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INCIDENCE OF PRIMARY AND SECONDARY HAEMORRHAGE AFTER TONSILLECTOMY IN CHILDREN

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Abstract:

Objective: *To determine the frequency of primary and secondary haemorrhage after tonsillectomy in children aged 3-14 years.*

Study design: *A cross-sectional study.*

Place and duration: *In the Department of Otolaryngology, Services Hospital Lahore for one year duration from June 2018 to June 2019.*

Methods: *A total of 200 patients with recurrent tonsillitis episodes between 3 and 14 years of age were included in the study in six weeks, 4-5 times in two years or 2-3 attacks in one year. From all subjects, informed consent was taken. The age range of the patients ranged from 3-5 years (24%), 6-8 years (28%), 56 (28%), 9-11 years (46) (23%), and 9-11 (50) years. The mean and standard deviation were 8.34 ± 5.87 years, 12 (14-14) years, 81 (40.5%) were male and 119 (59.5%) were female.*

Results: *In 12 (6%) of patients have haemorrhage in children undergoing tonsillectomy and in 188 (94%) no haemorrhage was noted and secondary haemorrhage was observed in 6 (100%) of cases but there were no primary haemorrhage.*

Conclusion: *We concluded that the frequency of secondary haemorrhage after tonsillectomy was higher in children aged 3 to 14 years undergoing tonsillectomy, and it was a result requiring more attention to follow up this problem.*

Keywords: *postoperative haemorrhages, tonsillectomy, children, primary and secondary haemorrhage.*

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INTRODUCTION:

In ENT, the most common surgical procedures performed in adults and children is tonsillectomy and continues to be approximately 20% to 40% of ENT procedures [1-3]. There is no uniform tonsillectomy - method in the world and the technique of operation hinge on the surgeon preference. These techniques include guillotine excision, blunt dissection, cryosurgery, electrocautery, laser extraction, ultrasonic extraction, bipolar and monopolar dissection and ligate tonsillectomy. Despite advances in surgical and anesthetic techniques, postoperative morbidity remains a major clinical problem, particularly in the form of pain [4-5]. It is an important complication after tonsillectomy due to its frequency and consequences. An increase in the prevalence of haemorrhage after tonsillectomy has been reported. In general, haemorrhage is classified as primary (<24 hours) or secondary (> 24 hours) [6-7]. Primary haemorrhage is considered more severe than secondary haemorrhage, but secondary haemorrhage may also be a risk and requires intensive treatment with general anesthesia. In the study conducted to determine the emergence of haemorrhage after tonsillectomy in the pediatric age group, workers in the Qureshi and Prospective study stated that 4% and 15% of the postoperative haemorrhage was primary and the remaining 85% were secondary haemorrhage [8-9]. We are planning this study because very few studies on this subject have been published and the results of the study will attract surgeons' attention to post-procedure morbidity, so that tonsillectomy is a method during the procedure, so that more attention will be paid to prevent this morbidity.

MATERIALS AND METHODS:

This cross-sectional study was held in the Department of Otolaryngology, Services Hospital Lahore for one year duration from June 2018 to June 2019. A total of 200 patients between the ages of 3 and 14 years, recurrent tonsillitis episodes in six weeks, 4-5 times in two years or 2-3 attacks in one year were included from the outpatient clinic. The informed consent and ethical committee approval was taken. Demographic data of the patients were recorded before the procedure. Tonsillectomy was performed under general anesthesia and oral intubation. Tonsils were removed by dissection and hemostasis was provided by electric cautery. Six hours after the procedure, patients were allowed to eat and drink. The researcher conducted at least two rounds a day in the wards, and nursing staff (if any) provided continuous monitoring to ensure early recognition of postoperative haemorrhage. The patients were discharged on the third day and the follow-up was performed on the 6th, 10th and 15th days. Patients who developed primary and secondary haemorrhage on any of these days were recorded. All this information was recorded according to the pre-designed form. Data were entered and analyzed in SPSS 18.0 version. Frequency and percentages for primary or secondary haemorrhage were recorded. Mean and standard deviation were recorded for the age of the patients. Stratification was performed according to sex and age to control the effect modifiers.

