

Large Parotid Tumor demystified – A Care – Compliant Case Report

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Abstract

Background: Pleomorphic adenoma (PA) is the most prevalent benign salivary gland neoplasm, predominantly originating within the superficial lobe of the parotid gland.^{2,3} Although slow-growing and painless, long-standing PAs can achieve substantial dimensions, causing severe soft tissue displacement, increasing surgical morbidity regarding the facial nerve, and elevating the risk of malignant transformation into Carcinoma ex Pleomorphic Adenoma (CXPA).⁴

Case Presentation: A 28-year-old male presented with a 5-year history of a progressively enlarging, painless left facial mass measuring 6.0 × 5.0 cm, which he concealed by growing facial hair. Medical history was significant for

newly diagnosed, well-controlled Type 2 Diabetes Mellitus. CE-MRI revealed a well circumscribed, encapsulated, lobulated mass (6.1 × 4.0 × 5.8 cm) in the superficial lobe of the left parotid gland. USG-FNAC confirmed PA.⁹ The patient underwent left superficial parotidectomy via a modified Blair incision with Antero grade facial nerve identification and preservation. The main trunk and Buccal branch were significantly stretched over the capsule but remained structurally intact. In toto resection was achieved without capsular violation.¹⁰

Results: Postoperatively, mild Buccal branch weakness (House - Brackmann Grade II) occurred, which completely resolved to Grade I by three weeks.

Histopathological examination confirmed PA with clear, tumor-free margins. No sialoceles, salivary fistula.

Conclusions: Early surgical intervention with standardized Antero grade facial nerve identification remains the gold standard for managing large parotid PAs, minimizing the risk of permanent neuro praxia, local recurrence, and long-term malignant conversion.^{5,7}

Keywords: Pleomorphic Adenoma, Superficial Parotidectomy, Facial Nerve Preservation, Salivary Gland Neoplasm, Modified Blair Incision.

Introduction

Pleomorphic adenoma (PA), or benign mixed tumor, accounts for 60% to 70% of all primary epithelial salivary gland Neoplasms, with approximately 80% arising in the parotid gland, predominantly within the superficial lobe.^{2,3} Clinically, PA presents as an asymptomatic, slow-growing, solitary, firm, and lobulated swelling.

Despite its benign histological nature, PA is clinically significant due to two key factors

a propensity for local recurrence following incomplete removal or Intraoperative capsular rupture,¹⁰ and the potential for malignant transformation into Carcinoma ex Pleomorphic Adenoma (CXPA) in untreated or long-standing cases.⁴ Surgical excisions via superficial parotidectomy with meticulous preservation of the facial nerve (CN VII) remains the primary therapeutic approach.⁵

This case report documents the clinical management, surgical technique, facial nerve preservation strategy, and clinical outcome of a large, long-standing left parotid PA in a 28-year-old male, strictly adhering to the CARE (Case Report) guidelines.¹¹

Patient Information

- Demographics: 28-year-old male.
- Chief Complaint: Asymmetrical swelling over the left facial region for 5 years.

- History of Present Illness: The patient first noted a small, non-tender nodule in the left parotid region 5 years prior. Over time, the lesion gradually enlarged to its present size. The patient experienced no facial weakness, paresthesia, pain, dysphagia, trismus, or dry mouth. Due to personal apprehension regarding facial asymmetry, the patient cultivated a long, dense beard to conceal the mass.
- Medical History: Newly diagnosed Type 2 Diabetes Mellitus (T2DM), well-controlled on oral hypoglycemic agents.
- Habit History: Occasional tobacco smoking.
- Family History: Non-contributory; no history of head and neck malignancies or salivary disorders.

Clinical Findings

Extra oral Examination

- Inspection & Palpation: A large, solitary, well-defined, firm, non-compressible, non-tender mass (fig. 1) measuring approximately 6.0 × 5.0 cm over the left parotid region.

Anatomical Boundaries

- Anter o posterior (AP): Extends from 1 cm anterior to the left mastoid process to 2 cm posterior to the left angle of the mouth.
- Supero inferior (SI): Extends from the left zygomatic arch to the lower border of the left mandible.
- Overlying Skin: Stretched but normal in color and temperature, freely movable over the lesion.
- Neurological Status: Symmetrical facial movements with intact muscle tone across all branches (fig. 2) (House-Brackmann Grade I).¹
- Lymph Node Status: No palpable cervical lymphadenopathy.

Intraoral Examination

- Mucosa & Oropharynx: Intact oral mucosa without bulging of the lateral pharyngeal wall (fig. 1) or displacement of the tonsillar pillars.

- Salivary Flow: Normal parotid papilla; clear salivary flow expressed upon manual compression of the gland.
- Dentition: Moderate oral hygiene; no gross dental pathosis.

