

Outcome of tonsillectomy in children without the use of postoperative antibiotics at two tertiary care hospitals of Peshawar

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ABSTRACT

Introduction: Overuse of antibiotics can lead to antimicrobial resistance and unnecessary costs. Although early studies reported improved outcomes following use of perioperative antibiotics for tonsillectomy, more recent studies have not been able to demonstrate a significant benefit on post tonsillectomy morbidity.

Objective: To determine the need for postoperative antibiotics in children undergoing tonsillectomy under aseptic conditions at two tertiary care hospitals of Peshawar.

Materials & Methods: Children aged 5-14 years admitted to the departments of Otorhinolaryngology-A unit of Hayatabad Medical Complex and Rehman Medical Institute, Peshawar from March 01, 2018 to September 30, 2018 for recurrent sore throat and recurrent quinsy were included in this quasi-experimental study based on prospective data collection and convenience sampling. Children with blood dyscrasias, upper and lower respiratory tract infections, and cardiopulmonary diseases were excluded. Routine preoperative investigations were done, and all were given postoperative analgesics. The patients were divided into two consecutive groups of 60 each; Group-A was given Co-amoxiclav 20mg/5mg/kg/day for 10 days and Group-B was not given any antibiotic. During their stay in the hospital and on follow up they were asked about pain via Visual Analogue Scale, and presence of fever and/or bleeding were documented.

Results: Of 120 children, 50 (41.6%) were males and 70 (58.4%) were females, of ages 05-14 years; 01(1.6%) from Group-A and 01(1.6%) from Group-B presented with reactionary hemorrhage. However, 01(1.6%) from Group-A and 25(40%) from Group-B presented with secondary hemorrhage for which they were readmitted and put on injectable antibiotics. Similarly, 05(8.3%) from Group-A and 14(23.3%) from Group-B presented with pain for which pain killers were prescribed.

Conclusion: Post tonsillectomy antibiotics may have a role in reducing the morbidities associated with the procedure in our setup.

Keywords: Tonsillectomy; Postoperative Infections; Antibiotic Resistance; Hemorrhage.

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INTRODUCTION

Recurrent tonsillitis is a common indication for tonsillectomy in adults and children.¹

Tonsillitis can cause significant illness and can be diagnosed by a complete history and clinical examination. A mild discomfort in the throat arising from tonsils is not an indication for tonsillectomy.²

An overuse of antibiotics can lead to a lot of antimicrobial resistance and unnecessary costs.³⁻⁵ Antibiotics are not used postoperatively in some countries.⁶ Surgical patients account for approximately 40% of antibiotic use in children's hospitals,⁷ and tonsillectomy is the second most common pediatric surgery, with more than 500,000 performed annually in the United States.⁸ A survey of otolaryngologists in the United States⁹ showed that 79% reported routine prescribing of antibiotics following tonsillectomy, and a recent retrospective review of 34 US children's hospitals¹⁰ showed that the rate of antibiotic use ranged from 2.7% to 92.6%. On the contrary, only 10% of ENT specialists in the United Kingdom report using antibiotics for pediatric tonsillectomy.¹¹

Although early studies reported that use of perioperative antibiotics for tonsillectomy was associated with improved outcomes,^{6,12} more recent studies have not been able to demonstrate a significant benefit on post tonsillectomy morbidity.¹³ There are various methods of tonsillectomy, the most common being the dissection method.¹² This study was conducted to determine the need for postoperative antibiotics in patients undergoing tonsillectomy under aseptic conditions.

MATERIALS & METHODS

One hundred and twenty patients presenting with recurrent sore throat (at least 6-7 episodes per year for more than one year) and recurrent quinsy were included in this quasi-experimental study on Inpatient basis from March 01, 2018 to September 30, 2018 in the Department of Otorhinolaryngology-A unit of Hayatabad Medical Complex and Rehman Medical Institute Peshawar, based on prospective data collection and convenience sampling.

Children with blood dyscrasias, upper and lower respiratory tract and cardiopulmonary diseases were excluded from the study. Routine preop investigations like Fasting Blood Glucose, Coagulation Profile and Virology were done. Hemostasis was secured using bipolar or with silk-1 if needed and all were given post-operative analgesics.

The patients were divided into two groups of 60 patients each, to form test (Group-A) and control (Group-B) groups; one group was dealt with at a time, the other subsequently. Initially, Group-A was given Co-Amoxiclav 20mg/5mg/kg/day for 10 days, followed by Group-B who was not given any antibiotic. During their stay in the hospital and on follow up they were asked about pain via Visual Analogue Scale (VAS) and were asked to document any fever and bleeding.

RESULTS

Of 120 subjects, 50 (41.6%) were males and 70 (58.4%) females with ages from 05-14 years. The age and gender are shown in Table 1.

Table 1: Demographic data of subjects (n=120).

#	Demographic Variables	Frequency	Percentage
1.	Gender		
	Male	50	41.6
	Female	70	58.4
2.	Age (years)		
	05 – 10	43	35.83
	11– 14	77	64.17

The complications are shown in Table 2.

Reactionary hemorrhage occurred in 01(1.6%) from Group-A and 01(1.6%) from Group-B. However, 01(1.6%) from Group-A and 25(40%) from Group-B presented with secondary hemorrhage for which they were readmitted and put on injectable antibiotics. In addition, 05(8.3%) from Group-A and 14(23.3%) from Group-B presented with pain for which pain killers were prescribed.

Table 2: Outcomes of patients (n=160 each group).

#	Complications	Group-A n (%)	Group-B n (%)
1.	Reactionary hemorrhage	01 (1.6%)	01 (1.6%)
2.	Secondary hemorrhage	01 (1.6%)	25 (40%)
3.	Pain	05 (8.3%)	14 (23.3%)
4.	Fever	0	0

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DISCUSSION

In this quasi-experimental study, the result of post tonsillectomy regimens with and without the use of antibiotics were studied to determine the need for prescribing such antibiotics in routine. Tonsillectomy is a common procedure for chronic tonsillitis, and significant complications like bleeding can occur postoperatively.¹ Some authors advocate the use of antibiotics while others while others are against it.⁶ A study by Montague et al¹⁴ showed an incidence of reactionary hemorrhage to be 1% and 1.5% respectively while in the present setup it was 1-2% which shows satisfactory results. A study by Qais et al¹⁵ noted secondary hemorrhage up to 7.4%; the secondary hemorrhage in our setup was 40% for which the patients were given I/V antibiotics. Thus, it shows that if proper sterilization and aseptic techniques are applied, the risk of postoperative morbidity is decreased.

CONCLUSION

The need for post tonsillectomy antibiotics can be justified as they helped reduce morbidity in children for whom they were prescribed, so that there were lesser complications compared to the control group who were not given postoperative antibiotics.

LIMITATIONS

The study had several potential limitations since this study included patients from a single health care network in Khyber Pakhtunkhwa province and, therefore, might not be generalizable to all children undergoing tonsillectomy.

Moreover, the present study was meant to be a pilot quasi-experimental study, to determine at a preliminary level, the need for post tonsillectomy antibiotics despite the settings of tertiary care hospitals using standard aseptic and operative techniques. It would be far fetched to extend the results to remote areas of the province or the rest of the country, where smaller level hospitals may not be able to provide the necessary levels of surgical expertise or aseptic standards that were adopted in these two large tertiary care hospitals.

RECOMMENDATIONS

Based on results of the present study, it can be recommended that antibiotics should be used in routine after tonsillectomy, particularly in remote settings to reduce the morbidity associated with the procedure.

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