RESULTS:

The age range of the patients ranged from 3-5 years (24%), 6-8 years (28%), 56 (28%), 9-11 years (46) (23%), and 9-11 (50) years.

Table 1: Age distribution of the subjects

Age (years)	=n	%age
3-5	48	24
6-8	56	28
9-11	46	23
12-14	50	25

Mean +sd=8.34±5.87

The mean and standard deviation were 8.34 ± 5.87 years, 12 (14-14) years, 81 (40.5%) were male and 119 (59.5%) were female.

Table 2: Gender of the subjects

Gender	=n	%age
Male	81	40.5
Female	119	59.5

The incidence of haemorrhage in children who underwent tonsillectomy was 12 (6%), 188 (94%), secondary 9 (100%), and none of the patients had haemorrhage.

Table 3: Frequency of haemorrhage in children undergoing tonsillectomy

Haemorrhage	=n	%age
Yes	12	6
No	188	94

Table 4: Frequency of type of haemorrhage in children undergoing tonsillectomy

Haemorrhage	=n	%age
Primary	-	-
Secondary	6	100

DISCUSSION:

Tonsillectomy is probably the most common surgery performed by an otolaryngologist. One of the most important complications is postoperative haemorrhage. Haemorrhage after tonsillectomy are unpredictable and sometimes life-threatening. We plan this study considering that very few studies on this subject have been published and the results of this study may attract surgeons' attention on post-procedural morbidity and that more attention should be paid during the procedure to avoid this morbidity [10-11]. In 12 (6%) of patients have haemorrhage in children undergoing tonsillectomy and in 188 (94%) no haemorrhage was noted and secondary haemorrhage was observed in 6 (100%) of cases but there were no primary haemorrhage. The study findings were consistent with Qureshi S and colleagues who recorded 15% of patients with primary haemorrhage and 85% of patients with secondary haemorrhage, while the findings on postoperative haemorrhage frequency were agreed. In our study, this incidence was higher in 4% of patients who developed postoperative haemorrhage, but the incidence of postoperative haemorrhage was not significant at 6% [12-13]. In several previous studies, the rate of secondary haemorrhage was higher. Mitchell and Benson discovered that sixteen percent of children gained haemorrhage when contact was established 2 weeks after the operation [13]. Raut evaluated at 15-17 days postoperatively and found secondary haemorrhage rate as 16.9% in 200 patients. Blogmren noted that 32.8% of pediatric population and mixed adult veteran secondary haemorrhage after tonsillectomy. 26% rate was noted by Ghoter. Some investigators have shown 5.1 percent post-tonsillectomy haemorrhage in adults and 6.76 percent in pediatric patients [14]. The Blakley study concluded that post-tonsillectomy haemorrhage rates were approximately five percent. In a study by D'Agostino et al, 3310 patients who underwent elective adenotonsillectomy by 5 major surgeons with various surgical methods, they noted late haemorrhage rate of 1.78%, all starting at home. The above-mentioned studies have a relatively low secondary haemorrhage rate compared to ours, but this difference is the reason for calculating the overall frequency of secondary haemorrhage when calculating the overall frequency. 6 (100%) patients who developed secondary haemorrhage in 200 of the total patients in the study. The same method for calculating the incidence of the disease was adopted by Qureshi S and the workers, and our findings are also included in the study. However, the results of these trials showed that the primary haemorrhage rate, as in our study, was too low to determine the length of stay. The wide difference between different studies in haemorrhage rates was probably due to different criteria used in the definitions[15]. However, all these studies, together with ours, felt that adenotonsillectomy was safe as a one-day procedure in patients with inclusion criteria for DCT.

CONCLUSION:

We concluded that the frequency of secondary haemorrhage after tonsillectomy is higher in children aged 3-14 years and more attention should be paid to solve this problem.

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