CASE REPORT

Giant Pleomorphic Adenoma In A 74-Year-Old: Navigating Surgical Management In A High-Risk Patient

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ABSTRACT

Background: Pleomorphic adenoma is the most common benign tumor of the salivary glands and typically presents as a slow-growing painless mass. Giant tumors are uncommon in modern clinical practice due to earlier diagnosis. Management becomes significantly more complex in elderly patients with multiple comorbidities.

Case Presentation: An 74-year-old male presented with a progressively enlarging painless swelling over the right parotid region for 3 years. Clinical examination revealed a firm, mobile mass measuring approximately 9 × 5 × 4 cm, causing displacement of the ear lobule. Imaging demonstrated a heterogeneous lesion involving the superficial lobe of the parotid gland. Fine-needle aspiration cytology suggested a salivary gland neoplasm of uncertain malignant potential (Milan IVB). The patient had multiple comorbidities, including diabetes mellitus, coronary artery disease, bronchial asthma, and chronic kidney disease with elevated renal parameters requiring preoperative dialysis.

Management and Outcome:

After multidisciplinary optimization, including three sessions of hemodialysis, the patient underwent superficial parotidectomy with preservation of the facial nerve. Histopathological examination confirmed a cellular pleomorphic adenoma. The postoperative course was uneventful.

Conclusion: This case highlights the importance of meticulous perioperative planning and multidisciplinary management in elderly high-risk patients undergoing parotid surgery.

KEYWORDS: Pleomorphic adenoma; Parotid tumor; Superficial parotidectomy; Elderly; Hemodialysis; Salivary gland tumor; SUMP

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INTRODUCTION

Pleomorphic adenoma is the most common benign neoplasm of the salivary glands, accounting for approximately 60–70% of parotid gland tumors.[1] It is characterized by its histological diversity, comprising epithelial and myoepithelial elements embedded within a stromal background that may be myxoid, chondroid, or fibrous in nature. Clinically, it presents as a slow-growing, painless swelling and most frequently affects individuals between the third and sixth decades of life.[2]With increasing awareness and access to healthcare, most pleomorphic adenomas are diagnosed at an early stage, and the occurrence of large or "giant" tumors has become relatively uncommon. However, delayed presentation may still occur, particularly in elderly patients or those with significant comorbidities, leading to diagnostic and therapeutic challenges. The management of such cases requires careful consideration of surgical risks, especially in patients with systemic illnesses. We present a case of a giant pleomorphic adenoma of the parotid gland in an elderly patient with multiple comorbidities, including chronic kidney disease requiring preoperative dialysis, highlighting the importance of multidisciplinary perioperative optimization.

CASE PRESENTATION

An 74-year-old male presented with a swelling over the right cheek that had been progressively increasing in size over a duration of three years. The swelling was insidious in onset and remained painless throughout its course. There was no history suggestive of facial nerve involvement, including deviation of angle of mouth, inability to close the eye, or facial asymmetry. The patient denied any difficulty in swallowing, breathing, or phonation.

There was no history of fever, weight loss, anorexia, or constitutional symptoms. The patient was a known case of type 2 diabetes mellitus and coronary artery disease, for which he was on regular medication. He also had a history of bronchial asthma and chronic kidney disease. His personal history was significant for long-term smoking and alcohol consumption, both of which he had discontinued five years prior.

On general examination, the patient was conscious, oriented, and afebrile, with stable vital parameters. There was no pallor, icterus, cyanosis, clubbing, lymphadenopathy, or pedal edema.

Local examination of the head and neck revealed a well-defined oval swelling measuring approximately 9 × 5 × 4 cm in the right parotid region. The swelling extended from the cheek to the angle of the mandible and resulted in upward and outward displacement of the ear lobule. The skin over the swelling appeared stretched, with visible engorged veins, but there was no ulceration or discoloration.

On palpation, the swelling was firm in consistency, non-tender, and mobile. It was located deep to the deep fascia and was not adherent to the overlying skin or underlying structures. There was no local rise in temperature. Examination of the oral cavity was unremarkable, with no medial displacement of the tonsillar region. Mouth opening was adequate. The facial nerve was clinically intact, and no cervical lymphadenopathy was detected.

