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Research Article

A Study Of Conventional Tonsillectomy & Adenoidectomy Versus Coblation Assisted Tonsillectomy And Adenoidectomy

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ABSTRACT

OBJECTIVES: Tonsils and adenoids are the body's first line of defense as part of the immune system. Tonsillectomy is performed in response to repeated occurrence of acute tonsillitis, sleep surgery for obstructive sleep apnea, nasal airway obstruction, diphtheria carrier state, snoring, or peritonsillar abscess. Hence the present study was done to compare the outcome in terms of operative time, intraoperative and postoperative bleeding, post-operative pain and time required to regain normal diet and activity between conventional versus coblation tonsillectomy & adenoidectomy.

MATERIAL AND METHODS: An observational comparative study

Study Population: Patients who presented with chronic tonsillitis, recurrent attack of acute tonsillitis, peritonsillar abscess, sleep apnoea syndrome and unilateral tonsillar hypertrophy with suspicion of malignancy, palatopharyngoplasty done for sleep apnea syndrome, Glossopharyngeal neurectomy, Removal of styloid process, TB or any other growth. **Sample size:** 35 patients in each group

RESULTS: An observational comparative study was done with 70 patients to compare the result of coblation assisted tonsillectomy & adenoidectomy with those of conventional dissection technique with regards to the operative time, intra-operative bleeding, postoperative bleeding and other related complications. The patients were randomly allocated into two groups of 25 patients each: **Group 1**: Conventional dissection tonsillectomy & adenoidectomy **Group 2**: Coblation assisted tonsillectomy & adenoidectomy

CONCLUSION: Coblation tonsillectomy is an easy to learn, safe procedure, with significant advantages in terms of reducing postoperative morbidity, and thus should be routinely used in all cases. Larger randomized studies would be required to confirm or refute the same.

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INTRODUCTION

Tonsils and adenoids are the body's first line of defense as part of the immune system. Their function is like other lymphoid masses of Waldeyer ring they have a protective role and act as a sentinels at the portal of air and food passage. Tonsils and adenoids are similar to the lymph nodes or glands found in the neck, groin, and armpits. The Waldeyer ring is involved in the production of immunoglobulins and the development of both B cells and T cells.[1]

The two most common problems affecting the tonsils and adenoids are recurrent infections of the nose and throat, and significant enlargement that causes nasal obstruction and/or breathing, swallowing, and sleep problems.

Abscesses around the tonsils, chronic tonsillitis, and infections of small pockets within the tonsils that produce foul-smelling white deposits can also affect the tonsils (Figure.1) and adenoids (Figure.2), making them sore and swollen. Cancers of the tonsil, while uncommon, require early diagnosis and aggressive treatment.

Tonsillectomy is a surgical procedure in which each tonsil is removed from a recess in the side of the pharynx called the tonsillar fossa. The procedure is performed in response to repeated occurrence of acute tonsillitis, sleep surgery for obstructive sleep apnea, nasal airway obstruction, diphtheria carrier state, snoring, or peritonsillar abscess. For children, the adenoids (also known as a pharyngeal tonsil or nasopharyngeal tonsil) are usually removed, a procedure called adenoidectomy (or tonsilloadenoidectomy or adenotonsillectomy when combined). Adenoidectomy is uncommon in adults in whom the adenoids are usually vestigial.

Tonsillectomy is the most routinely performed surgical operation in the recent years.[2] There have been lots of controversies about tonsillectomy techniques to provide better conditions with more benefits and less complications.

