Journal of Institute of Medicine Nepal
Institute of Medicine, Kathmandu, Nepal

OPEN ACCESS

Original Article

JIOM Nepal. 2021 Aug;43(2):42-46.

Long Term Results of Adult Tonsillectomy for Recurrent Tonsillitis at a Tertiary Referral Hospital in Nepal

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ABSTRACT

Introduction

Chronic recurrent tonsillitis giving rise to frequent fever and disabling sore throat is the commonest indication for tonsillectomy in adults. The study aims to evaluate long term patients' perceived improvement subjectively as well as parameters of sore throat, fever, and antibiotics use objectively after adult tonsillectomy.

Methods

This retrospective cross sectional study was conducted at Department of ENT Head and Neck Surgery, Shree Birendra Hospital from January to May 2021. Preoperative data consisted of medical records of 81 adults who underwent tonsillectomy for recurrent tonsillitis between August 2012 and September 2013. Postoperative data on the same objective parameters were obtained by telephone during March 2021 after 7.5-8.5 years' interval. In addition, patients were instructed to subjectively express improvement of symptoms after tonsillectomy compared to preoperative symptoms level. Subjective improvement was measured on a scale of 0% - 100%, 0% being no improvement at all to 100% for complete cure.

Results

Out of 81 patients, 31 (38.27%) could be interviewed. Twenty-three were male and 8 were female. The age ranged from 18 to 65 and the mean age was 28.39. Of the 31 patients interviewed, the mean frequency of sore throat post tonsillectomy was reduced from 8.61 to 0.23 per year. Preoperatively, overall annual frequency of fever was 3.83, which decreased to 0.25 post tonsillectomy. Similarly, frequency of antibiotics intake was 5.27 per year, which decreased to 0.73 after tonsillectomy. The mean post tonsillectomy subjective improvement was 85.74%.

Conclusion

The adult patients with recurrent tonsillitis had significant improvement in objective symptoms after tonsillectomy. More than half of the patients had complete subjective improvement in post tonsillectomy state.

Keywords
Adult tonsillectomy, recurrent sore throat, subjective improvement

Submitted
May 24, 2021

Accepted
Jul 23, 2021

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INTRODUCTION

Tonsillectomy is a common surgery performed by the Otolaryngologist.[1] Chronic recurrent tonsillitis giving rise to frequent fever and disabling sore throat is the commonest indication for tonsillectomy in adults. However, there is controversy regarding the long-term benefit for adults due to occasional life-threatening post tonsillectomy hemorrhage. Most of the earlier studies had short follow-up periods. Other studies were of patients that underwent tonsillectomy few months to a few years back to assess the improvement. Paucity of studies on the fully established long-term benefit on adult tonsillectomy continues to cause criticism and controversy. Senska et al.[2] proved sustained benefit having studied the same set of adult patients with recurrent tonsillitis, for both objective and subjective improvements, at two intervals (14 months and 7 years) of tonsillectomy. It is to be noted that there are only a few studies focusing on subjective improvements.[1,3] This study aims on finding the long-term objective and subjective benefits of adult tonsillectomy as no such studies have been conducted in our context.

The aim of this descriptive study was to evaluate both the patients' perceived improvement as well as reduction in objective parameters of sore throat, fever and antibiotics use by adult patients 7.5-8.5 years after tonsillectomy. Study on patient improvement of tonsillectomy in adults will help the clinicians and the patients to navigate dilemma by considering both the benefits as well as the risks associated with it.

METHODS

This retrospective cross sectional study was conducted at the department of ENT Head and Neck Surgery of Shree Birendra Hospital from January 2021 to May 2021 over a period of five months. Departmental approval for the study was received and ethical clearance was obtained from the Institutional Review Committee of Nepalese Army Institute of Health Sciences (Reg. no 423). Verbal consent for the study was sought from the patients who were interviewed by telephone. Inclusion criteria was patients 18 years and above who could be contacted on telephone 7.5-8.5 years after tonsillectomy. Patients less than 18 years and who could not be contacted on telephone were excluded. They had undergone tonsillectomy by cold steel technique under general anaesthesia. Relieving incision was made by long tooth forceps. Then the tonsils were removed with the same instrument. Post operatively, antibiotics and analgesics were prescribed routinely. They were discharged within 2 to 3 days once they were able to eat orally.