Based on clinical findings, a provisional diagnosis of a benign parotid tumor was made.

LABORATORY INVESTIGATIONS

Routine hematological and biochemical investigations were performed. Hemoglobin levels, total leukocyte count, and platelet count were within normal limits. Liver function tests were unremarkable. However, renal function tests revealed elevated blood urea and serum creatinine levels, consistent with underlying chronic kidney disease. Electrocardiography did not show any acute abnormalities.

RADIOLOGICAL EVALUATION

Ultrasonography of the neck revealed a well-defined solid cystic lesion in the right parotid region with internal vascularity. The right parotid gland was not separately visualized, suggesting a lesion arising from the gland.

Contrast-enhanced computed tomography of the neck demonstrated a large heterogeneous solid cystic lesion located at the angle of the mandible on the right side. The lesion was seen abutting the superficial lobe of the parotid gland and the right masseter muscle. There was no evidence of deep lobe involvement or adjacent bony erosion.

Fine-needle aspiration cytology of the lesion was categorized as Milan Category IVB (salivary gland neoplasm of uncertain malignant potential), indicating the need for surgical excision.[6]

PREOPERATIVE ASSESSMENT

Given the patient's advanced age and multiple comorbidities, a detailed preoperative evaluation was undertaken. Clearance was obtained from cardiology, pulmonology, and general medicine specialties.

In view of deranged renal function parameters, a nephrology consultation was sought. The patient was initiated on hemodialysis, and three sessions were completed prior to surgery to optimize metabolic status. Fluid balance, electrolyte levels, and cardiovascular stability were carefully monitored.

A multidisciplinary approach was adopted to minimize perioperative risk and ensure safe surgical intervention.

SURGICAL PROCEDURE

The patient underwent superficial parotidectomy under general anesthesia. A standard preauricular incision with cervical extension was used to provide adequate exposure.

Intraoperatively, the tumor was found to be confined to the superficial lobe of the parotid gland. The deep lobe was not involved. The facial nerve was identified using standard anatomical landmarks and meticulously preserved throughout the procedure.

The tumor, along with the involved superficial lobe, was excised completely without rupture of the capsule. Hemostasis was secured, and a drain was placed prior to closure.

The excised specimen measured approximately 11 × 7 × 5.5 cm and weighed 150 grams.

POSTOPERATIVE COURSE

The postoperative period was uneventful. The patient remained hemodynamically stable and did not develop any signs of facial nerve dysfunction. There was no evidence of hematoma, seroma, or wound infection.

The surgical drain was managed appropriately, and wound healing progressed satisfactorily. At the time of discharge, the patient's renal function parameters remained elevated, and he was advised to continue renal replacement therapy under nephrology supervision.

The patient was discharged in stable condition with instructions for regular follow-up.

HISTOPATHOLOGICAL EXAMINATION

Gross examination of the specimen revealed a well-circumscribed encapsulated tumor.

Microscopic examination showed a cellular neoplasm composed of epithelial and myoepithelial cells arranged in sheets and duct-like structures. The stroma exhibited myxoid areas with focal collections of foamy cells. The tumor cells were polygonal to spindle-shaped with moderate eosinophilic cytoplasm.

No significant nuclear atypia, abnormal mitotic figures, capsular invasion, or vascular invasion was identified. Small foci of necrosis were noted. Special stains for glycogen and mucin were negative.

These findings were consistent with a diagnosis of cellular pleomorphic adenoma, myoepithelial cell-rich type.

