ORIGINAL ARTICLE

Post-Tonsillectomy: Primary and Secondary Haemorrhage in Children

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ABSTRACT

Aims: To determine the frequency of post-tonsillectomy primary and secondary haemorrhage in children between 3-14 years

Study design: It was a cross sectional survey.

Duration: From 7th October 2011 to 12th November 2012

Material and method: A total of 200 patients between 3-14 years of both gender having recurrent episodes of tonsillitis within six weeks, 4-5 times in two years or 2-3 episodes in a year, were recruited from the Out Patient Department, their informed consent was taken. During the study period, age distribution of the patients show 48(24%) between 3-5 years, 56(28%) between 6-8 years, 46(23%) between 9-11 years and 50(25%) between 12-14 years of age, mean and sd was calculated as 8.34±5.87 years, 81(40.5%) were male and 119(59.5%) were female patients. Frequency of haemorrhage in children undergoing tonsillectomy reveals 12(6%) while 188(94%) had no haemorrhage, 6(100%) secondary while no patient had primary haemorrhage.

Conclusion: We concluded that frequency of post-tonsillectomy secondary haemorrhage in children between 3-14 years undergoing tonsillectomy is higher which needs more attention for the surveillance of the problem.

Keywords: Tonsillectomy, post operative haemorrhage, primary & secondary haemorrhage, children

INTRODUCTION

Tonsillectomy continues to be one of the most common surgical procedures performed in children and adults[1], and approximately 20%-40% of otolaryngological procedures[2]. There is no uniform technique of tonsillectomy throughout the world and the choice of the technique depends on the surgeon's preference[3]. These techniques include blunt dissection, guillotine excision, electrocautery, cryosurgery, coblation, ultrasonic removal, laser removal, monopolar and bipolar dissection, and ligature tonsillectomy[4].

Despite improvements in surgical and anaesthetic techniques, postoperative morbidity, mainly in the form of pain, remains a significant clinical problem.[5] Post-tonsillectomy haemorrhage is a significant complication because of its frequency and consequences. Increases in post-tonsillectomy haemorrhage prevalence have been reported.[6] Generally, The haemorrhage is classified as primary (<24 hours) or secondary (>24 hours). Primary haemorrhage is considered to be more serious than secondary haemorrhage, but secondary haemorrhage can also be risk and require massive treatment under general anaesthesia[7].

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Sameer Qureshi and workers[7] in a prospective study with the view to determine occurrence of post tonsillectomy haemorrhage in pediatric age group found 4% post operative haemorrhage and 15% of them were primary while remaining 85% were secondary haemorrhage.

We planned this study as very few studies are published on this topic and results of the study will draw the attention of the surgeons to post-procedure morbidity so that during procedure more care is given to avoid this morbidity, as tonsillectomy is a common otolaryngological procedure.

MATERIAL AND METHODS

A total of 200 patients between 3-14 years of both gender having recurrent episodes of tonsillitis within six weeks, 4-5 times in two years or 2-3 episodes in a year, were recruited from the Out Patient Department, their informed consent was taken. Approval from ethical committee was taken. Informed consent was obtained from the parents of the patients to include their data in the study. Before the start of procedure, the patients' demographic information was recorded. Tonsillectomy was done under general anaesthesia and oral intubation. The tonsils were removed via the dissection, and haemostasis was achieved by electric cautery. Patients were allowed for eating and drinking after 6 hours of the procedure. The researcher made at least

two rounds per day in the wards, and the nursing staff provided continuous monitoring, which made early recognition of post-operative haemorrhage (if any). The patients were discharge on 3rd day and follow up in out patient's door was done on 6, 10th and 15th day. Patients who developed primary or secondary haemorrhage on any of these days were recorded. All this information was recorded as per pre-designed proforma.

The data was entered and analyzed through SPSS version 10. Frequency and percentages were recorded for primary or secondary haemorrhage. Mean and standard deviation was recorded for age of the patients. Stratification was done with regards to age and gender to control the effect modifiers.

RESULTS

During the study period, age distribution of the patients show 48(24%) between 3-5 years, 56(28%) between 6-8 years,46(23%) between 9-11 years and 50(25%) between 12-14 years of age, mean and sd was calculated as 8.34±5.87 years, 81(40.5%) were male and 119(59.5%) were female patients. Frequency of haemorrhage in children undergoing tonsillectomy reveals 12(6%) while 188(94%) had no haemorrhage, 9(100%) secondary while no patient had primary haemorrhage.

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

Table 2: Gender of the subjects

Gender	=n	%age
Male	81	40.5
Female	119	59.5

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 operation performed by an Otolaryngologist. One of the most significant complications is post-operative haemorrhage. Episodes of post tonsillectomy haemorrhage are unpredictable and sometimes life threatening. We planned this study keeping in view that very few studies are published on this topic and results of the study may draw the attention of the surgeons to post-procedure morbidity so that during procedure more care be given to avoid this morbidity.

In this study, frequency of haemorrhage in children undergoing tonsillectomy reveals 12(6%) while 188(94%) had no haemorrhage, 6(100%) secondary while no patient had primary haemorrhage. The findings of the study are in agreement with the Qureshi S and colleagues[7] who recorded 15% of the patients with primary haemorrhage and 85% with secondary haemorrhage, while the findings regarding frequency of post-operative haemorrhage is in agreement with the study as they recorded 4% of the patients who developed post operative haemorrhage while this frequency is higher in our study, though overall frequency of post operative haemorrhage is not significantly higher being 6%.

A number of previous studies the secondary hemorrhage rate was higher. Benson and Mitchell[8] found that 16% of children had experienced some bleeding when contacted at 2 weeks postoperatively. Raut[9] found 16.9% secondary hemorrhage rate in 200 patients while assessing 15-17 days postoperatively. Blogmren[10] found that 32.8% of a mixed adult and pediatric population had experienced some secondary hemorrhage following tonsillectomy. Ghoter found a secondary rate of 26%. Some researchers showed post-tonsillectomy bleeding rates of 5.1 percent in adults and PTB rates of 6.75 percent in pediatric patients. In a literature based study by Blakley, he concluded that Post-tonsillectomy bleeding rates of about 5 percent are typical.[11] In another study by D'Agostino et al on 3306 patients undergoing elective adenotonsillectomy by five senior surgeons with different surgical techniques, they found late post-operative hemorrhage rate of 1.78% which started all at home[12].

The above mentioned studies are comparatively lower rate of secondary haemorrhage than ours but this difference is due to the reason that they calculated the frequency of secondary haemorrhage on overall patients' frequency while we calculated this incidence out of total post operative haemorrhage patients i.e. 6 (100%)case who developed secondary haemorrhage among 200 of total patients of the study. The same way to calculate the frequency of the morbidity is adopted in study conducted by Qureshi S and workers[7] and our findings are in agreement with their study. But, the findings of all

these trials like our study showed that the rate of primary hemorrhage was too low to dictate the length of stay. The wide variation of hemorrhage rates among different studies was probably due to different criteria used in the definitions. However all of these studies as well as ours considered adenotonsillectomy safe as a day case procedure in patients that had inclusion criteria for DCT.

However, we concluded that the frequency of post-tonsillectomy secondary haemorrhage in children between 3-14 years undergoing tonsillectomy is higher which needs more attention for the surveillance of the problem

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