



THE AGA KHAN UNIVERSITY

eCommons@AKU

Department of Biological & Biomedical Sciences

Medical College, Pakistan

February 2007

Total parotidectomy under local anesthesia: A novel technique

Kamran Shahid
Aga Khan University

Bilal Karim Siddiqui
Civil Hospital, Karachi

Muhammad Hammad Tahir
Aga Khan University

Salman bin Ayub
Baqai Medical University, Karachi

Ghulam Murtaza Memon
Civil Hospital, Karachi

See next page for additional authors

Follow this and additional works at: https://ecommons.aku.edu/pakistan_fhs_mc_bbs

 Part of the [Biochemistry Commons](#), and the [Surgery Commons](#)

Recommended Citation

Shahid, K., Siddiqui, B. K., Tahir, M. H., Salman bin Ayub, ., Memon, G. M., Yousuf, A., Hussain, A., Osmani, ., Siddiqui, A. K. (2007). Total parotidectomy under local anesthesia: A novel technique. *Journal of the College of Physicians and Surgeons Pakistan*, 17(2), 116-117.

Available at: https://ecommons.aku.edu/pakistan_fhs_mc_bbs/681

Authors

Kamran Shahid, Bilal Karim Siddiqui, Muhammad Hammad Tahir, Salman bin Ayub, Ghulam Murtaza Memon, Adnan Yousuf, Arif Hussain, Osmani, and Abdul Karim Siddiqui

TOTAL PAROTIDECTOMY UNDER LOCAL ANESTHESIA: A NOVEL TECHNIQUE

Kamran Shahid, Bilal Karim Siddiqui,* Muhammad Hammad Tahir,** Salman bin Ayub,*** Ghulam Murtaza Memon,****
Adnan Yousuf,**** Arif Hussain,**** Osmani**** and Abdul Karim Siddiqui***

ABSTRACT

Parotidectomy is a common procedure usually done for a parotid mass necessitating a histological diagnosis. Operation is normally performed under General anesthesia with a nerve stimulator to facilitate facial nerve stimulation. We describe a new technique with reports of three cases, making total parotidectomy under local anesthesia possible. The ascending cervical branch of cervical plexus and the auriculotemporal nerve were anesthetized by bupivacaine 0.25% (2mg/kg) and lignocaine with adrenaline 7mg/kg. Effective onset of anesthesia was within 15-25 minutes and the operations lasted between 2-3 hours without any complications. This offers advantage in high-risk patients where general anesthesia is contraindicated. The facial nerve can be easily identified with on command movements by the patient rendering the use of nerve stimulator or injection of the dye superfluous. This technique makes total parotidectomy an outpatient procedure and facilitates an early discharge.

KEY WORDS: *Total parotidectomy. Local anesthesia.*

INTRODUCTION

The most common indication of parotidectomy is a parotid mass necessitating a histological diagnosis. The most common cause of parotid mass is a benign tumor, the incidence of which is estimated to be 2.4 per 100,000.¹ The operation is normally performed under general anesthesia without muscle relaxants to facilitate intraoperative facial nerve stimulation, with a nerve stimulator.² However, in the recent past, there have been a few reports of parotid surgeries under local anesthesia^{3,4,5} using a new technique. Local anesthesia as compared to general anesthesia has far more advantages and only a few possible complications. Local anesthesia is carried out via nerve blocks. Here is a description of how this technique was used.

OPERATION TECHNIQUE

The surgeries were done in the main operation theatre with full support of general anesthesia and all emergency resuscitation measures. The patients were given dormicum 3 mg with 15mg pentazocine and Ringers lactate 1000ml and were positioned with head turned to the opposite side on a headrest. An injection of bupivacaine 0.25% (2mg/kg) and lignocaine with adrenaline 7mg/kg was prepared. To anesthetize the ascending cervical branch of cervical plexus, the posterior border of sternocleidomastoid muscle was marked at the junction of the upper and middle one-third.

Local anesthesia was injected fan-wise in three directions, first cephaloid at the posterior border of sternocleidomastoid muscle and then anterior and upwards superficial to it and then posterior and upward. 5 cc was injected at each site making a total of 20 cc, avoiding injection into blood vessels by repeat aspirations. To anesthetize the auriculotemporal nerve, an injection was given at the posterior border of neck of mandible. This site was identified by opening the mouth and palpating the posterior border of neck of mandible and superficial temporal artery.

