



The Impact of Antibiotics on Co-morbidities Post Tonsillectomy: A Prospective, Double-Blind, Randomized Study

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ABSTRACT

Background: Adenotonsillectomy is one of the most frequent operations performed in hospitals worldwide. The aim this study is to investigate further the impact of antibiotics on co-morbidities post tonsillectomy.

Methods: This prospective double blinded randomized controlled study was conducted at the department of otolaryngology in a tertiary care hospital where 300 tonsillectomy operations are performed each year.

All Patients aged 2 years and older who were admitted for elective tonsillectomy from January 2012 to December 2012 were included in this study.

Results: From the 128 patients enrolled in the study, 70 belonged to Group A (Intervention) and 50 to Group 2 (Control). There was no statistically significant difference in the post-operative oral intake, fever in the first post operative day, degree of stress, secondary bleeding, otalgia, fever at home, and day of return to regular diet between the two groups.

Conclusion: Although some studies showed that antibiotic use was beneficial in reducing morbidities post tonsillectomy, it is advisable for otolaryngologist to re-evaluate current practice taking into consideration bacterial resistance to antibiotics, adverse effects and cost benefit ratios. The use of antibiotics in post tonsillectomy patients will remain crucial in some selected cases.

Introduction

Adenotonsillectomy is considered one of the most frequent operations performed in hospitals worldwide.¹ It account for 20 to 40% of the entire surgical procedures performed by otolaryngologist.² Recurrent infections and upper airway obstruction are recognized as the main indications for tonsillectomy specially with the pediatric population.³ If left untreated, it may compromise child development and affect their performance at school.⁴

Operative techniques can vary with Adenotonsillectomy. Cold steel dissection is the most common techniques currently used for tonsillectomy. With cold steel dissection, haemostasis can be secured by diathermy; nevertheless many surgeons favour ties or swabs.⁵ In the United States, hot tonsillectomy is considered to be the most frequent procedure carried out for tonsillectomy. Cold dissection tonsillectomy is the commonest procedure used in the UK.⁶ In our practice; cold steel dissection is more commonly used for tonsillectomy.

With the developing of new surgical and anaesthetic modalities, attention was directed extensively toward recognition and treatment of morbidities that might develop post tonsillectomy.¹ Infection may be considered as one of these morbidities.

Bacteria present in the Oro-pharynges can contaminate the tonsillar fossa which was left open to heal by secondary intention.⁷ In addition, several authors believe that prophylactic antibiotics can reduce post tonsillectomy infection.⁷ On the other hand, other studies do not support this hypothesis. They reported that the use of antibiotics does not reduce morbidities such as infection post tonsillectomy and therefore, antibiotics should be used only with selected cases.⁸

The main purpose of the present study is to examine the impact of antibiotics on comorbidities post tonsillectomy.

Methods:

This prospective double blinded randomized controlled study was conducted at the department of otolaryngology in a tertiary care hospital where 300 tonsillectomy operations are performed each year. All Patients aged 2 years and older who were admitted for elective tonsillectomy from January 2012 to December 2012 were included in this study.

The study was approved by the ethics committee in Bahrain Defence Force Hospital and a written consent was obtained either from patients or guardians during their attendance to the clinic prior to the surgery.

The 128 patients enrolled in the study were divided in two groups. Group A, the intervention group who received post operative antibiotics Amoxicillin 50mg/kg/day for seven days. Group B, the controlled group were not prescribed antibiotics post-surgery. Patients were randomly selected using the 1000 random digits table.

All surgical procedures were carried out by the first author AA. Cold steel dissection was the surgical technique used during the tonsillectomy. The length of surgery, blood loss and any additional procedures were documented.

Postoperatively, patients stayed in the hospital for one night. Patient temperature and oral intake were recorded. On discharge, patients or the guardian were given a 14 days diary with careful instructions to record on a daily basis the pain which was measured by the visual analogue scale, total analgesia requirements, temperature, incidence of vomiting, and day of return to normal diet. Two weeks after surgery, patients were seen in the outpatient clinic for routine follow up.

Statistical analysis was conducted using SPSS version 18. Descriptive analysis was done for all variables studied in the study. Normally distributed data was subjected to T test, while the ones that were not normally distributed data were examined by U Mann-Whitney test.

Results:

From the 128 patients enrolled in the study, 70 belonged to Group A (Intervention) and 50 to Group 2 (Control). Both groups had similar age and gender distributions. In the intervention group 55.4% of the patients were male and 44.6% females. In the control group 57.9% of the patients were male and 42.1% females.

The pre-op conditions for both groups were comparable. There was no statistical significant differences in the post-op oral intake, fever in the first post operative day, degree of stress, secondary bleeding, otalgia, fever at home, and day of return to regular diet. Similarly, there was no statistical difference for gender, recurrent tonsillitis, snoring, sleep apnea, size of tonsil, and intra-operative bleeding.

Fever is a common symptom that can be identified in patients post adenotonsillectomy. In our study, 62 patients (92.5%) in group A and 47 (94%) in group B experienced fever post operatively. In follow up period only 7 patients (13.2 %) in group A and 3 (6.8%) in group B recorded high temperature.

Referred otalgia is one of the co-morbidities that are reported post tonsillectomy. Although its statistically insignificant, in group A 13 patients (24.5%) and 17 patients (38.6%) in group B complained from referred otalgia.

Discussion:

With the improvement in surgical techniques, and methods of haemostasis in tonsillectomy, marked reductions in serious complications were observed, making this procedure safe and effective. However, the focus today shifted toward managing the co-morbidities associated with this procedure.¹ Morbidity post tonsillectomy is mainly due to pain, bleeding, fever and vomiting.⁹ Afrman et al, in a meta-analysis study identified that pain post tonsillectomy was the most significant concern for more than 90% of patients evaluated.¹⁰

The use of antibiotics post tonsillectomy to reduce morbidities is controversial. Telian et al, reported improvement in various morbidities associated with patients receiving amoxicillin when compared to the patients receiving placebo.¹¹ Thomsen & Gower found that antibiotic therapy post tonsillectomy helped in pain reduction.¹²

Al-Kindy concluded that post tonsillectomy antibiotics did not prove to have a role in minimizing postoperative morbidity.⁹ Bukart et al, in a meta-analysis study concluded that postoperative oral antibiotic use did not reduce pain post tonsillectomy.¹³

In the present study, the usage of antibiotics post tonsillectomy did not reveal any significant benefits in reducing pain post tonsillectomy or reducing any other morbidities.

Conclusion:

Although some studies showed that antibiotic use was beneficial in reducing morbidities post tonsillectomy, it is advisable for otolaryngologist to re-evaluate current practice taking into consideration bacterial resistance to antibiotics, adverse effects and cost benefit ratios. The use of antibiotics in post tonsillectomy patients will remain crucial in some selected cases.

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