For more than a century, traditional dissection tonsillectomy has remained the gold standard for tonsil removal.[3] Traditional tonsillectomy leaves the wound open to heal by secondary intention (Figure.3), thus causes pain and bleeding as two major postoperative complications. This is the reason pioneers usually concentrate to decrease these two problems with comparing various techniques.[4] Long periods of wound recoveries, taking up to fifteen days, are not so uncommon. This may bear the risk of bleeding from tonsillar bed.[5,6] Postoperative pain can cause severe limitation in regaining the activities and diet. Considering the mentioned morbidities, attempts have been made to improve the outcome by developing new techniques with less postoperative pain and short recovery period. Available techniques include cold-knife dissection, guillotine excision, electrocautery, cryosurgery, the harmonic scalpel, laser tonsillectomy, bipolar diathermy dissection, radiofrequency and coblation methods.[7-10]Coblation tonsillectomy was initially introduced in 2001[11] following which a great amount of articles have been published either to confirm its efficacy[5,12] or to reject that because of unsatisfactory or unproven outcomes with undesirable cost-effectiveness.[15,16]

Coblation is a kind of radiofrequency surgery. The technique involves passing radiofrequency energy through a conductive medium (such as isotonic sodium chloride) and producing a plasma field. By coblation the medium is dissociated into free sodium ions, which are responsible for the destruction of intercellular bonds, resulting in tissue dissociation. This reaction is achieved at temperatures between 60°C and 70°C (compared with 400°C to 600°C in electrosurgery). The presence of cool, irrigating isotonic saline helps to limit the amount of heat delivered to the surrounding structures.[9,15] Coblation is operated in low temperature, so it is proposed that tonsillectomy with coblation involves less postoperative pain and allows accelerated healing of the tonsillar fossae compared with other methods involving heat driven processes.

Hence the present study was done to compare the outcome in terms of operative time,

intraoperative and postoperative bleeding, post-operative pain and time required to regain normal diet and activity between conventional versus coblation tonsillectomy & adenoidectomy.

MATERIAL AND METHODS

An observational comparative study was done with 70 patients to compare the result of coblation assisted tonsillectomy & adenoidectomy with those of conventional dissection technique with regards to the operative time, intra-operative bleeding, postoperative bleeding and other related complications. The patients were randomly allocated into two groups of 35 patients each:

Group 1: Conventional dissection tonsillectomy & adenoidectomy

Group 2: Coblation assisted tonsillectomy & adenoidectomy

Study Design: A hospital based observational comparative study

Study Population: Patients who presented with chronic tonsillitis, recurrent attack of acute tonsillitis, peritonsillar abscess, sleep apnoea syndrome and unilateral tonsillar hypertrophy with suspicion of malignancy, palatopharyngoplasty done for sleep apnea syndrome, Glossopharyngeal neurectomy, Removal of styloid process, TB or any other growth.

Sample size required is >31 in each group. Considering 10% patients lost to follow up; sample size was decided to be 35 in each group.

INCLUSION & EXCLUSION CRITERIA:

Inclusion criteria for tonsillectomy:

- Patients presenting with- recurrent infections of throat,
- Peritonsillar abscess,
- Hypertrophy of tonsils causing airway obstruction,
- Difficulty in deglutition,
- Suspicion of malignancy,
- Diptheria carriers,
- Streptococcal carriers,
- As a part of palatopharyngoplasty,
- Glossopharyngeal neurectomy,
- Removal of styloid process.
- Age group: lower limit-5 yrs of age, upper limit- 13 yrs of age

Inclusion criteria for adenoidectomy:

- Adenoid hypertrophy causing snoring, mouth breathing, sleep apnea syndrome, rhinolalia clausa
- Recurrent rhinosinusitis
- CSOM with adenoid hypertrophy
- Age group: lower limit-5 yrs of age, upper limit- 13 yrs of age

Exclusion criteria for tonsillectomy:

- Hb less than 10gm%,
- Presence of acute infection in upper respiratory tract,
- Children under 4 yr of age,
- Overt or submucous cleftpalate,
- Bleeding disorders, at the time of epidemic of polio,
- Uncontrolled systemic disease.

Exclusion criteria for adenoidectomy:

- Cleft palate or submucous palate
- Haemorrhagic diathesis
- Acute infection of upper respiratory tract
- Nasopharyngeal carcinoma

METHODOLOGY

A comparative observational study was done to compare the result of coblation assisted tonsillectomy with those of conventional dissection technique with regards to the operative time, intra-operative bleeding, postoperative bleeding and other related complications. In one group, the tonsillectomy was performed by Coblation and in the other group the tonsillectomy was performed by conventional dissection technique.