Effective onset of anesthesia occurred within 15-25 minutes. The operations lasted between 2-3 hours. The standard S-shaped cervicomastoidfacial incision was made and the facial nerve was isolated as it exits the stylomastoid foramen. The facial nerve and its branches were saved. During the surgery, the muscles of face were observed for contraction on command. Cervical lymph node was excised by extending the cervical incision anteriorly and then retracting the sternocleidomastoid muscle. No other lymph nodes were identified during surgery. Three patients were operated upon. In two patients, a superficial parotidectomy was done and in one, a total parotidectomy was done as an upper cervical lymph node was palpable and the mass was very firm on palpation. One patient was supplemented with 1% lignocaine because the patient was complaining of pain. The patients' clinical profile is given in Table I.

DISCUSSION

In the recent past, there has been a trend towards outpatient procedures in surgery. With this rising trend, now outpatient parotidectomy is also being considered in more and more patients. There was almost uniform patient satisfaction with the performance of the procedure on an outpatient basis.⁶⁻⁸ Surgeries of the parotid gland are usually done under general

Department of Biological and Biomedical Sciences, The Aga Khan University, Karachi.

*Department of Medicine, Civil Hospital, Karachi.

**Department of Neurology and Neurosurgical, The Aga Khan University, Karachi.

***Department of Surgery, Baqai

Medical University, Karachi.

****Department of Surgery, Civil Hospital, Karachi.

Correspondence: Dr. Kamran Shahid, 7/1, Khayaban-e-Hafiz, Phase V, DHA, Karachi.
E-mail: kamranshahid1712@yahoo.com

Received January 2, 2006; accepted December 11, 2006.

Table I: Patients and their characteristics.

Age	Symptoms	Signs	FNAC	Operation	Postoperative biopsy
78 years old female	Painless swelling for 18 years	4 x 3 cm Flat, non-tender, firm in front of tragus and lobule	Mixed parotid tumor	Superficial	Mixed parotid tumor (benign)
63 years old male	Painless swelling for 8 years	3 x 2 cm Prominent swelling In front, below and behind lobule	Mixed parotid tumor	Superficial	Mixed parotid tumor (benign)
48 years old female	Painless swelling for 5 years	5 x 4 cm Flat, below and behind the lobule. The mass was very firm on palpation. One upper cervical lymph node palpable	Mixed parotid tumor	Total Parotidectomy, with cervical node excision	Malignant mixed parotid tumor with lymph node involvement

anesthesia. However, there have been a few previous reports suggesting that it is possible to carry out this surgery under local anesthesia. The need for facial nerve stimulation, with a nerve stimulator², also is not required as the patient can be asked to use his muscles on command. Outpatient parotid surgery has been found to be a safe, cost-effective procedure, convenient for both the patient and the surgeon in selected patients.

Local anesthetic agents preferentially block the smaller pain and autonomic fibers, leaving the larger motor, touch and proprioception fibers relatively unaffected.⁹ This allows visualization and assessment of facial nerve function throughout the procedures.

A mixture of bupivacaine and lidocaine was used for local anesthesia. This is in contrast to the previous reports.^{4,5} Although bupivacaine is four times more potent and has a duration of action of six hours, but it has a delayed onset of action, which results in patient anxiety, as they wait for the procedure. Lidocaine in contrast has an onset of action within 3-5 minutes. A mixture of both offers a quick onset with a larger duration of action, adequate for the surgery.

REFERENCES

- Gunn A, Parrott NR. Parotid tumors: a review of parotid tumor surgery in the Northern Regional Health Authority of the United Kingdom 1978-1982. *Br J Surg* 1988; **75**:1144-6.
- Watkinson J C. Surgery of the parotid gland. In: Bleach N, Milford CA, Hasselt AV, (edi). *Operative otorhinolaryngology*. Oxford: Blackwell Science 1997: 436-43.
- Fujimura T, Yonemura Y, Kamata T, Takegawa S, Sugiyama K, Nishimura G, et al. A case of parotid tumor showing remarkable regression following hyperthermo-chemo-radiotherapy. *Gan To Kagaku Ryoho* 1987;**14**:723-7.
- Sethna KS, Sengupta MA, and Prabhakar S. Local anesthesia for parotidectomy: a new technique. *Ambul Surg* 1996; **4**: 93-4.
- Reece PH, Papesch ME, Tolley NS. Superficial parotidectomy under local anesthesia. *J Laryngol Otol* 2000; **114**: 983-4.
- Cheng D. Outpatient parotidectomy. *Arch Otolaryngol Head Neck Surg* 1997; **123**:1021.
- Bentkover SH, Kozlicak BA, Girouard S. Outpatient parotidectomy at the Fallon Clinic. The first 2 years. *Arch Otolaryngol Head Neck Surg* 1996;**122**:1049-53.
- Sharma A K. Short-stay vs. outpatient parotidectomy. *Am J Surg* 1994;**167**: 551.
- Anesthesia and the relief of pain. In: Reid JL, Rubin PC, Whiting B, (edi). *Lecture notes in clinical pharmacology*. 5th ed. Oxford: Blackwell Science 1996.