Preoperative data of 81 patients consisted of demographics (age, sex, address, and telephone number) and symptoms (sore throat and fever) and antibiotic ingestion (duration and frequency). For postoperative data, they were contacted over phone number provided in the medical records. Up to five attempts were made to contact them. Thirty-one patients could be contacted.

Post tonsillectomy data was collected on frequency of sore throat, fever, and antibiotic ingestion. In addition, patients were instructed to subjectively express improvement of symptoms after tonsillectomy on a scale of 0 - 100% compared to their preoperative symptoms level; 0% being no improvement at all to 100% for complete cure.

RESULTS

In this retrospective study, interview was conducted during the month of March 2021, taking data of the patients who had undergone tonsillectomy from August 2012 to September 2013. Eighty-one patients met the inclusion criteria. Out of 81 patients, 31 (38.27%) could be interviewed. Of the patients interviewed, 23 were male and 8 were female. The youngest patient was 18 and the oldest was 65 years old. Mean age for male was 28.13 and female was 29.13 years with a mean age of 28.39 years. Of the 31 patients interviewed, the mean number of sore throat per year before tonsillectomy was 8.61, post tonsillectomy it reduced to 0.23 ($p<0.001$, Wilcoxon signed rank test).

Of the 31 patients who were interviewed, 11 (35.48%) had received antibiotics due to recurrent sore throat before tonsillectomy. Interestingly, all of them had taken Co-amoxiclav antibiotic. Frequency of antibiotics intake was 5.27 per year, which decreased to 0.73 after tonsillectomy ($p=0.03$, Wilcoxon signed rank test). At 7.5-8.5 years after tonsillectomy, 2 (18.18%) of the interviewed 31 patients whose frequency of antibiotic use remained the same (Table 1).

Table 1. Pre and postoperative antibiotic use (n=11)

Use of antibiotic	Number of patients	Mean antibiotic use per year	p-value
Preoperative using antibiotic	11	5.2	0.03
Postoperative using antibiotic	2	4	
Postoperative not using antibiotic	9	0	

Table 2. Fever frequency per year (n=21)

	Pre-op	Post-op	p-value
Number of patients	21	4	0.01
Mean frequency	3.83	0.25	

Out of 31 patients interviewed, before tonsillectomy 21 patients had fever and 10 did not. Preoperatively, mean frequency of fever was 3.83 per year, which decreased to 0.25 postoperatively. Post tonsillectomy, out of 21 who had fever preoperatively four patients continued to have fever (Table 2).

Out of 31 patients, 16 (51.6%) patients expressed 100% improvement/satisfaction. Likewise, eight (25.8%) patients expressed between 90 to 99%, two (6.5%) patients expressed between 70 to 80%, and three (9.7%) patients expressed between 50 to 60% improvement/satisfaction. Two (6.5%) patients expressed no improvement/satisfaction (Table 3).

Table 3. Post tonsillectomy subjective improvement /satisfaction in percentage (n=31)

Perceived improvement/satisfaction (expressed in %)	Number of patients
100	16
99	2
90	6
80	1
70	1
60	2
50	1
0	2

DISCUSSION

Tonsillectomy is one of the common surgical procedure performed by otolaryngologists in pediatric and adult population.[1] This is a frequently performed procedure in pediatric age group. It is indicated in patient with recurrent tonsillitis requiring frequent medical treatment. Tonsillectomy reduces use of medication due to frequent sore throat and fever. There are only a few studies on patient-reported outcome measures in adult tonsillectomy. Generally, post tonsillectomy complications are studied considering its dreaded hemorrhage. Until now, no studies addressing subjective improvement of symptoms and overall wellbeing after many years post tonsillectomy have been conducted in our region. To the best of our knowledge, studies on neither objective nor subjective tonsillectomy outcome have been conducted in our context. Our observation of 7.5-8.5 years post tonsillectomy is the longest so far and the first one in Nepal.

Our study patients' age group were lower than study by Senska et al.[2] however, similar to other studies.4–8 Twenty-nine female (35.8 %) and 52 male (64.2%) underwent tonsillectomy. In this study, 31 (38.27%) patients could be contacted. Other studies had response rate of 26-91%.[6–8] There was a decreased participation of patients, which might affect the result. However, any systematic error due to loss of the participants is minimal due to other collective data like average age, gender distribution, etc. Tonsillectomy was associated with a reduced number of episodes of sore throat. Interestingly, when asked, 16 patients expressed not having sore throat at all after tonsillectomy. This may be due to the belief that once they undergo tonsillectomy, they are completely cured.