Preoperatively complete blood investigations, X ray chest, ECG, blood group, were done. All patients were given general anesthesia. The patients were randomized to either the coblation group or the conventional dissection group of equal number. In coblation, Evac 70 plasma wand was used for dissection and haemostasis and power was set at 6. In dissection group blunt tonsillar dissector was used to dissect the tonsilar tissue from the

tonsilar bed and the lower pole was clamped using Wilson forceps and silk ligature were used. Surgical time was measured from the insertion of Boyle-Davis mouth gag to the final haemostasis and removal of mouth gag. Intraoperative blood loss was measured by weighing the tonsil swab before and after tonsillectomy and by measuring the amount in the suction bottle. All patients were given perioperative antibiotic (amoxyclav) and post operative analgesics (paracetamol and diclofenac if needed).

Postoperatively, pain scores were noted from day 1 to day 8 using standardized visual analogue scale 1-10, mild (0-3), moderate (4-6), severe (7-10). The parents were also asked to keep records of any complications. Patients were reviewed in the OPD on 8th post operative day& for one month every weekly.

Parameters noted were:

- Intraoperative time
- Intraoperative blood loss
- Postoperative pain
- Postoperative recovery
- Postoperative complications

These outcome were measured in both conventional tonsillectomy and coblation assisted tonsillectomy.

RESULTS

An observational comparative study was done with 70 patients to compare the result of coblation assisted tonsillectomy & adenoidectomy with those of conventional dissection technique with regards to the operative time, intra-operative bleeding, postoperative bleeding and other related complications. The patients were randomly allocated into two groups of 25 patients each:

Group 1: Conventional dissection tonsillectomy & adenoidectomy

Group 2: Coblation assisted tonsillectomy & adenoidectomy

Distribution of patients according to Age

Majority of the patients (48.6%) in Group 1 were in the age group of 8-10 years followed by 37.1% in the age group of 5-7 years and 14.3% in the age group of 11-13 years. The mean age of the patients was 8.3 ± 2.17 years. Majority of the patients (42.9%) in Group 2 were in the age group of 8-10 years followed by 40% in the age group of 5-7 years and 17.1% in the age group of 11-13 years. The mean age of the patients was 8.4 ± 2.37 years. The difference in the groups was statistically not significant as per Student t-test ($p>0.05$).

Distribution of patients according to Sex

Group 1 constituted of 77.1% male and 22.9% female patients whereas Group 2 had 80% male and 20% female patients. There was no statistically significant difference between the groups as per Fisher test ($p>0.05$).

Comparison of Duration of Surgery in both Groups

The mean duration of surgery for Group 1 was 25.7 ± 3.09 mins as compared to 18.1 ± 2.89 mins for Group 2(Graph 1).. There was statistically significant difference between groups as per Student t-test (**$p<0.05$**).

Comparison of Intraoperative Blood Loss in both Groups

The mean intraoperative blood loss in Group 1 was 48.3 ± 7.47 ml as compared to 24.3 ± 5.19 ml for Group 2(Graph 2). There was statistically significant difference between groups as per Student t-test (**$p<0.05$**).

Comparison of Postoperative VAS Pain Score of both Groups

It was observed that postoperatively immediate, after 6 hours and after 12 hours, the patients had significantly more pain as compared to Group 2 (**$p<0.05$**). Postoperatively, the VAS score after 1 week, 2 weeks, 3 weeks and after 1 month was comparable between the groups and the difference was statistically not significant ($p>0.05$). **(Graph 3)**

Comparison of Postoperative Hemorrhage in both Groups

There was no case of primary hemorrhage and one case of secondary hemorrhage in Group 1

while there was one case of primary hemorrhage and two cases of secondary hemorrhage in Group 2**(Graph 4)**. The difference between groups was statistically not significant as per Fisher test ($p>0.05$).

