

Partial Superficial Parotidectomy for Pleomorphic Adenoma of the Parotid Gland: A 22-Year Experience with 151 Patients

Aniya B. Keaton¹, Hawa M. Ali, MD², Katelyn Rourk, BS², Christine Lohse MS², Kendall K. Tasche MD², Daniel L. Price, MD², Kathryn M. Van Abel MD², Linda X. Yin, MD², Eric J. Moore, MD²
¹University of Tennessee Knoxville, ² Department of Otorhinolaryngology, Mayo Clinic, Rochester, Minnesota, United States

BACKGROUND

- There has been historical controversy regarding the extent of resection in the management of pleomorphic adenomas.

AIMS

- This study aims to evaluate the efficacy and postoperative outcomes of partial superficial parotidectomy (PSP) for the management of pleomorphic adenomas at a tertiary, high-volume center.

METHODS

- Retrospective chart review of patients who underwent PSP was performed.
- Variables included demographics, pre-operative facial nerve function, operative techniques, postoperative complications/facial nerve function, and recurrence.

RESULTS

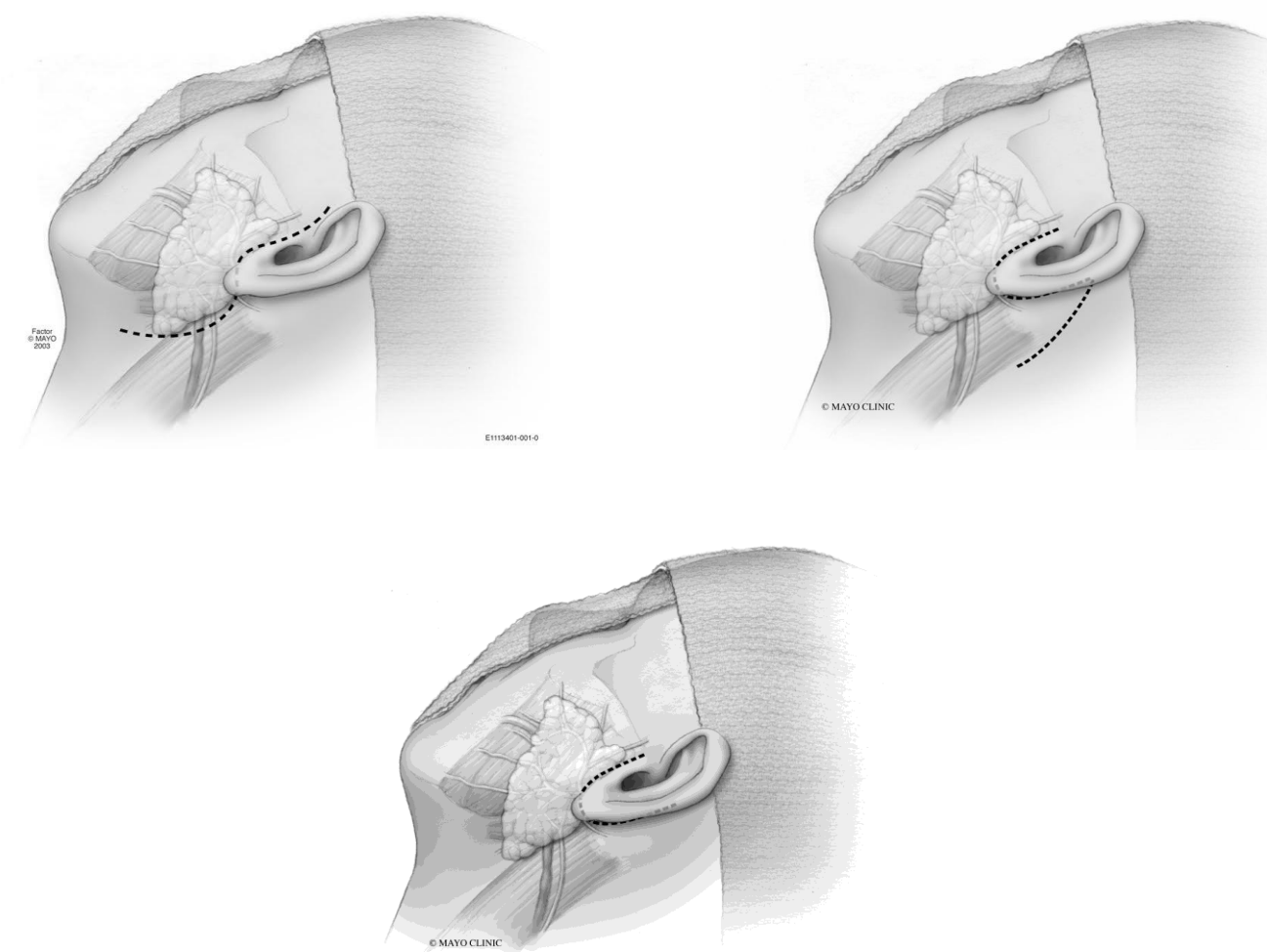
- 151 adults who underwent PSP for pleomorphic adenoma from 2000 to 2022 were identified
- Baseline facial nerve function was excellent for most patients (House-Brackmann I, 97%)
- Only two patients required parotid bed reconstruction
- Postoperatively, 112 patients were House-Brackmann grade I at both preoperative and postoperative assessment, 8 went from grade I to II, 2 went from grade II to I, and 1 went from grade VI to II (Bell's palsy that resolved to grade II following surgery)
- Median follow-up was 1 month (IQR 1-5). No patient had a recurrence