IMAGES

The following images are included to support the diagnosis and management:

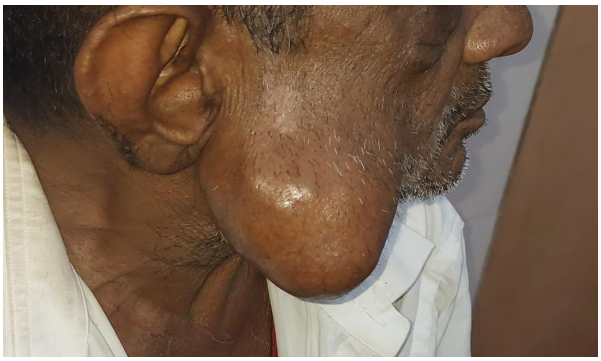

Figure 1: Preoperative clinical photograph showing right parotid swelling with displacement of ear lobule

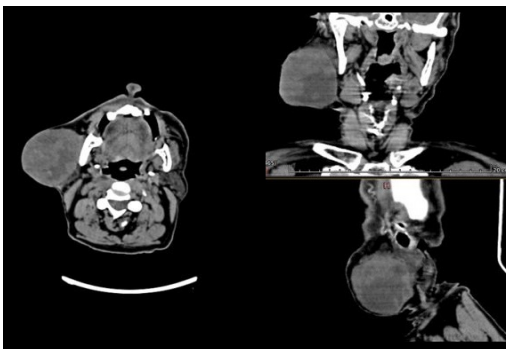

Figure 2: Contrast-enhanced CT scan demonstrating heterogeneous lesion in right parotid region

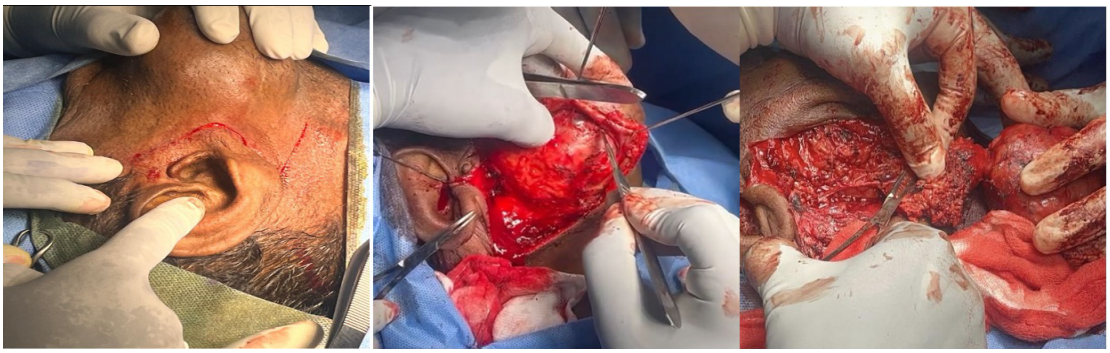

Figure 3: Intraoperative photograph showing exposure and preservation of facial nerve

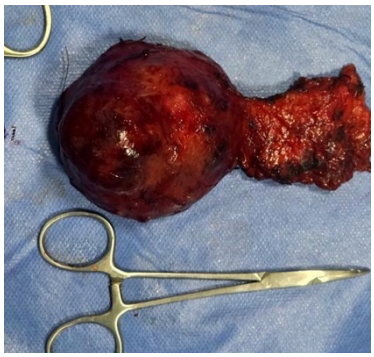

Figure 4: Resected specimen following superficial parotidectomy

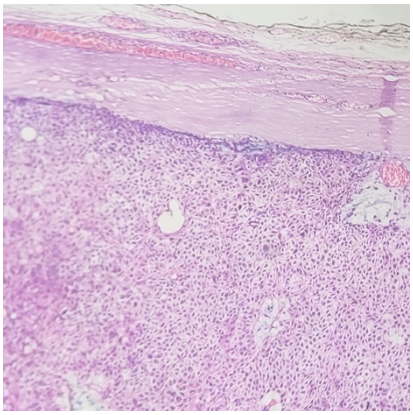

Figure 5: Histopathological slide showing features of pleomorphic adenoma-myoepithelial cell rich type.

