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Tonsillectomy in Adults: Indications and Complications in a Tertiary Care Hospital

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Abstract

Background: Tonsillectomy is one of the surgical techniques most practiced by otolaryngologists, and despite being a relatively simple technique; it presents a considerable percentage of complications, such as postoperative bleeding.
Objectives: The aim of the study was to compare the tonsillectomy in adults: indications and complications in a tertiary care hospital.
Methods: This cross-sectional study was carried out in the Department of Medicine, Mymensingh medical college hospital, Mymensingh, during January 2023 to December 2023. A total of 200 patients were participated in the study. Statistical analyses of the results were be obtained by using window-based Microsoft Excel and Statistical Packages for Social Sciences (SPSS-24).
Results: In this study, the population consisted of (56.5%) children under the age of 15 and (43.5%) adults over the age of 15. In terms of gender distribution, (54%) of the sample population was male, while (46%) was female. And 9(4.5%) of the patients suffered trauma, 5(2.5%) had difficult intubation, 3(1.5%) had anesthesia difficulty, and 183(0.91) had no complications. In terms of the study population's symptoms, 113 (56.5%) had recurrent or chronic tonsillitis with obstructive symptoms and 34 (22%) had adenotonsillar hypertrophy with obstructive symptoms.
Conclusion: The most common surgical indication was recurrent tonsillitis and bleeding the most common and important complication. Regarding the risk of post-tonsillectomy hemorrhage, no statistically significant differences were detected in patients in whom tonsillar pillars were sutured comparing to those that were not, nor related to surgical indication. Tonsillectomy was not set as outpatient surgery at the time.

Keywords: Tonsillectomy; Otolaryngologists; Hemorrhage; Bleeding

Introduction

Tonsillectomy is a common procedure in the otolaryngology practice. Despite the rising number of tonsillectomies performed as an ambulatory operation, the safety of this procedure in our context has yet to be established. Because of the complications, some hospitals still do it as an in-patient treatment. Strict criteria must be followed and carefully audited if any center decides to convert to an outpatient setting [1,2]. The most common and significant complication of tonsillectomy is post-tonsillectomy hemorrhage (PTH). In general, original PTH is considered more prevalent and dangerous than secondary hemorrhage [3]. Primary bleeding is thought to be caused by surgical technique, but subsequent hemorrhage is caused by eschar sloughing, trauma

from solid meal consumption, tonsillar bed infection, post-operative nonsteroidal anti-inflammatory drug (NSAID) use, or idiopathic causes [4]. Other major complications of tonsillectomy include respiratory compromise [5]. Other minor problems of tonsillectomy include fever, nausea, vomiting, and poor oral intake, which can progress to a more serious condition if dehydration occurs [5]. In view of the complications, each institution must establish its own safety guidelines for doing ambulatory tonsillectomy, as certain patients may require hospitalization owing to medical contraindications or social reasons. Patients with severe asthma who are taking regular medications, diabetes, coagulation disorders, hypersomnia or sleep apnea syndrome, sickle cell disease, epilepsy, and other diseases that were previously thought to necessitate an overnight stay may be ineligible for ambulatory tonsillectomy [6]. Tonsillectomy is a surgical surgery that removes a tonsil or tonsils. It is one of the most popular surgical procedures in otolaryngology practice [7]. Postoperative discomfort and post-tonsillectomy hemorrhage (PTH) are two major concerns following surgery. Common risk factors for PTH include old age, chronic tonsillitis, significant intraoperative blood loss, and high postoperative mean arterial pressure [8]. Tonsillectomy can result in a wide range of complications, including blood-tinged mucus and potentially fatal hemorrhage. [9] Clinical practice guidelines require that all institutions conducting tonsillectomy conduct an audit on PTH to compare with national and worldwide rates [10]. The most common rationale for tonsillectomy in adults is chronic recurrent tonsillitis, which causes frequent fever and a debilitating painful throat. Tonsillectomy is one of the most common operations performed by an ENT surgeon. Usually, the treatment is performed as an inpatient surgery. With the growing desire to reduce healthcare expenses, free up hospital beds, and decrease elective surgery waiting lists, tonsillectomy is increasingly being performed on a day-care basis.

