International Surgery Journal
Barragan MDCA et al. Int Surg J. 2026 May;13(5):xxx-xxx
http://www.ijsurgery.com
pISSN 2349-3305 | eISSN 2349-2902

Case Report

DOI: https://dx.doi.org/10.18203/2349-2902.isj20261131

Parotid gland pleomorphic adenoma: case report and literature review

Maria Del Carmen Arrieta Barragan[1]*, Alejandra Carrera Holguin[2], Rebeca Pamela Parra Enciso[3], Rafael Eduardo Duarte[4], Ricardo Burciaga Castaneda[5], Gerardo Alberto Mancillas Solis[6]

[1]Centro Medico ABC, Ciudad de Mexico, Mexico
[2]Department of General Surgery, at Hospital General de Torreon, Coahuila, Mexico
[3]Department of General Surgery at Hospital Central Sur Pemex, Ciudad de Mexico, Mexico
[4]Department of General Surgery, at Hospital General ISSSTE Zacatecas, Mexico
[5]C. H. ISSSTE Gómez Palacio, Durango, Mexico
[6]Hospital General Nuevo Gómez Palacio, Durango, México

Received: 11 February 2026
Revised: 17 March 2026
Accepted: 16 April 2026

***Correspondence:**
Dr. Maria del Carmen Arrieta Barragan,
E-mail: dr.bresssurgeon@gmail.com

ABSTRACT

Pleomorphic adenoma (PA) is the most prevalent benign tumor of the salivary glands, usually involving the parotid gland. Surgical treatment with segmental parotidectomy can be a secure, efficacious, nerve-protection route for superficial lobe lesions. observation can potentially provide an alternative to surgery considering that they may potentially face malignant transformation despite the risks associated with surgery as well as on the quality of life.

Keywords: Pleomorphic adenoma, Parotidectomy, Facial nerve, Segmental parotidectomy

INTRODUCTION

Pleomorphic adenoma (PA) accounts for 40-70% of salivary gland tumors is a clinically significant, histologically benign tumor with two characteristics, one is a susceptibility to local recurrence if not entirely removed, and the other is a modest but lifelong risk of malignant change into carcinoma.[1,2] Parotid cancers often require superficial/total parotidectomy, all these procedures are the best for preventing recurrence. Most dangerous is facial nerve injury, which can induce weakness/paralysis, also all surgical techniques can cause salivary fistulas, Frey syndrome, and cosmetic issues.[3]

CASE REPORT

A 16-year-old male patient was referred to the General Surgery service due to a noticeable swelling mass on the left side of his face, present for at least two years, accompanied by motor dysfunction of left facial nerve, specifically affecting the zygomatic and buccal branches. The patient has no significant prior medical history.

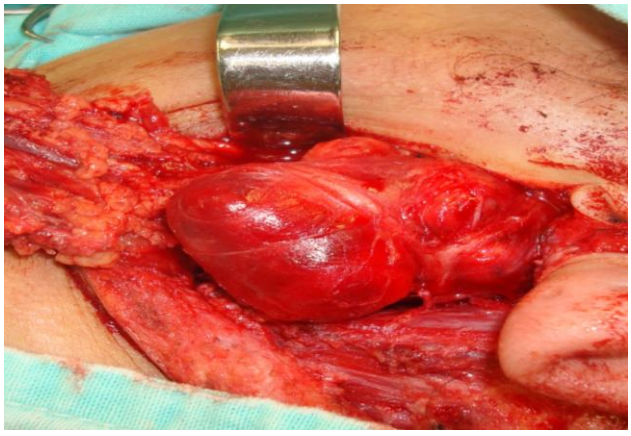

Figure 1: Parotid adenoma surgical adenoma resection.

CT scan indicates a PA mass in the superficial and deep lobes, approximately 4 centimeters with pressure from the facial trunk of the zygomatic and buccal roots, prompting a referral to our clinic for surgical intervention and preservation of the facial nerve, and follow up for 6 months with minimal facial nerve alterations.

