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PLEOMORPHIC ADENOMA OF THE PAROTID GLAND IN A YOUNG MALE: A CASE REPORT

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ABSTRACT

Background:

Pleomorphic adenomas are benign neoplasms of salivary gland origin, most frequently affecting the parotid gland. They are histologically diverse, exhibiting both epithelial and mesenchymal elements, which explains their “pleomorphic” nature. These tumors show a female predominance and typically occur between the third and sixth decades of life. Clinically, they present as slow-growing, painless swellings[1]. Surgical excision with facial nerve preservation remains the cornerstone of treatment.

Case Details:

We describe a case involving a 32-year-old male who developed a slow-growing, painless mass in the left preauricular area. Investigations through MRI and FNAC confirmed the diagnosis of pleomorphic adenoma located in the superficial lobe of the left parotid gland. A surgical excision was scheduled with caution to maintain the integrity of the facial nerve.

Conclusion:

Timely detection of salivary gland tumors enables less invasive surgical options and improves the preservation of the facial nerve. Pleomorphic adenoma is the most frequently occurring benign tumor of the salivary glands and requires careful

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treatment because of its chance of recurrence and infrequent risk of malignant transformation.

INTRODUCTION

Pleomorphic adenoma (PA), known as a benign mixed tumor, is the most frequently occurring tumor in the salivary glands.[2] It makes up about 60–70% of neoplasms in the parotid gland. Most tumors affect the superficial lobe, although extensions into the deep lobe or parapharyngeal spaces are sometimes observed.[3] Clinically, the tumor presents as a slow-growing, painless swelling, usually without facial nerve involvement. PA is more commonly observed in females between the fourth and sixth decades of life. Diagnosis is aided by imaging and cytology, with superficial parotidectomy being the preferred modality of treatment.

CASE REPORT

On May 5, 2025, a 32-year-old male patient came into the outpatient department complaining of a developing, painless lump that had been there for the previous 1.5 years in front of his left ear. The swelling had increased slowly in size without associated pain, fever, weight loss, or difficulty in mastication or swallowing. There was no history of trauma to the region, radiation exposure, or similar complaints in the family.

General health was stable. The patient was a non-smoker and did not consume alcohol. On extraoral examination, a well-defined, ovoid swelling measuring approximately 2.5 cm× 2.5 cm was observed in the left preauricular region. The overlying skin was normal in appearance, with no signs of ulceration or erythema. Facial symmetry was mildly altered due to the swelling. Palpation revealed a firm, non-tender, mobile mass, not adherent to the overlying skin. No signs of local inflammation, fluctuation, or transillumination were noted. Facial nerve function was intact. Intraoral examination was unremarkable.

A benign parotid gland tumour was taken into consideration as a tentative diagnosis. Warthin's tumour, pleomorphic adenoma, and facial nerve schwannoma were among the differential diagnoses. Fine needle aspiration cytology (FNAC) from the lesion showed epithelial and myoepithelial elements in a myxoid background, suggestive of pleomorphic adenoma.

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Magnetic resonance imaging (MRI) of the face revealed a relatively well-defined, lobulated T2/STIR hyperintense lesion measuring approximately 15 x 22 x 20 mm in the superior part of the left superficial parotid gland. The lesion appeared to partially encase the posterior border of the mandibular ramus anteriorly and was closely related to the left retromandibular vein inferiorly. No perineural invasion, deep lobe extension, or significant cervical lymphadenopathy was observed. The oropharyngeal structures and bilateral orbits were normal.

Following imaging and cytologic confirmation, the patient was scheduled for superficial parotidectomy under general anesthesia with facial nerve preservation. A modified Blair incision was planned. Intraoperative facial nerve monitoring was advised. All peripheral branches of the facial nerve were carefully identified and preserved .

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Fig. 1


Fig.