Comparison of Postoperative Diet Intake in both Groups

The post-operative diet intake was significantly delayed in Group 1 as compared to Group 2 (9.6 ± 1.17 vs. 6.7 ± 0.96 days) as per Student t-test ($p<0.05$).

Comparison of Postoperative Return to Normal Behaviour in both Groups

The post-operative return to normal behaviour was significantly slower in Group 1 as compared to Group 2 (11.7 ± 1.53 vs. 8.1 ± 1.35 days) as per Student t-test ($p<0.05$).

Comparison of Post-operative tonsillar fossa healing in both Groups

The post-operative tonsillar fossa healing was estimated by the amount of slough covered in the tonsillar fossa and it was compared on 1st and 7th post-operative days.

In Group 1 it was 42.2% and 19.8% and in Group 2 mean area of slough covered was 81.4% and 46.5%. So slough formation is early and remained for long duration of time in Group 2 as compared to Group 1 and hence the healing was significantly delayed (**Graph 5)**

POD- Post-operative Day

Figure 1. Palatine tonsils

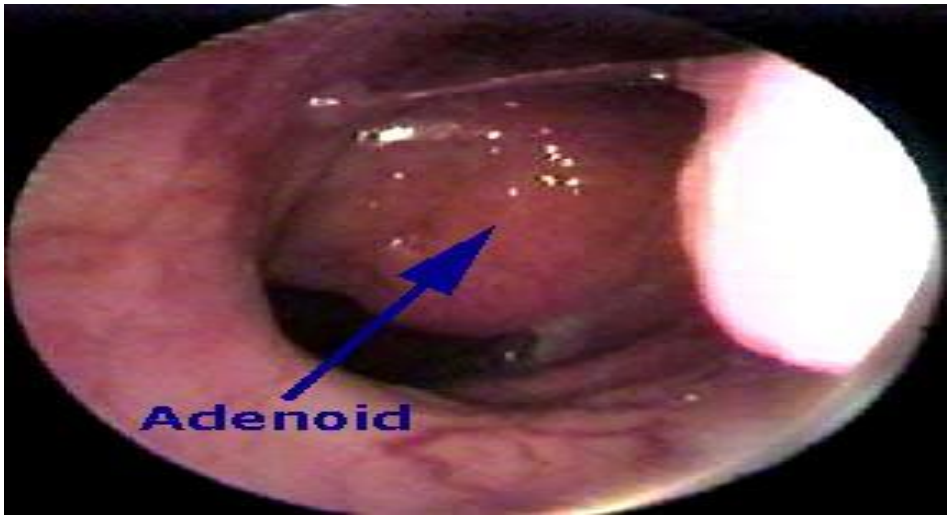

Figure 2. Endoscopic view of adenoid

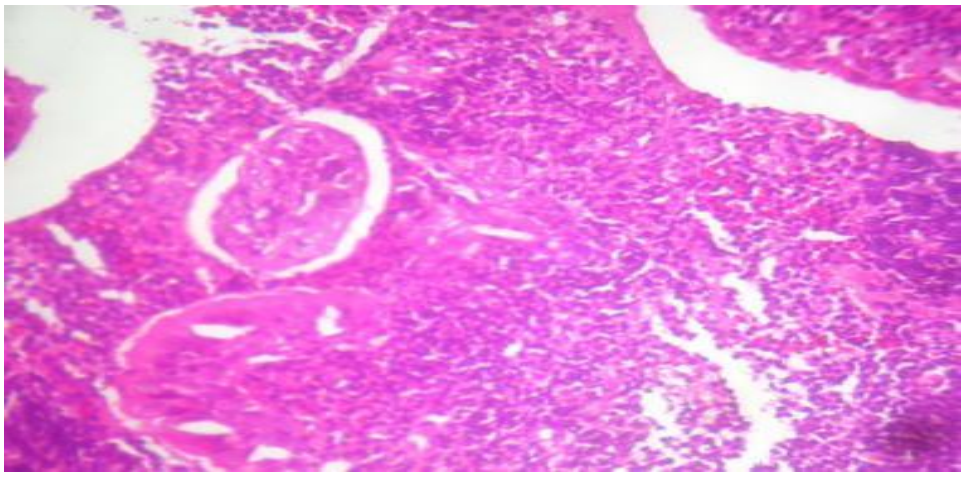

Figure 3. Histopath of adenoid showing lymphoid follicles and connective tissue septa.