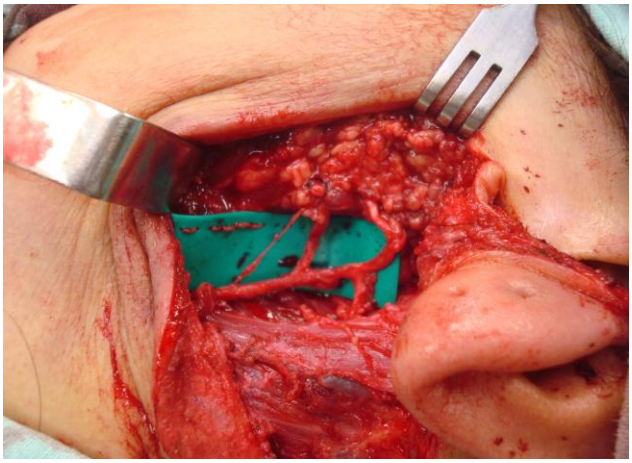

Figure 2: Preservation of facial nerve after surgical resection.

Figure 4: Clouse pre-auricular surgical wound.

DISCUSSION

The treatment of parotid pleomorphic adenoma requires a delicate balance between oncological control and patient quality of life. Segmental superficial parotidectomy represented a significant advance in surgical principles, transitioning from gland-specific surgery to targeted, segmented excision. This procedure is based on the anatomical distal separation of the superficial lobe of the parotid gland and the branching of the facial nerve. By preserving the nerve trunk and its branches to adjacent regions, and resecting only the nerve segment infiltrated by the tumor, iatrogenic damage to neural and parenchymal tissue is reduced.[4]

For this method to be applicable, tumors of the superficial lobe must be unilateral, well-defined, and circumscribed.[5] This aligns with the current trend in surgical oncology toward organ-preserving therapies, through careful patient selection and appropriate surgical specialization. Incorrect application in multifocal, deep lobe, or poorly defined tumors can compromise margins and increase the risk of recurrence.[6] The main advantage of this approach lies in subclinical facial nerve neuropraxia affecting branches without involving the main trunk, and concavity deformity following extensive gland excision. Thus, the technique can improve both aesthetics and functionality.[7] Treating recurrent pleomorphic adenoma is more complex and risk increases of facial nerve injury with each reoperation, involving multiple branches.[8] The higher morbidity is due to several factors: revision surgery requires navigating altered anatomy, scar tissue surrounds and distorts the facial nerve, and tumor biology often presents as multifocal or satellite lesions, necessitating broader dissection in case of recurrence. Initial intervention is the most important in managing this condition.[9] The first surgery must be precise and achieve adequate margins, even if it requires more extensive dissection, to avoid the greater difficulties associated with revision surgery.[10] This neoplasm grows slowly and is usually asymptomatic, but cytological confirmation and extensive preoperative imaging are required to differentiate it from vascular malformations, lymphatic anomalies, and inflammatory processes.[11] Its biological behavior appears to be slow-growing, and complete excision with negative margins improves the prognosis, with low expected recurrence rates. Dissection and preservation of the facial nerve and capsule integrity are similar to surgery in adults, though within a smaller anatomical space. The primary goal is curative resection; the secondary goal is to prevent the effects of irreversible facial nerve injury, given the significant impact this could have on the emotional and functional health of a developing child.[12] Current management depends largely on life stage: definitive surgery in children, surgical intervention in young adults, collaborative and selective decision-making in middle-aged adults, and sometimes non-operative management in the elderly.[13] Future directions include long-term oncological validation of limited resection options, research into biomarkers predictive of tumor behavior, and the development of geriatric assessment tools to more precisely guide the care of this common benign neoplasm.[14]