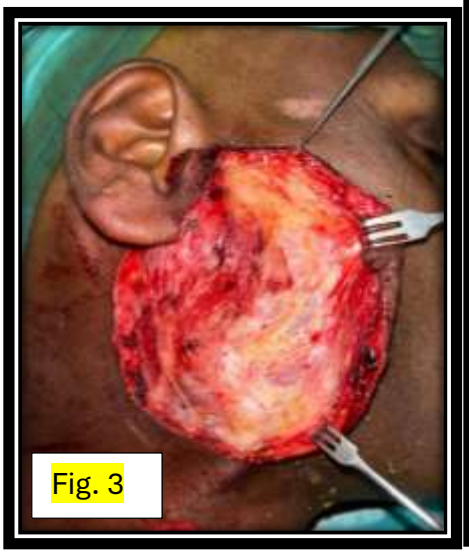
Fig. 3

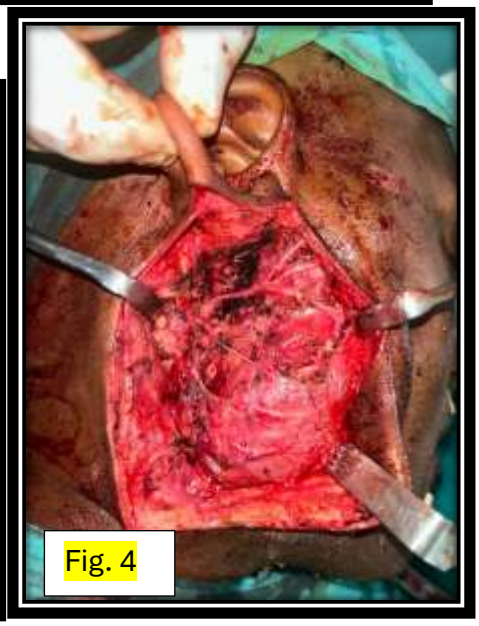
Fig. 4

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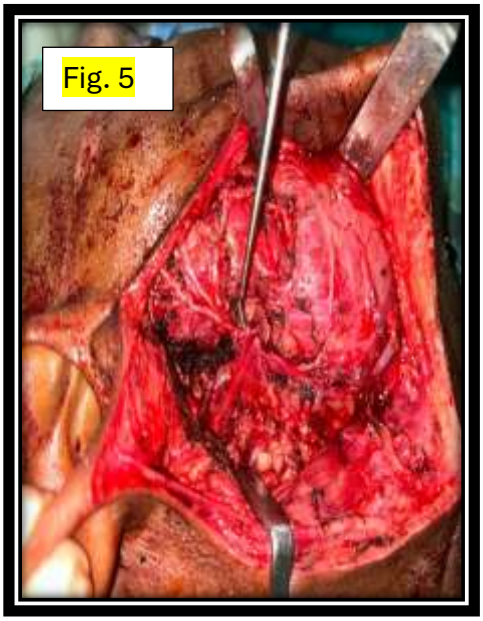

DISCUSSION

About 60–70% of parotid neoplasms are pleomorphic adenomas (PA), the most prevalent benign tumour of the salivary glands.[4] Because of its dual epithelial and mesenchymal development, it is categorised histologically as a benign mixed tumour. The tumor is usually slow-growing and painless, typically affecting the superficial lobe of the parotid gland.[5] While most frequently seen in females between the fourth and sixth decades of life, occurrences in younger males, as in the present case, are not uncommon[6].

The etiology of pleomorphic adenoma remains uncertain. However, several factors including genetic mutations, radiation exposure, and viral oncogenesis (notably simian virus 40) have been implicated[7]. PA has a characteristic histological heterogeneity with epithelial cells arranged in duct-like structures, intermixed with myoepithelial cells embedded in a chondromyxoid, mucoid, or hyalinized stroma[8]. This histological variability is responsible for the “pleomorphic” designation.

Clinically, PA usually presents as a slowly enlarging, firm, non-tender, mobile mass in the parotid region without overlying skin changes or neurological deficit[9]. Facial nerve involvement is rare in benign lesions and often suggests malignancy or very large tumors causing compression[10]. Intraoral examination is generally unremarkable unless there is deep lobe extension, which may displace or impinge upon adjacent oropharyngeal structures[11].

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Diagnostic imaging plays a vital role in evaluating the lesion. Ultrasound may be useful as an initial modality; however, MRI remains the gold standard due to its superior soft tissue contrast, ability to delineate tumor margins, and assessment of perineural spread or deep lobe involvement[12]. In this case, MRI confirmed a well-encapsulated, lobulated lesion within the superficial lobe without perineural or deep space invasion[13].

FNAC is a minimally invasive and reliable technique that provides preliminary diagnosis[14]. Although FNAC cannot definitively differentiate all salivary gland neoplasms, its accuracy in diagnosing pleomorphic adenoma is high[15]. Cytological features include epithelial and myoepithelial components in a fibrillary or myxoid stroma[16]. In our patient, FNAC findings strongly favored PA and correlated well with imaging results[17].

Surgical excision remains the cornerstone of treatment. Superficial parotidectomy with preservation of the facial nerve is the standard approach for tumors localized to the superficial lobe[18]. Enucleation or limited excision is discouraged due to the high risk of recurrence and spillage of tumor cells[19]. Preservation of the facial nerve is crucial and requires meticulous dissection, especially when the tumor lies in proximity to major branches. Intraoperative facial nerve monitoring, as planned in this case, is useful in enhancing surgical safety.

Recurrence rates for pleomorphic adenoma range from 2% to 45%, depending on surgical technique and completeness of excision. The presence of satellite nodules or pseudopodia beyond the main capsule, especially in larger tumors, contributes to recurrence if not completely removed[20]. Therefore, ensuring an intact capsule and clear margins during excision is imperative. Although rare, malignant transformation (carcinoma ex pleomorphic adenoma) can occur in long-standing cases, especially those with large size, older age, or recurrence.

Postoperative follow-up is essential for monitoring any signs of recurrence or complications such as facial nerve weakness, Frey's syndrome, or salivary fistula formation. Our patient is scheduled for regular follow-up visits to assess long-term outcomes and ensure complete recovery[21].

In summary, this case emphasizes the classical presentation and successful management of pleomorphic adenoma in a young male[22]. The diagnosis was established through clinical evaluation, FNAC, and MRI. A carefully planned

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surgical approach with attention to facial nerve anatomy remains pivotal for optimal outcomes in such cases.[23]

CONCLUSION

Pleomorphic adenoma should be considered in any patient presenting with a slowly progressive, painless preauricular swelling. Though benign, early diagnosis and complete surgical excision are imperative to prevent recurrence and malignant transformation[24]. This case highlights the classical presentation of pleomorphic adenoma in a young adult male and emphasizes the importance of facial nerve preservation during parotid surgery[25].

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