorphic adenoma. The patient was discharged in satisfactory condition two days post-operatively and re-evaluated at two weeks. Follow-up was conducted monthly during the first six months and subsequently at six-month intervals. After 2 years of follow-up, no recurrence was observed.

3. Discussion

Pleomorphic adenoma (PA) is one of the most common benign salivary gland tumors, representing about 65% of all salivary gland neoplasms. These tumors can develop in the parotid, submandibular, or other minor salivary glands, and more rarely in the respiratory tract, particularly in the nasal cavities, maxillary sinus, and nasopharynx [1,2]. Approximately 80% of pleomorphic adenomas in the nasal cavity originate from the nasal septum s aopposed to the nasopharynx or lateral nasal wall [9]. The rate for malignancy transformation is 2.5-10% [1].

The exact pathogenesis of pleomorphic adenoma remains unclear, though some studies suggest a potential viral association, particularly Epstein-Barr Virus (EBV), which has been found in several cases of nasal septum pleomorphic adenomas [4]. Another theory points to the ectopic presence of epithelial cells in the nasal septum during embryonic development, contributing to the formation of these tumors [5].

PAs are predominantly observed in females within the age range of 30 to 60 years [10], and they often present with symptoms such as unilateral nasal obstruction, epistaxis, sinusitis, and mucopurulent rhinorrhea [2-11]. These tumors typically present as a unilateral lesion that grows slowly and expansively [4].

The differential diagnosis for intranasal masses includes various benign and malignant lesions, such as inverted papilloma, schwannoma, squamous cell carcinoma, malignant melanoma, lymphoma, cartilaginous tumors and other rare tumors [1,9].

Rhinoscopy or rigid nasoendoscopy reveals a unilateral mass with a smooth surface, appearing pale grayish-white [1].

CT scan and MRI play a crucial role in determining the origin and extent of the intranasal mass, particularly when it is small and accompanied by changes in neighboring bony structures. CT scan may show a distinct, lobulated mass displacing the nasal septum [12]. These imaging modalities can help differentiate pleomorphic adenomas from other nasal lesions by revealing distinct features such as cystic or myxoid components [9-13].

Histopathological examination, which reveals both epithelial and mesenchymal components, is essential for diagnosing PA. The histological characteristics of nasal PAs are distinct from those of salivary gland PAs due to the predominance

of epithelial components and a less developed stromal matrix in nasal tumors [14]. Immunohistochemistry, showing markers like cytokeratin, vimentin, and S100 protein, helps confirm the diagnosis [9].

The main treatment for nasal PA remains complete surgical excision to prevent recurrence, with recurrence rates relatively low at 7.5-9% [5]. In cases of smaller tumors, endoscopic transnasal resection is preferred as it provides good access to the tumor site, with minimal complications and good cosmetic preservation [15]. However, surgical approaches depend on the size and location of the tumor, and in more complex cases, techniques such as lateral rhinotomy or midfacial degloving may be necessary [6].

Finally, postoperative follow-up is crucial due to the risk of recurrence and malignant transformation, although some authors recommend a conservative approach without repeat imaging in the absence of symptoms [1-13]. This strategy aims to minimize the risks of recurrence while ensuring optimal patient management

4. Conclusion

Pleomorphic adenomas (PAs) should be considered in cases of unilateral nasal masses. Early detection and complete surgical excision are crucial to prevent recurrence and malignant transformation. Endoscopic resection is the preferred treatment, and long-term follow-up is essential to monitor for recurrence. Enhanced awareness and further research are needed to improve diagnosis and understand the pathogenesis of PAs, especially in atypical locations.

Compliance with ethical standards

Disclosure of conflict of interest

Authors declare no conflict of interest

Statement of informed consent

The patient has given their informed consent for publishing the photos.

Authors' contributions

All authors have read and agreed to the final version of this manuscript.

References

[1] Salahuddin NJI, Sairin ME. Pleomorphic Adenoma of the Nasal Septum: A Case Report. Cureus. 2022 Apr 22;14(4):e24400. doi: 10.7759/cureus.24400. PMID: 35619837; PMCID: PMC9124843.