Figure 4. Three days post tonsillectomy

DISCUSSION

Coblation tonsillectomy is still considered as one of the new techniques among tonsillectomy procedures and noted to be as the 'bridge' between cold and hot methods. This study was performed to compare the intraoperative efficiency and post-operative morbidity particularly pain in the similar patient who act as test and control subject. With these measures, this study could have an overview which method is better comparatively.

Theoretically, coblation instrumentation uses a radio frequency waves that are transmitted by conductive solution (i.e normal saline or sodium gel) between the device and the target tissue. Here it can ablate the target tissue and also coagulate any bleeding point during the procedure, thus could really reduce the time and blood loss compared to cold dissection where usually surgeon had to dissect the tonsils first before using any hemostasis techniques such as ligation or electrocautery diathermy.

In the present study, majority of the patients (48.6%) in Group 1 were in the age group of 8-10 years followed by 37.1% in the age group of 5-7 years and 14.3% in the age group of 11-13 years. The mean age of the patients was 8.3 ± 2.17 years. Majority of the patients (42.9%) in Group 2 were in the age group of 8-10 years followed by 40% in the age group of 5-7 years and 17.1% in the age group of 11-13 years. The mean age of the patients was 8.4 ± 2.37 years. The difference in the groups was statistically not significant as per Student t-test ($p>0.05$).

Group 1 constituted of 77.1% male and 22.9%

female patients whereas Group 2 had 80% male and 20% female patients. There was no statistically significant difference between the groups as per Fisher test ($p>0.05$). This is similar to the studies of Rakesh S et al[23], Zainon IH et al[18] and Nithya V et al[20] and Konsulov S et al[22].

In our study, the mean duration of surgery for Group 1 was 25.7 ± 3.09 mins as compared to 18.1 ± 2.89 mins for Group 2. There was statistically significant difference between groups as per Student t-test (**$p<0.05$**). This is comparable to the studies of Rakesh S et al[19], Zainon IH et al[18], Col. Singh SK et al[19] and Nithya V et al[20].

It was observed in our study that the mean intraoperative blood loss in Group 1 was 48.3 ± 7.47 ml as compared to 24.3 ± 5.19 ml for Group 2. There was statistically significant difference between groups as per Student t-test (**$p<0.05$**). Similar observations were noted in the studies of Rakesh S et al[23], Col. Singh SK et al[19], Zainon IH et al[18], Konsulov S et al[22], El Tahan AE et al[18] and Nithya V et al[20].

It was observed in our study that postoperatively immediate, after 6 hours and after 12 hours, the patients had significantly more pain as compared to Group 2 (**$p<0.05$**). Postoperatively, the VAS score after 1 week, 2 weeks, 3 weeks and after 1 month was comparable between the groups and the difference was statistically not significant ($p>0.05$). This is concordant to the studies of Zainon IH et al[18], Col. Singh SK et al[19], Rakesh S et al[23], Alexiou VG et al[16], El Tahan AE et al[18], Nithya V et al[20] and Konsulov S et al[22].

Rakesh S et al[23] randomized double blind comparative interventional study reported seventy-seven per cent of patients said that the side that underwent coblation was less painful for the overall 14-day recovery period than the side on which dissection was used. The other 23% said that the dissection side was less painful, and this was statistically significant (P = 0.01). The mean pain score for coblation averaged over 14 days was 2.76 and was 4.84 for conventional technique. When pain scores were compared between the two techniques for each individual evaluation, there were significant differences seen at 6, 12, 24, 48 and 72 h. Beyond that, the pain was consistently less on the coblation side, but the difference was small and not significant.

