

TONSILLECTOMY UNDER LOCAL ANESTHESIA: IS IT SAFE, FEASIBLE AND PRACTICABLE? EXPERIENCE AT TERTIARY CARE HOSPITAL

M. Saleem Sheikh,¹ Masood Akhtar,¹ M Asim Shafique¹

Background: Tonsillectomy is one of the most common ENT surgeries. **Objective:** The study was done to evaluate the feasibility of tonsillectomy under local anesthesia. **Subjects and Methods:** A total number of 80 consecutive patients whose tonsillectomy was performed under local anesthesia with systemic analgesic injections were included in this cross-sectional study. Peri-operative difficulties and problems were noted. Similarly in post-operative period, the rate of complications was noted to conclude upon the feasibility of tonsillectomy under local anaesthesia. **Results:** A total of 80 patients were included in this study, with 36 females. Following complications were noted, Trismus (5%), difficult dissection (10%), primary hemorrhage (3.7%), reactionary hemorrhage (2.5%) and throat pain (10%). **Conclusion:** We concluded that the procedure is safe, feasible and practicable but should be done with certain precautions.

Key Words: Tonsillectomy, Local anesthesia, Feasible.

JSZMC 2014;5(4):733-736

INTRODUCTION

Tonsillectomy is the most frequently performed ENT surgical procedure throughout the world. The first known removal of tonsil dates back to the first century AD when Cornelius celsius in Roma used his finger to do it.¹ Dissection tonsillectomy first described by Edwin Pynchon in 1890. Tonsillectomy is not an easy operation and must be viewed with respect due to its potentially fatal outcome which is related to hemorrhage and use of general anesthesia.¹

There are many methods of performing tonsillectomy like Guillotine, dissection, electrodiathermy, cryosurgery, coablation, laser & harmonic scalpel. Mostly, the operation is performed under general anesthesia with endotracheal intubation and laryngeal pack around it. Tonsillectomy is reported in literature under local anesthesia although a few studies are present in the world.^{3,4} Tonsillectomy under local anesthesia is safe, feasible and effective alternative to general anesthesia in healthy cooperative adult patients. Peri-operative blood loss is also less (40-50 ml) as compared to about under general anesthesia.²

As yet no study is available in Pakistan to evaluate

the feasibility of tonsillectomy under local anesthesia. Present study was done to determine the complications after tonsillectomy under local anesthesia.

SUBJECTS AND METHODS

This cross sectional study was conducted from 1st January, 2012 and completed in February 2013 at ENT department BVH, Bahawalpur. A total of 80 consecutive patients who fulfilled the inclusion criteria underwent tonsillectomy under local anesthesia, were included in this study.

Inclusion criteria: Adult patients of chronic tonsillitis between 16-30 years age of both sexes with good and adequate mouth opening.

Exclusion criteria: Indication of tonsillectomy like quinsy, tonsillar growth and sleep apnea syndrome etc in any age of any sex. Sleep apnea syndrome with history of pan/chalia chewing for years, patients having trismus and inadequate mouth opening. Surgery was performed by the surgery having more than ten years of experience in the specialty. All the patients were admitted in ENT department BVH, Bahawalpur one day prior to the surgery. A detailed history specially duration of sore throat, number of attacks of acute tonsillitis per year, associated fever and odynophagia was taken. Thorough ENT examination specially signs of chronic tonsillitis like dusky pillars, retention cyst and palpable non tender jugulo-digastric lymph nodes were done. Routine investigations especially blood complete examination with ESR and platelet count, urine complete examination. Prothrombin time, activated

1. Department of ENT, Quaid-e-Azam Medical College Bahawalpur, University of Health Sciences, Lahore, Pakistan.

Correspondence: Dr. Muhammad Saleem Sheikh, 20/B Medical Colony BVH/QAMC Bahawalpur, Pakistan.

Phone: +92-333-6109010

Email: drmsaleemsh@yahoo.com

Received: 04-10-2014

Accepted: 20-10-2014

partial thromboplastin time and viral markers were performed. The performa was filled and kept in record.

Surgical technique:

- Diclofenac 75mg was injection was given 30 minutes before starting surgery.
- A dose of prophylactical antibiotic cover by intravenous route (first generation cephalosporin) given after test dose.
- Patient was advised to keep himself in sitting position on a fixed stool to avoid his body movement.
- A sterilized sheet was wrapped around, covering whole neck, chest, abdomen and arms inside the sheet.
- Suction was kept ready and nozzle held by assistant who was standing and asked to keep the operative field clear.
- B.D mouth gag tongue plate was used as tongue depressor held by the assistant and both hands of surgeon was free to do surgery.
- Local anesthesia, 8-10 cc of 1% xylocaine with adrenaline 2.5 ug/ml was infiltrated along the anterior faucial pillars and around retromolar area with the help of 10 cc disposable syringe but having 23 gauge needles.
- Incision was given from above to down just on mucosa anterior to anteriorfacial pillar, taking care of safety of adjacent structures.
- Dissection of tonsil started from above on the tonsil bed and proceeded downwards upto the lower pole. Patient was allowed to spit out the blood during the procedure whenever he asked for it. Dissection was within the plane of cleavage, well defined and constantly under vision of surgeon.
- At lower pole, tonsil snare was used to crush the pedicle and so the procedure was completed.
- Haemostasis is done by crushing bleeding points with tip of long straight artery forceps.
- Patient was kept admitted in the ward for 12-24 hours and discharged on the next day.
- Patient was advised to come after one week if smooth recovery but earlier if any problem occurred. Second post-operative visit was after 2-3 weeks, third visit was 4-6 at weeks after operation. If any problem or complaint occurred, he/she was advised to come earlier.

The data was entered and analyzed using SPSS version 15. Two patients had vasovagal syncope in OT just before starting operation and surgery was not done. Also six patients were very much in-cooperative and not possible to operate them under local anesthesia so G/A was given to do surgery. Twenty eight patients did not complete their follow up visits. These 36 patients were excluded from the study. Ethical approval was sought from hospital ethical committee.

RESULTS

In this study of 80 patients 36 were female, 44 were male. In our study, forty six patients was of 16-20 years of age. Twenty three patients between 21-25 years of age and eleven patients between 26-30 years of age. As regards per-operative problems, trismus was noted in 4 (5%) patients and all had history of pan/chalia eating for more than 5 years. Difficulty in dissection was observed in 8 (10%) patients and 5 of them had history of acute recurrent attacks for more than 10 years and 3 had history of pan/chalia eating. Primary haemorrhage was noted in 3 (3.75%) patients due to excessive scarring and fibrosis and lack of cooperation by the patient. Trauma to the anterior pillar was noted in 1 (1.25%) patients and uvula in 2(2.5%) patient mainly due to lack of cooperation of patient (Table I).

Table I: Per-operative Problems

Per-operative Problem	Male	Female	Percentage
Vasovagal syncope	-	2	-
In-cooperative Patients	2	4	7.5%
Difficulty in opening mouth (Trismus)	3	1	5%
Difficult Dissection (Adhesion)	3	5	10%
Primary Haemorrhage	2	1	3.75%
Trauma to other tissue	1	2	3.75%

Only two patients (2.5%) has reactionary haemorrhage which occurred within 24 hours. These patients were managed and remained admitted till their condition was satisfactory for discharge. Secondary haemorrhage was noted in 3 patients

(3.75%) and occurred between sixth and ninth postoperative day. These three patients were readmitted in the ward and managed successfully. Edema of uvula and was pillars noted in 7 patients (8.75%). Infection of the throat was noted in 5 patients (6.25%). Persistent pain in throat was noted most frequent complication in 8 patients (10%).

Earache was noted in 5 (6.25%), patients, in out of these one has discharging ear which started after surgery highlighting that the ear must be examined by otoscopy if the patient has complaint of ear discharge (Table II).

Table II: Post-operative Complications

Complications	Male	Female	Percentage
Reactionary Haemorrhage	-	2	2.5%
Secondary hemorrhage	1	2	3.75%
Oedema uvula	4	3	8.75%
Infection of throat	2	3	6.25%
Pain throat	3	5	10%
Earache	2	3	6.75%

DISCUSSION

Tonsillectomy is one of the most commonly performed ENT surgery throughout the world mostly, the procedure is performed under general anesthesia with oral endo tracheal intubation with perilyngeal packing.¹

Bredenkamp JK et al, concluded that the tonsillectomy under local anesthesia has minimal morbidity and complications with little blood loss and good patient satisfaction. So, it is safe, feasible, practicable and cost effective.² In our study also the rate of complications is not high and no mortality was noted in any patient.

Rous J et al in their study observed an unusual complication after tonsillectomy with local anesthesia in a child of 8 years old who developed a localized tissue emphysema of right cheek which probably developed after injury to the soft tissue cheek.³ In our study no such complication was noted as all patient were adult and cooperative.

Yousif E and Chalabi concluded that tonsillectomy under local anesthesia can be done in allergic patients unfit for general anesthesia. The operation was short duration and need short

stay at hospital as compared to general anesthesia. Primary, reactionary and secondary hemorrhage are less and post operative pain is not severe. Exaggerated gag reflex was not a major problem.¹ Our study also has the same findings.¹

Apostolopoulos K et al, compared ropivacaine with lignocaine in local tonsillectomy and concluded that ropivacaine was safe, has a longer onset time and relieved postoperative pain more efficiently.⁴

Our study is limited to lignocaine which is cheaper and freely available in Pakistan, while ropivacaine is not readily available in our country. Sorensen et al, concluded that low dose peritonsillar injection of lignocaine-adrenaline before tonsillectomy under general anesthesia reduces blood loss and post-operative pain. He recommends 3 ml of 1% xylocaine with 1,200,000 adrenaline infiltration sub capsular area on each tonsil.⁵