Nikakhlagh et al.[9] conducted a retrospective questionnaire study to evaluate the benefits, impact and overall efficacy of tonsillectomy / adenotonsillectomy on quality of life in patients with recurrent, chronic tonsillitis or adenotonsillar hypertrophy to compare their symptoms 6 months before and after surgery. It had 812 patients: 81 adults with 14 years or older and 731 children. Their age ranged from 3 to 42 years. The mean age of the adults was 26.5 years. The mean frequency of tonsillitis per year, days off work or school, doctor visits decreased postoperatively. It concluded that tonsillectomy / adenotonsillectomy results in significant improvement in overall quality of life, physical health and general well-being.[9] In contrast to the above, our study was exclusively on adults who were 18 years old and above with the mean age of 28.39 years who underwent tonsillectomy and the variables were also different. We did not include work days affected and number of doctor visits. In our part, patients rarely reported on missed work and preferred to get over the counter medicine. However, frequency of decrease in tonsillitis and improvement in overall quality of life after surgery is similar to ours.

Other studies also reported reduced episodes of sore throat over the study periods of 12 and 14 months.[2,10] In our study, we observed decreased use of antibiotics after tonsillectomy. Out of 11 patients using antibiotics preoperatively, only two participants (18.1%) continued using it post operatively. Other studies had similar results of decreased use of post tonsillectomy antibiotics.[2,11,12] Those studies despite significantly decreased frequency of antibiotics use, almost 25% patients continued to use it post tonsillectomy.

Wireklint et al.[6] in a study of 76 adult patients to see the long-term effects of tonsillectomy relating to Health Related Quality of Life (HROQL) and well-being as consequence of obstructive symptoms or ENT infections after 6 years versus effect after 1 year. Six years after surgery, 91 % patients reported persisting benefits in well-being, reduced obstructive problems and fewer infections. It showed HRQOL improvements and reduction in

symptoms defining Sleep Disordered Breathing (SDB) persisting through 6 years post-surgery. In contrast, our study aim was to see the recurrent tonsillitis frequency rather than SDB.[6] Senska et al.[1] had similar objective like ours but the duration was 14 months post tonsillectomy.

Schwentner I.[7] in a retrospective study with 600 adults (16 years and above) to measure patients' HRQOL benefit after tonsillectomy for chronic tonsillitis, used Glasgow Benefit Inventory (GBI) to quantify the health benefit. Patients reported an improvement in HRQOL in all GBI subscales. The study concluded adult tonsillectomy for chronic tonsillitis provides an improvement in HRQOL. This positive impact should be considered in the clinical decision making process for tonsillectomy.[7] Survey completion percentage (37.83%) is similar to our study (38.27%). However, our study did not use GBI. Criteria for adult age was 16 years and above in their studies however, it was 18 and above in ours.

Our study had notable subjective improvement but we did not use GBI. We asked patients to express how much improvement in symptoms and overall wellbeing after tonsillectomy was perceived in comparison to their pre operative symptoms level in terms of percentage from 0 to 100%. 51.61% patients reported 100% improvement after tonsillectomy. Powell et al.[5] in a prospective study of 41 patients with at least a year after tonsillectomy to add to the body of HRQOL evidence on adult tonsillectomy at a time when this intervention was being branded a low priority treatment in the United Kingdom (UK). The result showed a significant improvement in quality of life ($p < 0.01$) post tonsillectomy. The study emphasized the importance of tonsillectomy being available on the National Health Service to adults with recurrent tonsillitis. This proven quality of life improvement was also highly likely to confer a secondary health economic benefit from less general practitioner attendances and fewer missed work days.[5] This study used their own questionnaire like ours to measure the improvement in quality of life. Likewise, Wireklint et al.[6] also used their own questionnaire to observe improved physical and psychological wellbeing after tonsillectomy.

Our study differs from others primarily in two ways. One, it comprises patients who underwent tonsillectomy 7.5-8.5 years earlier. This is the longest post-op follow-up. Another is the use of post tonsillectomy subjective improvement data expressed in percentage. It is the first of its kind study in our country. This study opens avenues for further studies. Higher response rate could enhance the result. We followed-up on patients after seven years or more post tonsillectomy. Senska et al.[1,2] had two studies with similar aim as ours. One study comprised data 14 months and another 7 years post tonsillectomy. However, Schwentner et al. reported having no difference in GBI with various duration of follow up.