Alexiou VG et al[16] meta-analysis of Randomized Controlled Trials reported pain on the first and seventh postoperative days was significantly less in the VSS group (SMD, −1.73; 95% CI, −3.07 to −0.39; 740 patients; and SMD, −1.46; −2.35 to −0.57; 684 patients; respectively). For the HS group compared with the CS/EC group, the only studied outcome that differed significantly was perioperative bleeding, which was significantly less in the HS group (WMD −37.71 mL; 95% CI, −52.98 to −22.43 mL; 535 cases). No difference was noted between the Coblation and CS/EC groups for any of the studied outcomes.

El Tahan AE et al[20] prospective randomized clinical study reported both groups demonstrated insignificant difference as regards postoperative pain.

In our study, there was no case of primary hemorrhage and one case of secondary hemorrhage in Group 1 while there was one case of primary hemorrhage and two cases of secondary hemorrhage in Group 2. The difference between groups was statistically not significant as per Fisher test ($p>0.05$). These findings were consistent with the studies of Rakesh S et al[23], Belloso A et al[15]

It was observed in the present study that the post-operative diet intake was significantly delayed in Group 1 as compared to Group 2 (9.6 ± 1.17 vs. 6.7 ± 0.96 days) as per Student t-test ($p<0.05$). The post-operative return to normal behaviour was significantly slower in Group 1 as compared to Group 2 (11.7 ± 1.53 vs. 8.1 ± 1.35 days) as per Student t-test ($p<0.05$). Col. Singh SK et al[19] and Konsulov S et al[22] noted similar observations in their studies.

The post-operative tonsillar fossa healing was estimated by the amount of slough covered in the tonsillar fossa and it was compared on 1st and 7th post-operative days. In Group 1 it was 42.2% and 19.8% and in Group 2 mean area of slough covered was 81.4% and 46.5%. So

slough formation is early and remained for long duration of time in Group 2 as compared to Group 1 and hence the healing was significantly delayed.

The study of Rakesh S et al[23] reported slough formation was early on the radiofrequency side and remained there for a longer duration of time. The healing took longer on the radiofrequency side. By the third week slough was absent in both groups and a smooth tonsillar fossa was visible.

CONCLUSION

- The ability to have one tool to ablate, coagulate, suction and irrigate make it an attractive technique to consider for resection of tissue. Coblation is easy to learn and extremely fast and efficient.
- Tonsillectomy that uses coblation is designed to reduce the post-operative pain without the discomfort and inconvenience associated with traditional surgery. The patient benefits with minimal post-operative pain in the immediate post-surgery duration.
- Coblation decreases the chances of complications including intra operative bleeding, also total surgical time and postoperative pain. However there was increased incidence of secondary hemorrhage (two cases).
- Coblation tonsillectomy does have superiority in improving intraoperative efficiency in term of intraoperative time and bleeding compared to cold dissection tonsillectomy.
- To conclude, coblation tonsillectomy is an easy to learn, safe procedure, with significant advantages in terms of reducing postoperative morbidity, and thus should be routinely used in all cases. Larger randomized studies would be required to confirm or refute the same.

