

# Giant pleomorphic adenoma of the parotid gland extending to the parapharyngeal space: A rare case report

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## ABSTRACT

**Introduction:** Parotid gland tumor with extension to the parapharyngeal space is a rare condition. The aim of this study is to report an extremely rare condition of deep lobe parotid gland tumor involving the parapharyngeal space. **Case Report:** A 49-year-old female presented with a large growth on the left side of the face, which enlarged gradually over a period of 10 years. Radiological investigations determined the exact location and extent of the tumor. Complete resection was performed with a favorable outcome. **Conclusion:** Pleomorphic adenoma with parapharyngeal extension is a rare but difficult to be managed benign tumor of the salivary glands. However, in selected cases, the submandibular transcervical approach without an osteotomy can be safe.

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## INTRODUCTION

Pleomorphic adenoma, which is a benign salivary gland mixed tumor, constitutes up to two-thirds of all neoplasms of the salivary gland [1]. It is located in the parotid glands in 85% of the cases, the remainders affect the submandibular glands (5%) and minor salivary glands (10%) [2]. The two differentiating characteristics of Pleomorphic adenoma are frequent malignant conversion and high recurrence rate. Asymptomatic swelling is the most common mode of presentation. Increase in growth rate, changes in consistency, invasion of facial nerve are among the alarming signs of malignant conversion [3, 4].

In the majority of the cases, superficial lobe of the parotid gland hosts the pathology. However, in rare cases the deep lobe will be affected as well, extension into the parapharyngeal space is even rarer with limited experience in presentation, clinical courses, diagnosis and management [5]. Due to its anatomical location, management of any disease in the parapharyngeal space is a challenging issue to the physician [6]. The area is an

inverted pyramid, the base of which is formed by the base of the cranium (small portion of petrosal bone), and the apex defines the joint between the posterior belly of the digastric muscle and the greater cornu of the hyoid bone. [6].

The aim of this study is to report a case of large pleomorphic adenoma of parotid gland in a female patient involving deep lobe extending into the parapharyngeal space with focus on the diagnosis and the surgical approach.

## CASE REPORT

A 49-year-old female patient was referred to department of general surgery with a chief complaint of swelling in the left side of the jaw for ten years which increased in size gradually over the last eight months. She denied any odynophagia, respiratory distress, dysphagia, otalgia or weight loss. There was a non-mobile, not tender, 5x4 cm swelling in the left mandibular angle and submandibular region with solid consistency. On nasal endoscopy, submucosal fullness was seen in the left nasopharynx; on laryngoscopy, the left oropharyngeal fullness was seen extending to the hypopharynx. However, the true vocal folds were mobile bilaterally, and the airway remained patent. Magnetic resonance imaging (MRI) of the neck demonstrated a left-sided 7x4x5 cm parapharyngeal mass, causing muscle displacement without fat plane between the deep lobe and the mass. Radiographically, these features were consistent with the neoplasm of the deep-lobe (Figures 1). Extra oral fine needle aspiration cytology (FNAC) was performed under ultrasound guide which showed admixed epithelial, myoepithelial and mesenchymal components consistent with pleomorphic adenoma (Figure 2). The patient underwent excision of the mass via a trans-parotid and trans cervical approach. The facial nerve and its branches were preserved and the tumor was excised in toto without mandibular osteotomy. The patient tolerated the procedure well, and she recovered uneventfully. Findings on histologic evaluation were consistent with a pleomorphic adenoma. The patient was free of symptoms two months after operation.

## DISCUSSION

Parapharyngeal space neoplasm arising from the salivary gland is an exceptional condition which occurs in the fourth and sixth decades of life [7, 8]. The current case reported in a 49 year-old patient. It presents with a high rate of recurrence even if it resembles a benign neoplasm due to the few symptoms complained of by the patient and extension into the hidden site (parapharyngeal space) [9]. They are generally discovered, during routine physical examination, as an asymptomatic mass. They may appear as a cervical swelling, as in the current case,