Our study is retrospective like others[2,4,8,13–15] but we used our own questionnaire instead of GBI, which is not validated. The study had to rely on the telephone number in the medical records to contact the patients. As the medical records did not have postal / mailing addresses, patients were contacted via the documented telephone numbers. Complete residential or mailing address could enhance the response / contact rate. Twenty-one patients were unreachable, 14 could not be contacted, nine had changed their telephone numbers, and six numbers were recorded incorrectly. Retrospective study could lead to recall bias. Response rate was 38.27%.

Limitation is that the study was retrospective. It had small sample size and low response rate. It did not use validated questionnaire rating scale to assess the subjective improvement of symptoms.

CONCLUSION

This study showed that adult patients with recurrent tonsillitis had significant improvement in objective symptoms after tonsillectomy. More than half of the patients had complete subjective improvement in post tonsillectomy state.

CONFLICT OF INTEREST

None declared.

REFERENCES

1. Senska G, Ellermann S, Ernst S, Lax H, Dost P. Recurrent tonsillitis in adults: quality of life after tonsillectomy. Dtsch Ärztebl Int. 2010;107(36):622.
2. Senska G, Atay H, Pütter C, Dost P. Long-term results from tonsillectomy in adults. Dtsch Ärztebl Int. 2015;112(50):849.
3. Leplege A, Hunt S. The problem of quality of life in medicine. JAMA. 1997;278(1):47–50.
4. Bhattacharyya N, Kepnes LJ. Economic benefit of tonsillectomy in adults with chronic tonsillitis. Ann Otol Rhinol Laryngol. 2002;111(11):983–8.
5. Powell HR, Mehta N, Daly N, Watters GWR. Improved quality of life in adults undergoing tonsillectomy for recurrent tonsillitis. Is adult tonsillectomy really a low priority treatment? Eur Arch Otorhinolaryngol. 2012;269(12):2581–4.
6. Wireklint S, Ericsson E. Health-related quality of life after tonsillotomy versus tonsillectomy in young adults: 6 years postsurgery follow-up. Eur Arch Otorhinolaryngol. 2012;269(8):1951–8.
7. Schwentner I, Höfer S, Schmutzhard J, Deibl M, Sprinzl GM. Impact of tonsillectomy on quality of life in adults with chronic tonsillitis. Swiss Med Wkly. 2007;137(3132).
8. Witsell DL, Orvidas LJ, Stewart MG, Hannley MT, Weaver EM, Yueh B, et al. Quality of life after tonsillectomy in adults with recurrent or chronic tonsillitis. Otolaryngol Neck Surg. 2008;138(1_suppl):S1–8.
9. Nikakhlagh S, Rahim F, Boostani H, Shirazi STB, Saki N. The effect of adenotonsillectomy on quality of life in adults and pediatric patients. Indian J Otolaryngol Head Neck Surg. 2012;64(2):181–3.

10. Wolfensberger M, Mund MT. Evidence based indications for tonsillectomy. Ther Umsch Rev Ther. 2004;61(5):325–8.
11. Mui S, Rasgon BM, Hilsinger Jr RL. Efficacy of tonsillectomy for recurrent throat infection in adults. The Laryngoscope. 1998;108(9):1325–8.
12. Bhattacharyya N, Kepnes LJ, Shapiro J. Efficacy and quality-of-life impact of adult tonsillectomy. Arch Otolaryngol Neck Surg. 2001;127(11):1347–50.
13. Koskenkorva T, Koivunen P, Läärä E, Alho O-P. Predictive factors for quality of life after tonsillectomy among adults with recurrent pharyngitis: a prospective cohort study. Clin Otolaryngol. 2014;39(4):216–23.
14. Ovesen T, Kamarauskas A, Hlidarsdottir T, Dahl MR, Mainz J. Good long-term results after tonsillectomy in ear, nose and throat practices. Dan Med J. 2013;60(5):A4637.
15. Baumann I, Kucheida H, Blumenstock G, Zalaman IM, Maassen MM, Plinkert PK. Benefit from tonsillectomy in adult patients with chronic tonsillitis. Eur Arch Oto-Rhino-Laryngol Head Neck. 2006;263(6):556–9.