



Comparative study of complications of parotidectomy under general and local Anaesthesia

¹Dr. Salil Kumar Sharma, Associate Professor & HOD, Dept. of ENT, Govt. Medical College & Hospital Bettiah.

Corresponding Author: Dr. Salil Kumar Sharma, Associate Professor & HOD, Dept. of ENT, Govt. Medical College & Hospital Bettiah.

Citation this Article: Dr. Salil Kumar Sharma, “Comparative study of complications of parotidectomy under general and local Anaesthesia”, IJMSIR- February - 2022, Vol – 7, Issue - 1, P. No. 265 – 268.

Type of Publication: Original Research Article

Conflicts of Interest: Nil

Abstract

Parotidectomy is usually performed under general anaesthesia. However there may be situation where we may be not have the required nerve locator and patient may not be fit for general anaesthesia in view we have done comparative study of complication of parotidectomy under general and local anaesthesia. 40 cases of parotid mass from 2006 to 2016 were randomly selected for parotidectomy under general and local anaesthesia, 25 cases under general and 15 cases under local anaesthesia in PMCH. Time taken for surgery, blood loss, facial nerve injury, salivary fistula and Frey’s syndrome were more common in general anaesthesia group. The study showed that parotidectomy under local anaesthesia is preferable to parotidectomy under general anaesthesia.

Keywords: Anaesthesia, Parotidectomy, PMCH.

Introduction

Parotidectomy is the surgical removal of parotid gland. It is performed for management of parotid mass, which may be either benign or malignant. Parotidectomy is a challenging procedure as it houses critical structures like facial nerve, external carotid artery and retro-mandibular vein. Injury to any of these structures can lead to devastating complication like hemorrhage, facial nerve injury, Frey’s Syndrome, salivary fistula.

Types of parotidectomy

A Superficial parotidectomy

Superficial part (outer) parotidectomy gland is removed.

B Total parotidectomy

Entire parotid gland is removed

C Radical Parotidectomy

Removal of parotid gland and facial nerve.

Indications OF PAROTIDECTOMY

- 1 Tumour of parotid gland
- 2 Cyst of parotid gland
- 3 Chronic Inflammations
- 4 Parotid gland Stone
- 5 Excessive salivation (sialorrhoea)

Parotidectomy is usually performed under general anaesthesia, however these may be situations where required nerve locator is not available and patients is not fit for general anaesthesia. In such situation we may have to perform parotidectomy under local anaesthesia.

Purpose of the study

The purpose of this study was to compare intra and post-operative complications of parotidectomy under general & local anaesthesia and to know as to which technique is better. Case selection was random.

Material and methods

Study was carried out between 2006 to 2016 of ENT Department at Patna Medical College & Hospital patna. We performed total 40 cases of parotidectomy. Out of the 40 cases 25 in local procedure and 15 is general anaesthesia.

Patient's cases files from year 2006 to 2016 were retrieved, reviewed and analysed.

Complications under general and local method were analyzed and compared.

Procedure

Parotidectomy under general anaesthesia was done with endotracheal tube with muscle relaxant.

Parotidectomy under local anaesthesia was planned by blocking the maxillary nerve and superficial cervical plexus with greater auricular nerve together with incision site infiltration with 2 % xylocaine with adrenaline.

Figure

Incision

The most common used incision for parotidectomy was cervical mastoid facial incision described by blairs in 1912 and modified by bailey in 1941.

It consists of:

1 Pre Auricular incision

2 Mastoid incisions

3 Cervical incisions

Removal of parotid gland is associated with certain complication

1 Hemorrhage

2 Facial nerve incision

3 Salivary fistula

4 Gustatory sweating (Frey's Syndrome)

We reviewed these complications in our study and compared. These complications in parotidectomy under general and local anaesthesia.

1. Maxillary nerve

2. Superficial and sedation plexus

3. Sedation

4. Operative

As no muscle relaxants are required in local anaesthesia group, it allowed us for easy testing or integrity of facial nerve.

We found that local anaesthesia technique can be ready helpful in preventing facial nerve injury. It also had an advantage of avoiding airway manipulation.

Smooth recovery & short hospital stay in local anaesthesia group early healed.