DISCUSSION

Pleomorphic adenoma is the most frequently encountered benign neoplasm of the salivary glands, accounting for roughly 60–70% of all parotid tumors.[1,2] It arises from a mixture of epithelial and myoepithelial cells set within a variable stromal matrix, and its hallmark clinical behavior is slow, painless growth over months to years. While most cases are now diagnosed at a manageable size owing to improved healthcare access and imaging, giant pleomorphic adenomas — generally defined as those exceeding 5–6 cm — continue to be reported, particularly in populations with limited access to care, advanced age, or significant medical comorbidities that delay presentation.[3]

In the present case, the tumor had grown to approximately 11 × 7 × 5.5 cm and weighed 150 grams at the time of excision. This degree of enlargement introduced several surgical concerns. Large tumors distort the normal anatomical relationships of the parotid region, making identification of the facial nerve trunk and its branches considerably more difficult.[3] The risk of inadvertent nerve injury rises with tumor size, and meticulous layer-by-layer dissection using standard anatomical landmarks — such as the tragal pointer, the posterior belly of the digastric muscle, and the tympanomastoid suture — becomes even more critical.[9] In this patient, the facial nerve was successfully identified and preserved, and no postoperative motor deficit was observed.

The cytological classification of the lesion as Milan Category IVB — salivary gland neoplasm of uncertain malignant potential (SUMP) — added a further layer of complexity.[6] This category encompasses lesions that demonstrate atypical features insufficient for a definitive malignant diagnosis but carry a reported risk of malignancy ranging from approximately 25% to 55% in various series.[6,12] The uncertainty inherent in this classification mandates surgical excision both for definitive histological diagnosis and for therapeutic intent. In our case, final histopathology confirmed a cellular pleomorphic adenoma of the myoepithelial cell-rich subtype, with no capsular invasion, vascular invasion, or features suggestive of carcinoma ex pleomorphic adenoma.[4,5]

The management of this patient was significantly complicated by his advanced age and burden of systemic disease. Chronic kidney disease with deranged renal parameters posed the most immediate perioperative threat, as uremia adversely affects platelet function, increases bleeding tendency, and impairs wound healing. Preoperative hemodialysis was therefore initiated, and three sessions were completed to normalize electrolyte balance, correct metabolic acidosis, and reduce uremic toxins prior to surgery. This approach aligns with current recommendations for renal optimization before elective surgical procedures in patients with advanced CKD.[3] Concurrent cardiovascular and pulmonary comorbidities — coronary artery disease, type 2 diabetes mellitus, and bronchial asthma — necessitated cardiology and pulmonology clearance to minimize the risk of perioperative cardiac events and bronchospasm under general anesthesia.

The favorable outcome in this case underscores the value of a structured multidisciplinary approach. Coordination among the surgical team, anaesthesiology, nephrology, cardiology, and pulmonology allowed the patient to undergo a major head and neck procedure with an uneventful recovery. Such collaboration is especially important in the growing population of elderly surgical candidates who present with complex medical backgrounds.

Superficial parotidectomy remains the gold standard for benign tumors confined to the superficial lobe, offering low recurrence rates of approximately 1–5% when performed with an intact capsule and adequate cuff of normal tissue.[9,11] Extracapsular dissection has been proposed as a less invasive alternative for smaller, well-defined tumors;[7] however, in a giant tumor with SUMP cytology, formal superficial parotidectomy provides more reliable margins and better facilitates facial nerve visualization.[3,9,10] Long-term follow-up remains essential, as pleomorphic adenomas carry a well-documented risk of recurrence — particularly when capsular integrity is compromised —[8,11] and a small but significant risk of malignant transformation (carcinoma ex pleomorphic adenoma), estimated at roughly 6% over 15 years and increasing with disease duration.[3,8]

CONCLUSION

In conclusion, this case illustrates that even in patients with substantial surgical risk, giant pleomorphic adenomas of the parotid gland can be safely managed through careful preoperative optimization and a multidisciplinary team approach. It also reinforces the importance of early diagnosis and timely referral to prevent tumor progression and the complications associated with delayed intervention.

DECLARATIONS

Patient Consent:

Informed written consent was obtained from the patient for publication of this case report and accompanying images.

Conflict of Interest:

The authors declare no conflict of interest.

Funding:

No funding was received for this study.

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