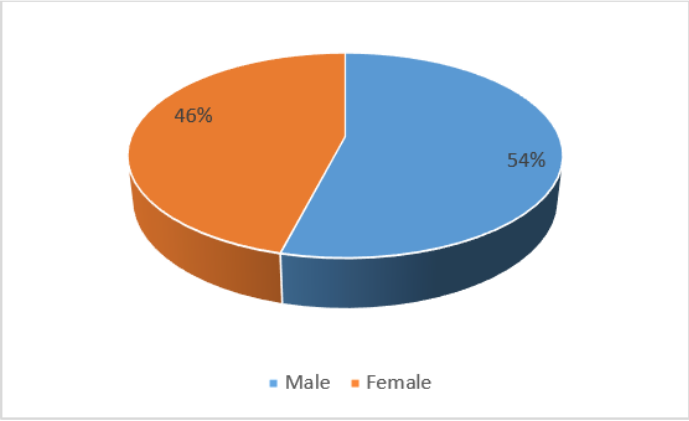

***Figure 1*:** *Sex distribution of the study population.*

Methodology

This cross-sectional study was carried out in the Department of Medicine, Mymensingh medical college hospital, Mymensingh, during January 2023 to December 2023. A total of 200 patients were participated in the study and both patients were male and female. After taking consent and matching eligibility criteria, data were collected from patients on variables of interest using the predesigned structured questionnaire by interview, observation. Statistical analyses of the results were be obtained by using window-based Microsoft Excel and Statistical Packages for Social Sciences (SPSS-24).

Results

(Table 1) shows age distribution of the study population, it was observed that 113(56.5%) children were belonged to age ≤15years and 87(43.5%) adults were belonged to age ≥15 years. (Figure 1) shows sex distribution of the study population, it was observed that majority 108(54%) patients were male and 92(46%) patients were female. (Table 2) shows socio-economic status of the study population, it was observed that 62(31%) of the patients come from low class, 86(43%) of the patients come from middle class and 52(26%) of the patients come from high class family respectively. (Table 3) shows Intra-operative complications of the study population, it was observed that 9(4.5%) of the patients were in trauma, 5(2.5%) had difficult intubation, 3(1.5%) patients had Anesthetic complication and 183(0.91) patients had no complication respectively.

***Table 1*:** *Age distribution of the study population.*

Age (years)	n=200	%
Children (≤15years)	113	56.5
Adults (≥15 years)	87	43.5

***Table 2*:** *Socio-economic condition of study population.*

Socio-economic condition	n=200	%
Low	62	31
Middle	86	43
High	52	26

***Table 3*:** *Intra-operative complications of study population.*

Complications	n=200	%
Trauma	9	4.5
Bleeding	0	0
Difficult intubation	5	2.5
Anesthetic complication	3	1.5
No complication	183	0.91

***Table 4**:Post-operative complications of study population.*

Complications	n=200	%
Primary hemorrhage	7	3.5
Secondary hemorrhage	7	3.5
Infection	4	2
Inability to extubate	2	1
Others	6	3
No complication	174	87

***Table 5**: Indications of symptoms of study population.*

Indications	n=200	%
Recurrent or chronic tonsillitis with obstructive symptoms	113	56.5
Recurrent or chronic tonsillitis without obstructive symptoms	49	29.5
Adenotonsillar hypertrophy with obstructive symptoms	34	22
Acute tonsillar infection	1	1
Others	3	1.5

***Table 6:** Duration of symptoms of study population.*

Duration	n=200	%
≤3 months	3	1.5
>3months and ≤6 months	2	1
>6 months and <1 year	6	3
≥1 year	177	88.5
No recorded duration of symptoms	12	6

(Table 4) shows post-operative complications of the study population, it was observed that 7(3.5%) of the patients had primary hemorrhage, 7(3.5%) had secondary hemorrhage, 4(2%) patients had infection and 174(0.91) patients had no complication respectively. (Table 5) shows indications of symptoms of the study population, it was observed that 113(56.5%) of the patients had recurrent or chronic tonsillitis with obstructive symptoms, 49(29.5%) had recurrent or chronic tonsillitis without obstructive symptoms, 34(22%) patients had adenotonsillar hypertrophy with obstructive symptoms respectively. (Table 6) shows the duration of symptoms of the study population, it was observed that 3(1.5%) of the patients were ≤3 months, 6(3%) of the patients were >6 months and <1-year months and 177(88.5%) were ≥1 year respectively.