Results

Results was observed in following parameters

Parameters	Under Local anaesthesia	Under general anaesthesia
Time Taken	75 minutes	90 minutes
Hemorrhage	150-200	200-300
Facial Nerve	1 cases	2 cases
Saliva fistula	1 cases	1 cases
Frey's syndrome	1 cases	1 cases

Discussion

Parotidectomy is generally indicated to Histo-pathological diagnosis of parotid mass.

Facial nerve peripheral branches are at risk during Parotidectomy surgery.

Local anaesthesia helps in preservative of facial nerve as patient's complains of pain and discomfort if dissection involves facial nerve sheath or its branches. Thus helps in its identification and prevention of iatrogenic nerve injury.

Conclusion

Parotidectomy under local anaesthesia is an effective alternative to general anaesthesia.

It gives the advantage as a patient's conclusion and the maintained good airway.

Integrity of facial nerve can be tested during procedure itself.

We found that parotidectomy performed anaesthesia has may advantages:

1. It has an advantage of avoiding airway manipulation.
2. Overall operating time is less.
3. Recovery is smooth and uneventful.
4. Intra operative blood is loss is less
5. Chances of injury to facial nerve is less.
6. Would healing time is less.
7. Short hospital stay.

8. Cost effective.

So it is recommended that parotidectomy under local anaesthesia is a better option.

References

1. Wang SJ, Eisele DW. Parotidectomy--Anatomical considerations. Clin Anat. 2012 Jan;25(1):12-8.
2. Mutlu V, Kaya Z. Which Surgical Method is Superior for the Treatment of Parotid Tumor? Is it Classical? Is it New? Eurasian J Med. 2019 Oct; 51(3):273-276.
3. Jin H, Kim BY, Kim H, Lee E, Park W, Choi S, Chung MK, Son YI, Baek CH, Jeong HS. Incidence of postoperative facial weakness in parotid tumor surgery: a tumor subsite analysis of 794 parotidectomies. BMC Surg. 2019 Dec 26; 19(1):199.
4. Laing MR, McKerrow WS. Intraparotid anatomy of the facial nerve and retromandibular vein. Br J Surg. 1988 Apr;75(4):310-2.
5. Kochhar A, Larian B, Azizzadeh B. Facial Nerve and Parotid Gland Anatomy. Otolaryngol Clin North Am. 2016 Apr;49(2):273-84.
6. Bialek EJ, Jakubowski W, Zajkowski P, Szopinski KT, Osmolski A. US of the major salivary glands: anatomy and spatial relationships, pathologic conditions, and pitfalls. Radiographics. 2006 May-Jun;26(3):745-63.
7. Porcheri C, Mitsiadis TA. Physiology, Pathology and Regeneration of Salivary Glands. Cells. 2019 Aug 26;8(9)
8. Pitanguy I, Ramos AS. The frontal branch of the facial nerve: the importance of its variations in face lifting. Plast Reconstr Surg. 1966 Oct;38(4):352-6.
9. Dorafshar AH, Borsuk DE, Bojovic B, Brown EN, Manktelow RT, Zuker RM, Rodriguez ED, Redett RJ. Surface anatomy of the middle division of the

- facial nerve: Zuker's point. *Plast Reconstr Surg.* 2013 Feb;131(2):253-257.
10. Bag AK, Curé JK, Chapman PR, Pettibon KD, Gaddamanugu S. Practical imaging of the parotid gland. *Curr Probl Diagn Radiol.* 2015 Mar-Apr;44(2):167-92.
 11. Chu J, Zhou Z, Hong G, Guan J, Li S, Rao L, Meng Q, Yang Z. High-resolution MRI of the intraparotid facial nerve based on a microsurface coil and a 3D reversed fast imaging with steady-state precession DWI sequence at 3T. *AJNR Am J Neuroradiol.* 2013 Aug;34(8):1643-8.
 12. Iwai H, Konishi M. Parotidectomy combined with identification and preservation procedures of the great auricular nerve. *Acta Otolaryngol.* 2015 Sep;135(9):937-41.
 13. Spiro RH. Salivary neoplasms: overview of a 35-year experience with 2,807 patients. *Head Neck Surg.* 1986 Jan-Feb;8(3):177-84.
 14. Donovan DT, Conley JJ. Capsular significance in parotid tumor surgery: reality and myths of lateral lobectomy. *Laryngoscope.* 1984 Mar;94(3):324-9.
 15. D cancer lymph node staging system. *Cancer.* 2018 Aug 01; 124(15):3171-3180.