Diagnostic Assessment

Contrast-Enhanced MRI (CE-MRI) (fig. 3)

- Image Findings: Demonstrated a well-encapsulated, lobulated soft-tissue mass measuring $6.1 \times 4.0 \times 5.8$ cm centered in the superficial lobe of the left parotid gland.
- Signal Characteristics: Low-to-intermediate signal intensity on T1-weighted sequences, high signal intensity on T2/STIR sequences, and heterogeneous post-contrast enhancement.
- Tissue Relationships: Marked displacement of surrounding soft tissues without infiltration into the skin, masseter muscle, or mandible. No deep lobe extension or pathologic cervical lymphadenopathy.
- Diagnostic Impression: Benign neoplasm of the superficial lobe of the left parotid gland.

Cytopathology (USG-Guided FNAC)

- Microscopic Features: Smears demonstrated a dual population of plasma cytoid, spindle-shaped, and round myoepithelial cells, present individually and in poorly cohesive clusters, embedded within a background of fibrillary chondromyxoid ground matrix. No cytological atypia, necrosis, or granulomatous inflammation was detected.
- Diagnostic Impression: Diagnostic of Pleomorphic Adenoma.⁹

Surgical Intervention (fig. 4)

Under general anesthesia with nasotracheal intubation (NETI) and standard aseptic preparation

1. Incision & Exposure: A modified Blair incision was executed. A sub-SMAS flap was elevated anteriorly to expose the lateral capsule of the parotid gland.

2. Facial Nerve Trunk Identification: Anterograde identification of the facial nerve main trunk was performed utilizing three classical surgical landmarks.⁷

- Tragal Pointer: The nerve was located approximately 1.0 cm deep and inferomedial to the cartilaginous pointer.
- Posterior Belly of Digastric Muscle: The superior border served as a directional guide to the main trunk.
- Tympanomastoid Suture Line: The exit point from the stylomastoid foramen was identified 3–5 mm inferior to the suture line.

3. Intraoperative Findings: An encapsulated, lobulated tumor occupying the superficial parotid lobe was identified. The mass exerted a marked mass effect, stretching and elongating the main facial trunk and its buccal branch.

4. Resection: A superficial parotidectomy was performed, excising the tumor in toto with a cuff of normal parotid tissue while preserving all branches of the facial nerve. Capsular integrity was strictly maintained to prevent spillage.¹⁰

5. Closure: Hemostasis was secured, a closed-suction drain was placed, and layered closure was completed.

Follow-up and Outcomes

- Postoperative Day 3: Minor weakness in the left Buccal branch distribution (fig. 5) was noted upon active movement (House-Brackmann Grade II;1 resting symmetry intact). Drain output was minimal and subsequently removed.
- Postoperative Week 1: Sutures were removed. Wound healing progressed by primary intention without hematoma or flap necrosis.
- Postoperative Week 3: Complete functional recovery of the Buccal branch (fig. 6) was achieved (House-Brackmann Grade I).1 No signs of sialoceles or salivary fistula were observed.

• **Definitive Histopathology:** Confirmed Pleomorphic Adenoma. Microscopic examination demonstrated ductal structures lined by inner epithelial and outer myoepithelial cells, radiating into an abundant myxoid and chondroid stroma. The fibrous capsule was intact, and surgical margins were free of tumor.

Discussion

Antero grade Landmarks for Facial Nerve

Preservation Iatrogenic facial nerve injury is a significant concern during parotid surgery. Identification of the main trunk before peripheral dissection (Antero grade approach) is the safest method for preserving nerve integrity.⁷

- **Tragal Pointer:** A consistent anatomical landmark where the trunk lies approximately 1.0 cm deep and Inferomedial to its tip.⁷
- **Posterior Belly of the Digastric Muscle:** Serves as an inferior boundary; tracing superiorly brings the surgeon directly to the nerve trunk.⁷
- **Tympanomastoid Suture Line:** The most reliable fixed osseous landmark, directing the surgeon to the stylomastoid foramen located 3–5 mm inferiorly.⁷
- **Styloid Process:** Located deep and anteromedial to the nerve trunk; helpful when extensive tumor displacement distorts soft tissue relationships.

In cases where massive tumors obscure the main trunk, retrograde identification via peripheral branches (e.g., marginal mandibular branch crossing the facial vessels or buccal branch parallel to Stensen's duct) can be considered.⁶

Complications Associated with Parotid Surgery
Parotidectomy carries risk of specific regional complications

- **Facial Neuropraxia:** Transient weakness occurs in 20% to 40% of cases due to surgical traction, mechanical displacement, or thermal effects.^{5,8} In this patient,

stretching over the tumor capsule caused transient neuropraxia (HB Grade II)¹ that resolved fully within two weeks. Permanent paralysis occurs in fewer than 5% of benign cases.⁵

- **Salivary Sialoceles & Salivary Fistula:** Occurs secondary to leakage from transected parotid parenchyma. Prevention involves meticulous parenchymal ligation and pressure dressings.
- **Frey Syndrome (Gustatory Sweating):** Caused by misdirected regeneration of parasympathetic secretomotor fibers of the auriculotemporal nerve to cutaneous sweat glands.
- **Great Auricular Nerve Hypesthesia:** Numbness of the lower auricle and lobule resulting from traction or sacrifice of the posterior branch of the great auricular nerve.