Table 1: Summary of clinical and surgical features and short-term outcomes, N=151

Feature*	
Age at surgery in years	55 (40-66)
Sex	
Female	111 (74)
Male	40 (26)
House-Brackmann grade at presentation (N=150)	
I	146 (97)
II	3 (2)
VI	1 (1)
Incision (N=149)	
Modified Blair	105 (70)
Facelift incision	25 (17)
Mini parotid incision	14 (9)
Previous incision	5 (3)
Surgical procedure	
ESGS 1, superficial superior parotidectomy	18 (12)
ESGS 2, superficial inferior parotidectomy	133 (88)
Facial nerve monitoring used	99 (66)
Facial nerve identified	149 (99)
Main trunk of facial nerve identified (N=149)	126 (85)
Tumor spillage (N=150)	0
Greater auricular nerve preserved (N=111)	89 (80)
Abdominal fat graft performed	2 (1)
Botox injected at end of surgery	14 (9)
Drain placed (N=149)	128 (86)
Length of hospital stay in days	
0	31 (21)
1	110 (73)
2	9 (6)
3	1 (1)
Patient discharged with drain (N=145)	21 (14)
Patient given scopolamine after surgery (N=147)	27 (18)
Patient given narcotics after surgery (N=149)	124 (83)
Patient requested additional narcotics	5 (3)
Tumor size in cm	1.8 (1.3-2.3)
Short-term outcomes	
Sialocele (N=125)	11 (9)
Frey syndrome (N=124)	2 (2)
First bite syndrome (N=123)	7 (6)
Ear numbness (N=126)	75 (60)
Wound infection (N=124)	2 (2)
Unplanned return to the ED	6 (4)
Unplanned return to the OR	2 (1)
House-Brackmann grade at follow-up visit (N=123)	
I	114 (93)
II	9 (7)

*Summarized with median (interquartile range) or n(%). Sample sizes for features with missing data are indicated in italics in parentheses.

Figure 1: Incision Types



Pictured are the Modified Blair incision (top left), facelift incision (top right), and mini parotid incision (bottom)

CONCLUSIONS

- PSP is efficacious in the management of pleomorphic adenomas with preservation of facial nerve function, minimal post-operative complications, and no recurrences in this cohort.

FUTURE DIRECTIONS

- Studies to compare partial superficial to other surgery types to compare recurrence and complication rates
- Studies on patient satisfaction with partial parotidectomy

LIMITATIONS

- Recurrence rates and Frey's Syndrome cannot be commented on in this study due to no long-term follow-up
- Retrospective study design relied on convenience sampling and thus is not representative of the general population

REFERENCES

- Guntinas-Lichius, O., Kick, C., Klussmann, J. P., Jungehuelsing, M., & Stennert, E. (2004). Pleomorphic adenoma of the parotid gland: a 13-year experience of consequent management by lateral or total parotidectomy. *European archives of oto-rhino-laryngology : official journal of the European Federation of Oto-Rhino-Laryngological Societies (EUFOS) : affiliated with the German Society for Oto-Rhino-Laryngology - Head and Neck Surgery*, 261(3), 143–146. <https://doi.org/10.1007/s00405-003-0632-9>
- Iizuka K, Ishikawa K. Surgical techniques for benign parotid tumors: segmental resection vs extracapsular lumpectomy. *Acta Otolaryngol Suppl* 1998;537:75–81.
- Johnson JT, Ferlito A, Fagan JJ, Bradley PJ, Rinaldo A. Role of limited parotidectomy in management of pleomorphic adenoma. *J Laryngol Otol* 2007;121:1126–8.
- Witt RL. Facial nerve function after partial superficial parotidectomy: an 11-year review (1987-1997). *Otolaryngol Head Neck Surg* 1999;121:210–13.
- Witt RL. The significance of the margin in parotid surgery for pleomorphic adenoma. *Laryngoscope* 2002;112:2141–54.
- Witt RL. Minimally invasive surgery for parotid pleomorphic adenoma. *Ear Nose Throat J* 2005;84:308–311.
- Yamashita T, Tomoda K, Kumazawa T. The usefulness of partial parotidectomy for benign parotid gland tumors. *Acta Otolaryngol Suppl* 1993; 500:113–116.
- Zheng, C. Y., Cao, R., Gao, M. H., Huang, Z. Q., Sheng, M. C., & Hu, Y. J. (2019). Comparison of surgical techniques for benign parotid tumours: a multicentre retrospective study. *International journal of oral and maxillofacial surgery*, 48(2), 187–192. <https://doi.org/10.1016/j.ijom.2018.07.023>