Discussion

This cross-sectional study was carried out in the Medicine, Mymensingh medical college hospital, Mymensingh. During 1 year of study period, total 200 samples were included in this study. Tonsillectomy is a common surgical treatment performed by otolaryngologists on pediatric and adult patients. This is a commonly done operation in the pediatric age group. It is suggested for those who have recurrent tonsillitis and require frequent medical treatment. Tonsillectomy lowers medicine consumption due to frequent sore throats and fevers. There is limited research on patient-reported outcomes in adult tonsillectomy. In this study it was observed that, the study population consisted of 113 (56.5%) children under the age of 15 and 87 (43.5%) adults over the age of 15. In terms of gender distribution, 108 (54%) of the sample population was male, while 92 (46%) was female. According to the socioeconomic position of the study population, 62(31%) of the patients are from the low class, 86(43%) are from the middle class, and 52(26%) are from the high class. Tonsillectomy is one of the most common surgical operations in the United States, with over 530,000 performed each year in children under the age of 15 [11]. Numerous research have been conducted to investigate the indications and consequences of juvenile tonsillectomy. Historically, the most common reason for tonsillectomy in children was recurrent/chronic tonsillitis; however, as antibiotic use increased, the reason for surgery moved to the treatment of upper airway congestion [11]. Unlike in pediatrics, the most prevalent indication for tonsillectomy in adults is recurrent/chronic tonsillitis, which may be owing to greater drug failure rates due to resistant bacteria [12]. Other reasons for tonsillectomy in adults include upper airway obstruction resulting in obstructive sleep apnea (OSA), suspected or proven malignancy, and tonsil-related symptoms as halitosis, dysphagia, tonsillar stones, and persistent sore throat [13]. Studies that examined the medical and economic benefits of tonsillectomy in adults found that it enhanced quality of life by reducing antibiotic use, physician visits, sore throat episodes, and missed work days [14]. In this current study, the study population, 9(4.5%) of the patients suffered trauma, 5(2.5%) had difficult intubation, 3(1.5%) had anesthesia difficulty, and 183(0.91) had no complication. In terms of post-operative complications in the study population, 7 (3.5%) had original bleeding, 7 (3.5%) had secondary hemorrhage, 4 (2%) had infection, and 174 (0.91) had no complications. Low socioeconomic level has also been identified as a risk factor for return, as indicated by numerous research, potentially due to increased severity of obstructive sleep apnea and recurrent tonsillitis [15]. These unsuccessful treatments in low socioeconomic groups may be exacerbated by challenges to effective physician-patient communication, patient education and understanding, and provider bias [16]. Finally, residing in regional Victoria reduced the likelihood of hospital visits (relative to metropolitan Victoria). This could be owing to the limited quantity and geographic accessibility of hospitals in remote

locations, where patients are instead referred to a general practitioner. The study revealed that, in terms of the study population's symptoms, 113 (56.5%) had recurrent or chronic tonsillitis with obstructive symptoms, 49 (29.5%) had recurrent or chronic tonsillitis without obstructive symptoms, and 34 (22%) had adenotonsillar hypertrophy with obstructive symptoms. Despite the potentially life-threatening complication of bleeding, the tonsillectomy technique has been demonstrated to be safe as an outpatient procedure in a number of trials, with overall complication rates ranging from 0.37% to 4.1% [17,18]. Many other research focused exclusively on post-operative problems, therefore the overall proportion of intra-operative complications in different contexts is rather arbitrary [19]. In our analysis, only 3.7% of intraoperative problems were observed. There was no intraoperative bleeding that required a transfusion, and only 2.6% of cases of minor trauma were reported. Similar to intra-operative complications, very minor percentages of post-operative complications were observed. Primary and secondary bleeding were the highest complication rates (1.9% each). Post-tonsillectomy hemorrhage (PTH), which includes both primary and secondary PTH, has been utilized in numerous studies to predict the safety of ambulatory tonsillectomy two studies conducted in India and Singapore that concluded the safety of tonsillectomy procedures found 1.95% and 7.7% of PTH occurrence, respectively, and our results were well within this range. Another patient experienced bleeding at 9 hours post-operatively, but no surgical intervention was required to manage it. Meanwhile, secondary bleeding in our investigation occurred between days 4 and 11 post-operatively, which is consistent with the prior study's stated average length. [17]. In our present study, the study found that 3(1.5%) patients had symptoms for less than 3 months, 6 (3.3%) patients had symptoms for more than 6 months but less than a year, and 177 (88.5%) patients had symptoms for more than a year. The reasons for tonsillectomy have changed throughout history. In the pre-antibiotic period, tonsillectomy was regarded as a highly efficient therapeutic treatment for both the cure and prevention of tonsil infection problems, with 1.4 million tonsillectomies performed in the United States alone in 1949 [18]. This trend lasted until the 1970s, when indications began to be questioned, resulting in a significant decrease in the number of tonsillectomies performed annually: from over 2 million in the 1960s to 400,000 now in the United States [19]. The Spanish Society of Otorhinolaryngology currently recommends tonsillectomy for tonsillar malignancy, significant oropharyngeal blockage due to tonsillar hypertrophy, and chronic tonsillar bleeding. Recurrent acute tonsillitis, chronic tonsillitis, and peritonsillar abscess or phlegmon are all related signs.

Limitations of the Study

The present study was conducted in a very short period due to time constraints and funding limitations. The small sample size was also a limitation of the present study.

Conclusion

Tonsillectomy in adults is most often indicated for chronic infections, peritonsillar abscesses, or osa. Although the procedure carries higher risks in adults than in children, with proper surgical technique and postoperative care, complications such as hemorrhage, pain, and infection can be minimized. Managing pain and maintaining hydration are key components of recovery.

Recommendation

This study can serve as a pilot to much larger research involving multiple centres that can provide a nationwide picture, validate regression models proposed in this study for future use and emphasize points to ensure better management and adherence.

Acknowledgements

The wide range of disciplines involved in the tonsillectomy in adults: indications and complications in tertiary care hospital research means that editors need much assistance from references in the evaluation of papers submitted for publication. I would also like to be grateful to my colleagues and family who supported me and offered deep insight into the study.

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