CONCLUSION

The management of parotid pleomorphic adenoma has become more precise and personalized. A segmental superficial parotidectomy is a detailed procedure that allows for the preservation of healthy tissue in appropriate cases. Achieving success in the initial surgery is critical, as treating recurrent disease often leads to significantly higher rates of complications. Surgical plans should be adapted for specific patient groups-taking a decisive approach for younger individuals and a more selective, conservative one for the elderly. When treating

older adults' active surveillance is a well-supported and reasonable option.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: Not required

REFERENCES

1. Abt NB, Derakhshan A, Naunheim MR, Osborn HA, Deschler DG. Facial nerve sacrifice during parotidectomy: A cautionary tale in pathologic diagnosis. Am J Otolaryngol. 2017;38(3):358-9.
2. Brar G, Smith S, Block A, Borrowdale R, Marzo SJ, Thorpe E, et al. An institutional review of recurrent pleomorphic adenoma of the parotid gland. Ear, Nose Throat J. 2024;103(12):773-8.
3. Davudov MM, Hasanova P. Pleomorphic adenoma of the parotid gland. J Pediat Surg Case Rep. 2019;44(101186):101186.
4. Eveson JW, Cawson RA. Salivary gland tumours. A review of 2410 cases with particular reference to histological types, site, age and sex distribution. J Pathol. 1985;146(1):51-8.
5. Iro AK, Agaimy A, Müller SK, Sievert M, Iro H, Mantsopoulos K. Satellite nodules in pleomorphic adenomas of the parotid gland: A nightmare for less invasive parotid surgery? Oral Oncol. 2021;115(105218):105218.
6. Jagadishkumar K, Anilkumar MG, Krishna Kumar HC, Maggad R. Pleomorphic adenoma of the cheek in a child: A case report. Dental Research J. 2014;11(4):522-4.
7. Kato H, Kanematsu M, Watanabe H, Mizuta K, Aoki M. Salivary gland tumors of the parotid gland: CT and MR imaging findings with emphasis on intratumoral cystic components. Neuroradiology. 2014;56(9):789-95.
8. Kligerman MP, Jin M, Ayoub N, Megwalu UC. Comparison of parotidectomy with observation for treatment of pleomorphic adenoma in adults. JAMA Otolaryngol. 2020;146(11):1027-34.
9. Lu YC, Fan WJ, Shen JX, Xiao P. CT features of parotid tumors: an analysis of 133 cases. Chin J Cancer. 2007;26(11):1263-7.
10. Moore MG, Yueh B, Lin DT, Bradford CR, Smith RV, Khariwala SS. Controversies in the workup and surgical management of parotid neoplasms. Otolaryngol Head Neck Surg. 2021;164(1):27-36.
11. Nøhr A, Andreasen S, Therkildsen MH, Homøe P. Stationary facial nerve paresis after surgery for recurrent parotid pleomorphic adenoma: a follow-up study of 219 cases in Denmark in the period 1985-2012. Europ Arch Oto-Rhino-Laryngol. 2016;273(10):3313-9.
12. Pagnani G, Palma A, Bozza F, Marsigli Rossi Lombardi C, Becelli R. Systematic review and case report on the surgical management of pleomorphic adenomas: Lessons on recurrence and error prevention. J Clin Med. 2025;14(13):4541.
13. Quer M, Guntinas-Lichius O, Marchal F, Vander Poorten V, Chevalier D, León X, et al. Classification of parotidectomies: a proposal of the European Salivary Gland Society. Europ Arch Oto-Rhino-Laryngol. 2016;273(10):3307-12.
14. Witt RL, Eisele DW, Morton RP, Nicolai P, Poorten VV, Zbären P. Etiology and management of recurrent parotid pleomorphic adenoma: Management of Recurrent Pleomorphic Adenoma. Laryngoscope, 2015;125(4):888-93.

Cite this article as: Barragan MDCA, Holguin AC, Enciso RPP, Duarte RE, Castaneda RB, Solis GAM. Parotid gland pleomorphic adenoma: case report and literature review. Int Surg J 2026;13:xxx-xx.