Risk of Malignant Transformation in Neglected Pleomorphic Adenoma

Although histologically benign, long-standing PAs harbour a well-documented risk of malignant transformation into Carcinoma ex Pleomorphic Adenoma (CXPA):⁴

- **Incidence:** The risk of malignant transformation is approximately 1.5% in tumors present for under 5 years, rising dramatically to 9.5% to 10% in cases neglected beyond 15 years.⁴
- **Molecular Pathogenesis:** Malignant transformation is driven by sequential genetic alterations, typically initiating with PLAG1 or HMGA2 gene rearrangements followed by secondary mutations involving TP53 and MDM2.⁴
- **Clinical Indicators:** Rapid growth acceleration, development of spontaneous pain, facial nerve dysfunction, skin fixation, or cervical lymphadenopathy in a previously indolent mass strongly suggest malignant

conversion and necessitate urgent oncological management.⁴

Psychosocial Adaptation

This case illustrates the psychosocial adaptation observed in patients with benign head and neck tumors. The patient's strategy of growing facial hair to cover the asymmetry allowed him to delay seeking medical care for 5 years, highlighting the role visual camouflage plays in patient delay.

Conclusion

Superficial parotidectomy with Antero grade facial nerve tracing provides a safe, reproducible treatment for large pleomorphic adenomas of the parotid gland. Early diagnosis and total surgical excision with clear margins are necessary to achieve complete functional preservation, prevent local recurrence, and eliminate the risk of malignant transformation into Carcinoma ex Pleomorphic Adenoma.

Declarations

- Informed Consent: Written informed consent was obtained from the patient for publication of this case report and accompanying clinical data.
- Conflict of Interest: The authors declare no competing financial or personal interests.
- Funding: No funding was received for this study.

References

1. House JW, Brackmann DE. Facial nerve grading system. Otolaryngol Head Neck Surg. 1985;93(2):146-147.
2. Eveson JW, Cawson RA. Salivary gland tumors: an analysis of 2410 cases with particular reference to histological types, site, age and sex distribution. J Pathol. 1985; 146(1):51-58.
3. Valstar MH, de Ridder M, van den Broek EC, et al. Salivary gland carcinoma in the Netherlands: A

nationwide study on incidence, histology, and survival. Cancer. 2020; 126(16):3686-3695.

4. Antony J, Gopalan V, Smith RA, Lam AK. Carcinoma ex pleomorphic adenoma: a comprehensive review of clinical, pathological and molecular aspects. Surg Oncol. 2012; 21(4):294-309.
5. Witt RL. Major salivary gland surgery. Otolaryngol Clin North Am. 2003; 36(5): vii-viii.
6. Roh JL. Temporal branch of facial nerve preservation in parotidectomy. Oral Oncol. 2007; 43(5):486-492.
7. Al-Salihi KA, et al. Surgical landmarks for identification of the main trunk of the facial nerve in parotid surgery. J Craniofac Surg. 2018; 29 (7):1920-1925.
8. Olsen KD, Daube JR. Intraoperative facial nerve monitoring in parotid surgery. Laryngoscope. 1992; 102(5):562-565.
9. Nouraei SA, O'Connell DA, Giles M, et al. Accuracy of fine-needle aspiration cytology in salivary gland lesions. Laryngoscope. 2008; 118(5):826-831.
10. Bradley PJ. The recurrent pleomorphic adenoma concept. Curr Opin Otolaryngol Head Neck Surg. 2011; 19 (2):96-104.
11. Gagnier JJ, Kienle G, Altman DG, Moher D, Sox H, Riley D; CARE Group. The CARE guidelines: consensus - based clinical case reporting guideline development. BMJ Case Rep. 2013 Oct 23; 2013: bcr 2013 201554.

Legend Figures



Fig. 1: Pre-operative clinical photographs.



