



Total Parotidectomy Under Local Anesthesia Two Points of Lidocaine Injection: Incision Line and Subperichondrial Tragal Cartilage

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ABSTRACT:

Objective: We aimed to share our experience of total parotidectomy surgery on two cases with coronary artery disease and cardiac arrhythmia who developed ventricular tachycardia.

Method: 3 mg midazolam and 15 mg pentazocine was applied to the patient within 1000 cc lactated Ringer's solution. Minimal local anesthetic (2 cc) was applied onto the skin incision line. Minimal jetocaine injection (1 cc) was performed subperichondrial onto tragal cartilage for the exposure of the tragal pointer.

Results: Facial nerve branches were freed from the mass and the parotis tissue, then the mass was resected totally together with the parotis gland. Following bleeding control, drainage was applied and the operation was completed without any complications. The drainage tube was removed two days later and the patients were discharged from the hospital.

Conclusion: Although the majority of the cases reported in literature body were superficial parotidectomy surgery, our study is the second example of a total parotidectomy case.

Keywords: Total parotidectomy; Local anesthesia;

Lidocaine; Midazolam; Tragal cartilage.

Introduction:

The most common indications of parotidectomy are histologically diagnosed parotis masses. The most common parotis masses are benign tumors with an incidence of 2.4/100000.¹ Under normal conditions, parotidectomy is applied under general anesthesia without the use of myorelaxants in order to increase the nerve stimulator effect.² However recently, several studies have described a new technique to report the use of local anesthesia for parotidectomy surgery.³⁻⁵ When these cases in the literature body were investigated in detail, it was observed that only one case exists for a total parotidectomy under local anesthesia.⁶ Parotidectomy operations reported in the literature under local anesthesia were observed to have been implemented with nerve blockage.³⁻⁷ Hereby, we see fit to present our experience of a total parotidectomy operation under local anesthesia with a technique that is described for the first time in literature according to our investigation.

Method:

One of the patients was a 60-year-old male who cannot receive general anesthesia because of

coronary artery disease and cardiac arrhythmia, with a 5 × 4 cm mass in his parotid gland was suspected for malignancy as a result of fine needle aspiration biopsy. The other patient was a 73-year-old female also who cannot receive general anesthesia because of coronary artery disease and cardiac arrhythmia. The female patient has a 2 × 3.5 cm mass in parotid gland that was suspected for malignancy.

Parotidectomies were decided to be performed under local anesthesia with the patient's consent. 3 mg midazolam and 15 mg pentazocine were applied to the patient within 1000 cc lactated Ringer's solution. The patients were positioned into supine position with the head turned on the opposite side. Modified Blair incision was planned. Subplatysmal skin flap was elevated up to the parotis anterior. Later, mastoid tip and digastric posterior belly was exposed. Tragal cartilage was too painful for the patient to tolerate, thus minimal jetocaine injection (1 cc) was performed subperichondrial onto tragal cartilage for the exposure of the tragal pointer and the operation was continued. Facial nerve branches were exposed by finding facial truncus along the angle bisector of mastoid tip tragal pointer. The masses were observed to be adherent to peripheral tissue while reaching out to the hollow lobe. Total parotidectomies were planned. Facial nerve branches were freed from the mass and the parotis tissue, and then the masses were resected totally together with the parotis gland. Following bleeding control, drainage was applied and the operations were completed without any complications. The drainage tube was removed two days later and the patients were discharged from the hospital. According to our literature investigation, applying minimal local anesthetic (3 cc) to two points (incision line and tragal cartilage) for total parotidectomy was described here for the first time.

Discussion:

80% of salivary gland tumors originate from parotis gland and about 75-80% of these are benign tumors.¹ For both benign and malign tumors, the surgery is performed under general anesthesia and often with facial nerve stimulation. We have encountered several parotidectomy surgery examples under local anesthesia in literature body published recently. Here, we would like to present our technique in comparison to the other cases in literature. For this purpose, we have scanned the literature body starting from November 1st, 2015 (using Pubmed, Google Scholar) and investigated the studies on this topic. The first study on this matter was a report

from 1987 by Fujimura about a lumpectomy case under local anesthesia on an elderly woman who suffered from parotis cancer.² Sethna et al.³ published a series of 11 patients in which local anesthesia was preferred because general anesthesia was not recommended for the patients. In this report, local anesthesia was performed by the blockage of maxillary mandibular and greater auricular nerves. All patients reported here have undergone superficial parotidectomy. In 2000, Reece et al.⁴ published a case in which parotidectomy was decided for a patient with malignancy suspicion after fine needle aspiration biopsy. This patient received superficial parotidectomy and was operated under local anesthesia because of his phobia for general anesthesia. Local anesthetic material was injected along the skin incision line on pre-auricular region, external Shahid et al.⁵ described the first total parotidectomy case under local anesthesia in 2006. The operation was performed by blocking the ascending cervical branch of cervical plexus and the auriculo-temporal nerve. Safioles et al.⁶ published a case of superficial parotidectomy under local anesthesia, however the full-text version of this article was not available. Chow et al.⁷ published a series of 7 cases under local anesthesia. In this study by Chow et al.⁷ anesthesia was performed with the blockage of superficial cervical plexus and the incision site. On the contrary to the other studies in literature, in this study, facial nerve was exposed and preserved using retrograde nerve dissection technique. It was reported that two patients developed temporary facial nerve paralysis. In the study by Singh et al.⁸ superficial parotidectomy decision was made for 3 patients under local anesthesia because of high risk of general anesthesia and anesthesia was performed with the blockage of maxillary and mandibular nerves.^{9,10}

When all studies in literature body were evaluated together, it can be observed that only the study by Chow et al.⁷ reported temporary facial paralysis in 2 patients out of their 7 cases in which they employed retrograde facial nerve dissection. Again, only in the study by Chow et al.⁷, facial nerve stimulator was used although other studies did not recommend nerve stimulator. Besides, we have only encountered a single total parotidectomy case under local anesthesia in the study by Shahid et al.⁵ Our study is the second total parotidectomy report under local anesthesia in the literature. Furthermore, we believe this study is remarkable for the local anesthesia technique it employed for we only used 3 cc of local anesthetic (lidocaine) in total and because the

injection regions (incision line and tragal cartilage) described here were defined for the first time.

Conclusion:

Parotidectomy under local anesthesia is an emerging technique that is being employed safely for high-risk patients under general anesthesia and also for healthy individuals who prefer this method. Our technique revealed that total parotidectomy can safely be performed with two-point minimal injection. However, the number of reported cases in literature is still very limited, especially for total parotidectomy surgery under local anesthesia; thus, this topic requires the attention of researchers.

Conflict of Interest: None of the authors has any conflict of interest, financial or otherwise.

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