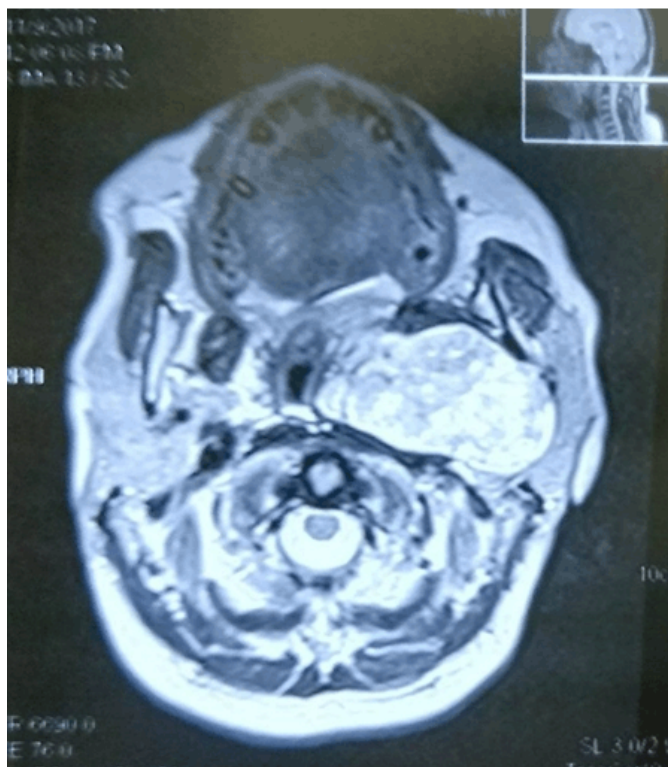


Figure 1: Axial and sagittal MRI scan showing extension of swelling from deep lobe of parotid gland into the left parapharyngeal space invading oropharynx.

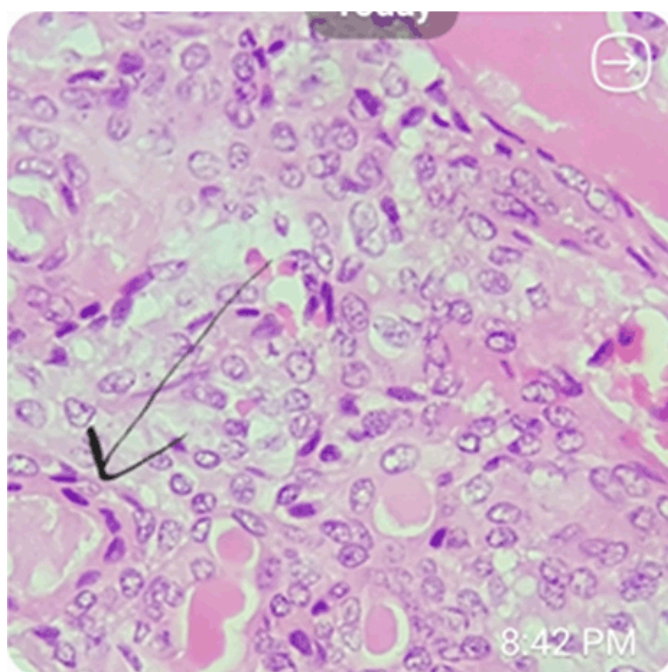


Figure 2: Excisional biopsy shows paranchymatous gland with myoepithelium, stroma with epithelial tissue (the arrow).

or as an intra-oral mass. They remain silent for a long period of time [10]. Diagnostic imaging, such as computed tomography (CT) or MRI, is mandatory: MRI is superior to other modality owing that it determines the margins

and their relationship with the surrounding tissues [10]. MRI suggested the diagnosis in the current case.

Controversy exists regarding the use of FNAC in the diagnostic procedures due to localization of these lesions and their relationship with the vascular and nervous structures that can be damaged by this kind of examination [11]. In their study, Munir and his associates analyzed the 10 year registry which recorded 30 patients with deep lobe pleomorphic adenoma, in eighteen (72%) cases, FNAC was performed and pleomorphic adenoma was confirmed in fourteen cases [12–14]. The present case was diagnosed pre-operatively by FNAC and confirmed by excisional biopsy.

The treatment of these tumors is the most challenging part to the head and neck surgeon because of the hidden location of the tumor with very critical nearby structures such as large vessels of the neck, sympathetic chain, lymph nodes, and lower cranial nerves [10]. Spitting of the mandible is a necessary step in most of the approaches [15]. However, in our case, division of the mandible was not practiced because of the prestyloid localization of tumor, which permitted total excision of the neoplasm without injury the surrounding vital structures.

## CONCLUSION

Pleomorphic adenoma is a benign epithelial tumor arising from the salivary glands. Extension into the parapharyngeal space is a difficult to be managed variant. MRI and FNAC helps proper preoperative diagnosis and careful plane to surgical resection, in selected cases of parapharyngeal space benign tumours, the neoplasm can be resected with mandibular preservation.

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## Author Contributions

Abdulwahid M. Salih – Substantial contributions to conception and design, Analysis and interpretation of data, Revising it critically for important intellectual content, Final approval of the version to be published  
 Fahmi H. Kakamad – Substantial contributions to conception and design, Drafting the article, Revising it critically for important intellectual content, Final approval of the version to be published  
 Shakhawan M. Ali – Analysis and interpretation of data, Drafting the article, Final approval of the version to be published  
 Imad J. Habibullah – Acquisition of data, Revising it critically for important intellectual content, Final approval of the version to be published  
 Payman Kh. Mahmud – Analysis and interpretation of data, Drafting the article, Final approval of the version to be published

## Guarantor of Submission

The corresponding author is the guarantor of submission.

## Source of Support

None

**Consent Statement**

Written informed consent was obtained from the patient for publication of this case report.

**Conflict of Interest**

Authors declare no conflict of interest.

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