Vasan NR et al concluded that preincisional bupivacaine has no significant benefit in post tonsillectomy pain relief.⁶ Costas et al, showed reduction in pain and bleeding post operatively when a patient was given peritonsillar infiltration of bupivacaine.⁷ Johansen M et al concluded that perincisional infiltration of bupivacaine reduced prolonged postoperative pain but no reduction in the intake of analgesics.⁸ Jebeles JA et al, concluded that local nerve blockade by bupivacaine reduces short and long term pain in children under going tonsillectomy and adenoidectomy under general anesthesia.⁹

Sudhir M Naik concluded that tonsillectomy under local anesthesia is good alternate for the procedure under general anesthesia with limited resources and in cooperative adults as it has significant difference in duration of surgery blood loss and visual analog scale (VAS) pain scores.¹⁰ Our study has also shown that tonsillectomy under local anesthesia has less severe pain, minimal morbidity and minimum rate of complications. So it concides with the above mention results.

Kavita Suchdeva noted a complication of subcutaneous emphysema after tonsillectomy under local anesthesia. It was probably due to penetration of superior constrictor muscle into the facial layers of neck and bouts of coughing during post operative period. This emphysema can spread to parapharyngeal and retropharyngeal spaces and mediastinum with its related morbidity.¹¹ No such complication was noted in our study. Pekkasipila at

al, noted an unusual complication after tonsillectomy under local anesthesia, atlanto-axial subluxation. It may be due to infiltration of bacteria while infiltrating local anesthesia which resulted in pre-vertebral space infection and osteomyelitis.¹² No such complication was found in our study.

CONCLUSION

Tonsillectomy under local anesthesia is a good alternative to the procedure under general anesthesia. It is safe, feasible and practicable and cost effective. The procedure should be done only in adults and cooperative patients and by experienced ENT surgeons. The procedure may be helpful for areas where an anesthetist is not easily available.

REFERENCES

1. Yousif E. Chalabi. Tonsillectomy by dissection under local anesthesia (Indication-Operative Procedure-Complication-15 years practice). The Iraqi post graduate medical general, volium 2010; volium 9(3):283-88.
2. Bredenkemp JK, Abemayor E, Wackym PA, Ward PH. Tonsillectomy under local anesthesia: a safe and effective alternative. *Am J Otolaryngol*, 1990;11(1): 18-22.
3. Rous J, SliPka J, CermakZ. An unusual complication of tonsillectomy. *Cesk otolaryngol*.1990; 39(5):307-12.
4. Apostolopous K, Labropoulou E, Samaam R, Bogris K. Ropivacaine compared to lidocaine for tonsillectomy under local anesthesia. *Eur Arch otorhinolaryngol*. 2003; 260 (7): 355-7.
5. Sorensen WT, Wagner N, Aarup AT, Bonding P: Beneficial effect of low dose peritonsillar injection of lidocaine adrenaline before tonsillectomy. A placebo controlled clinical trail. *AurisNausus Larynx*, 2003; 30(2): 159-62.
6. Vasan NR, Stevenson S, Ward M. Preincisional bupivacaine in post tonsillectomy pain relief: a randomized prospective study. *Arch Otolaryngol Head Neck Surg*, 2002; 128(2):145-9.
7. Costas-Gastiaburo LA, Rajah V, Rubin J. Tonsillectomy and the value of peritonsillar infiltrations. *S Afr J Surg*, 1998; 36(4): 142-5.
8. Johansen M, Harbo G, Illum P. Preincisional infiltration with bupivacaine in tonsillectomy. *Arch Otolaryngol Head Neck Surg*, 1996; 122(3):261-3.
9. Jebeles JA, Reilly JS, Gutierrez JF, Bradley EL, Jr KissinI. Tonsillectomy and adenoidectomy pain reduction by local bupivacaine infiltration in children *Intpediatr. Otorhinolaryngology*, 1993; 25(13): 149-54.
10. Sudhir M Naik, Sarika S Naik, S Ravishankara, Mohan K Appaji, MK Goutham, Nonthombam Pinky Devi, Annapurna Mushannavar. Advantages of tonsillectomy done under local Anesthesia compared to General Anesthesia. *Int J Head Neck Surg*. 2013;4(1): 13-18
11. Kavita Sachdeva. Subcutaneous emphysema complicating tonsillectomy. 2013/vol6-/2013, 0424. Retrieved from: www.waent.org/archives/2013/.html 12 Pekkaspila,MD;AnttiPalva,MD;MarttiSorri,MD;Kauko Ojala, MD; Atlanto-axial Subluxation. An unusual complication after local Anesthesia for tonsillectomy, *Arch Otolaryngol*. 1981;107(3):181-182.