[2] Baglam T, Durucu C, Cevik C, Bakir K, Oz A, Kanlikama M. Giant pleomorphic adenoma of the nasal septum. Indian J Otolaryngol Head Neck Surg. 2011 Oct;63(4):393-5. doi: 10.1007/s12070-011-0229-3. Epub 2011 Apr 10. PMID: 23024951; PMCID: PMC3227813.

[3] Kajiyama A., Edo H., Inoue N., Yokouchi Y., Gomi T. Magnetic resonance imaging and histopathology in a case of pleomorphic adenoma of a minor salivary gland in the nasal cavity. Am. J. Case Rep. 2019;20:679–684. doi: 10.12659/ajcr.915491 Published 2019 May 12.

[4] Pan X, Cheng X, Wang Q, Feng W, Lu Y, Wei X. Pleomorphic Adenoma in the Nasal Cavity: Case Report and Review of Literature. Ear Nose Throat J. 2024 Jun 14. doi: 10.1177/01455613241261457. Epub ahead of print. PMID: 38877652.

[5] Alsaleh S, Alharbi T. Pleomorphic adenoma of the nasal septum: A case report. Int J Surg Case Rep. 2024 Feb;115. doi: 10.1016/j.ijscr.2024.109229. Epub 2024 Jan 9. PMID: 38211555; PMCID: PMC10788786.

[6] Basharat R, Bjorling A, Samara G. Pleomorphic Adenoma of the Nasal Cavity. Cureus. 2024 Aug 1;16(8):e65969. doi: 10.7759/cureus.65969. PMID: 39221300; PMCID: PMC11365605.

[7] Bokhari MR, Greene J. Pleomorphic Adenoma. 2023 Jul 4. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2025 Jan–. PMID: 28613579.

[8] Grasso M, Fusconi M, Cialente F, de Soccio G, Ralli M, Minni A, Agolli G, de Vincentiis M, Remacle M, Petrone P, Di Maria D, D'Andrea V, Greco A. Rupture of the Pleomorphic Adenoma of the Parotid Gland: What to Know before,

during and after Surgery. J Clin Med. 2021 Nov 18;10(22):5368. doi: 10.3390/jcm10225368. PMID: 34830650; PMCID: PMC8624875.

[9] Sciandra D, Dispenza F, Porcasi R, Kulamarva G, Saraniti C. Pleomorphic adenoma of the lateral nasal wall: case report. Acta Otorhinolaryngol Ital. 2008 Jun;28(3):150-3. PMID: 18646579; PMCID: PMC2644990.

[10] Karligkiotis A., Bozkurt G., Pietrobon G., et al. Endoscopic endonasal resection of sinonasal and nasopharyngeal pleomorphic adenomas: a case series. Turk. Arch. Otorhinolaryngol. 2020;58(3):186–192. doi: 10.5152/tao.2020.5382.

[11] Tang G, Du B, Lan Y, Tian L. Pleomorphic Adenoma of Nasal Septum a Case Report. Indian J Otolaryngol Head Neck Surg. 2023 Apr;75(Suppl 1):978-983. doi: 10.1007/s12070-023-03530-w. Epub 2023 Feb 10. PMID: 37206715; PMCID: PMC10188774.

[12] Oztürk E, Sağlam O, Sönmez G, Cüce F, Haholu A. CT and MRI of an unusual intranasal mass: pleomorphic adenoma. Diagn Interv Radiol. 2008 Dec;14(4):186-8. PMID: 19061162.

[13] Cherrabi K., Maqboub O., Benmansour N., et al. A large and invasive pleomorphic adenoma of nasal cavity: a rare case report and review of literatures. Egypt J. Otolaryngol. 2022;38:3. doi: 10.1186/s43163-021-00194-7

[14] Marlapudi SK, Bishnoi T, Sahu PK, Kumar P. Common Tumor in an uncommon location: Pleomorphic Adenoma of nasal cavity - a case Report. Indian J Otolaryngol Head Neck Surg. 2023 Apr;75(Suppl 1):947-950. doi: 10.1007/s12070-022-03446-x. Epub 2023 Feb 4. PMID: 37206835; PMCID: PMC10188731.

[15] Case H.F., Donaldson A.M., Olomu O.U. Endoscopic management of a nasal septal pleomorphic adenoma. Otolaryngol. Case Rep. 2022 Jun 1;23 doi: 10.1016/j.xocr.2022.100414.