REFERENCES

1. Kenna MA, Amin A. Anatomy and physiology of the oral cavity. Snow JB, Wackym PA. Ballenger's Otorhinolaryngology Head and Neck Surgery. 17th ed. Shelton: BC Decker Inc; 2009. 769-774.
2. Lowe D, van der Meulen J, Cromwell D et al. Key messages from the National Prospective Tonsillectomy Audit. Laryngoscope. 2007;117(4):717–24.
3. Pinder DK, Wilson H, Hilton MP. Dissection versus diathermy for tonsillectomy. Cochrane Database Syst Rev. 2011;(3):CD002211.
4. Raut V, Bhat N, Kinsella J et al. Bipolar scissors versus cold dissection tonsillectomy: a prospective, randomized, multi-unit study. Laryngoscope. 2001;111(12):2178–82.
5. Timms MS, Temple RH. Coblation tonsillectomy: a double blind randomized controlled study. J Laryngol Otol. 2002;116(6):450–2.
6. Tan AK, Hsu PP, Eng SP et al. Coblation vs electrocautery tonsillectomy: postoperative recovery in adults. Otolaryngol Head Neck Surg. 2006;135(5):699–703.
7. Wiatrak BJ, Willging JP. Harmonic scalpel for tonsillectomy. Laryngoscope. 2002;112(8 Pt 2 Suppl 100):14–6.
8. Derkay CS, Maddern BR. Innovative techniques for adenotonsillar surgery in children: introduction and commentary. Laryngoscope. 2002;112(8 Pt 2 Suppl 100):2.
9. Plant RL. Radiofrequency treatment of tonsillar hypertrophy. Laryngoscope. 2002;112(8 Pt 2 Suppl 100):20–2.
10. Lee KC, Bent JP, III, Dolitsky JN et al. Surgical advances in tonsillectomy: report of a roundtable discussion. Ear Nose Throat. 2004;83(8)(Suppl 3):4–13.
11. Temple RH, Timms MS. Paediatric coblation tonsillectomy. Int J Pediatr Otorhinolaryngol. 2001;61(3):195–8.
12. Polites N, Joniau S, Wabnitz D et al. Postoperative pain following coblation tonsillectomy: randomized clinical trial. ANZ J Surg. 2006;76(4):226–9.

13. Burton MJ, Doree C. Coblation versus other surgical techniques for tonsillectomy. Cochrane Database Syst Rev. 2007;(3):CD004619.
14. Noon AP, Hargreaves S. Increased postoperative haemorrhage seen in adult coblation tonsillectomy. J Laryngol Otol. 2003;117(9):704–6.
15. Belloso A, Chidambaram A, Morar P et al. Coblation tonsillectomy versus dissection tonsillectomy: postoperative hemorrhage. Laryngoscope 2003;113(11):2010–2013.
16. Alexiou VG, Salazar-Salvia JPN, Falagas ME et al. Modern Technology–Assisted vs Conventional Tonsillectomy. A Meta-analysis of Randomized Controlled Trials. Arch Otolaryngol Head Neck Surg 2011;137(6):558-570.
17. Zainon IH, Salim R, Md-Daud MK. Coblation Tonsillectomy Versus Dissection Tonsillectomy: A Comparison of Intraoperative Time, Intraoperative Blood Loss and Post-Operative Pain. Med J Malaysia 2014; 69(2).
18. Col. Singh SK, Sqn. Ldr. Bhansali A. A Comparative Study of Cold Knife Adenotonsillectomy and Coblation Adenotonsillectomy. Journal of Evolution of Medical and Dental Sciences 2015; 4(51): 8818-8826.
19. El Tahan AE, Elzayat S, Hegazy H. Adenoidectomy: comparison between the conventional curettage technique and the coblation technique in pediatric patients. Egypt J Otolaryngol 2016;32:152-5.
20. Nithya V, Dutta A, Sabarigirish K. A comparative study of coblation assissted adenotonsillectomy and cold dissection adenotonsillectomy in children. Int J Otorhinolaryngol Head Neck Surg 2017;3:122-7.
21. Francis DO, Fonnesbeck C, Sathe N et al. Postoperative Bleeding and Associated Utilization following Tonsillectomy in Children: A Systematic Review and Meta-analysis. Otolaryngology–Head and Neck Surgery 2017; 156(3) 442–455.
22. Konsulov S, Konsulov S, Dzhambazov K et al. Comparison Between Coblation Assisted Tonsillectomy Versus Conventional Tonsillectomy Regarding the Postoperative Pain and Bleeding. International Journal of Otorhinolaryngology 2017;3(1):1-5.
23. Rakesh S, Anand TS, Payal G et al. A Prospective, Randomized, Double-Blind Study of Coblation versus Dissection Tonsillectomy in Adult Patients. Indian Journal of Otolaryngology and Head & Neck Surgery. 2012;64(3):290-294.

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