Fig. 2: Pre op facial nerve function

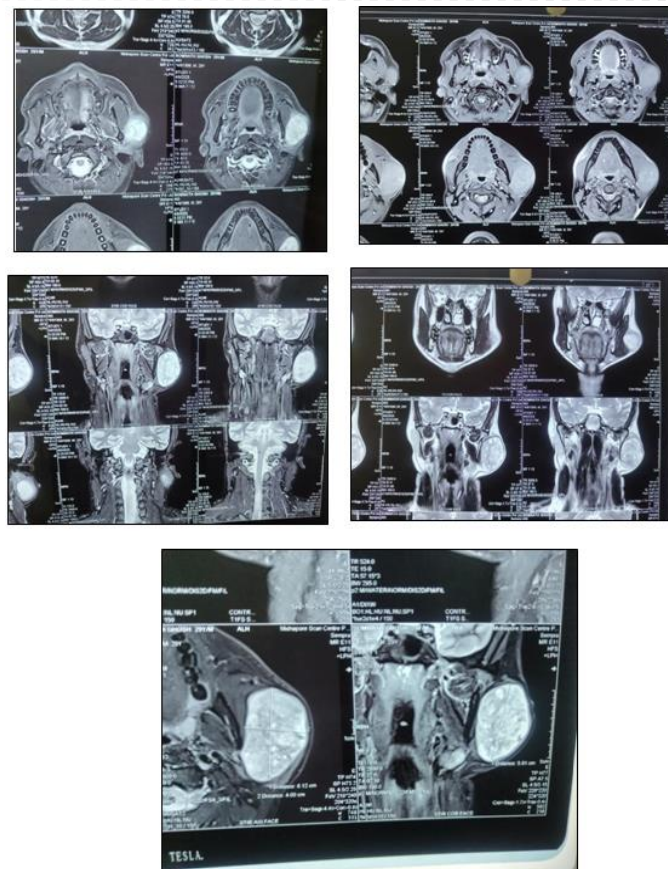


Fig. 3: CEMRI off ace and neck.

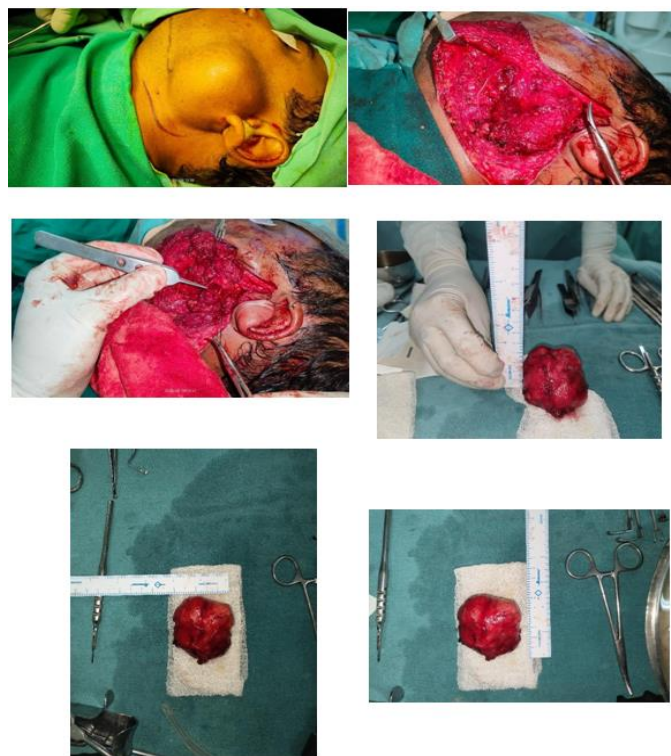


Fig. 4: intra op photographs.



Fig. 5: Postopday3.

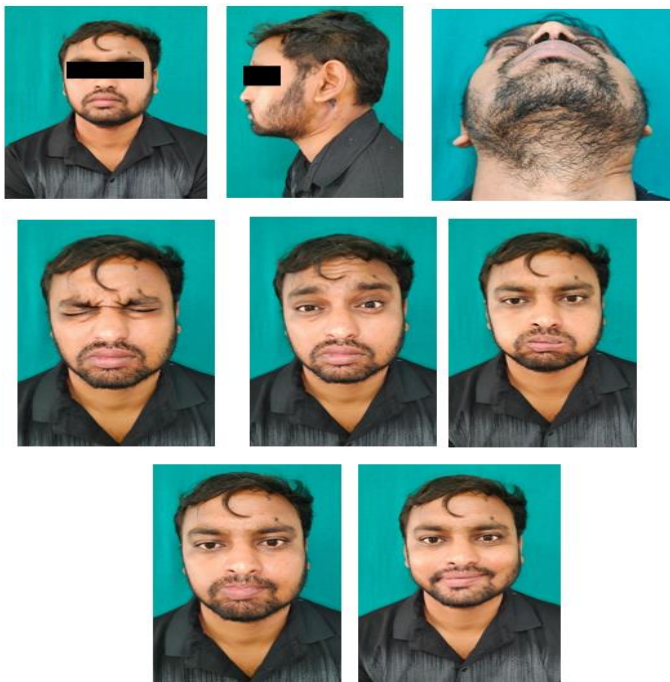


Fig. 6: Postop3 weeks.