



A COMPARATIVE STUDY OF THE ROLE OF POST-TONSILLECTOMY ANTIBIOTIC PROPHYLAXIS IN CHILDREN

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ABSTRACT

Three groups of 12 children each, undergoing tonsillectomy (with or without adenoidectomy), were compared for post-operative morbidity. Groups A, B and C, respectively, received 3 doses of intravenous ceftriaxone, 5day oral augmentin or no antibiotics, in treatment regimen after tonsillectomy. Antibiotic cover did not appear to offer significant advantage regarding safe post-operative period. Group on oral 5 day augmentin, suffered highest incidence of nausea, vomiting and abdominal pain. On the contrary, fever in post-operative period may be the relevant ground to administer antibiotic treatment, preferably parenteral regimen, but not otherwise as routine practice.

KEYWORDS: Tonsillectomy; postoperative; antibiotics; ceftriaxone; augmentin.

INTRODUCTION

Tonsillectomy, with or without adenoidectomy, is amongst the commonest pediatric surgical procedures. Despite being short, the surgery carries worrisome post-operative morbidity. Symptoms include, odynophagia, dysphagia, decreased oral intake, otalgia, halitosis and fever^[1]. First post-operative week is very challenging in this regard. Variety of treatment approaches have been tried with none consistently successful^[2]. Bacterial colonization of open tonsillar bed causes mounting morbid inflammatory reaction^[3,4]. Consequences include, oropharyngeal muscle spasm and increase in post-operative pain, which is magnified by tissue ischaemia, due to inevitable muscle trauma during surgery^[5].

Many evaluations, of bacterial colonization, found, post-operative antibiotic cover yielding earlier resumption of regular diet, less halitosis and return to normal life^[4-6]. Post-tonsillectomy bleeding instances were also less^[7]. American guidelines, on pediatric tonsillectomy, do not recommend post-operative antibiotic use, unless there is fever^[8]. Large section of practitioners, however, continue post-operative antibiotic prophylaxis^[9]. Instances of post tonsillectomy bleeding, requiring surgical intervention, are, reportedly, also increased, since invocation of said guidelines^[10].

Compliance to oral antibiotics is, nevertheless, difficult in children and associates much gastric upsets, to aggravate, sense of sickness and hinder return to normal life. Herein, groups of 12 each, of pediatric tonsillectomy patients, were observed for relative post-operative problems, over the first week. They received,

respectively, 3 dose intravenous ceftriaxone, 5 day oral augmentin or no antibiotic, at all, in post-operative treatment regimen.

PATIENTS AND METHOD

The study was conducted, in Department of Otorhinolaryngology, BJMC, Ahmedabad, India, during April 2009 to December 2009, with approval of research board and after informed written consent from participants' guardians. It was open study, with consecutive allocation of male and female children, to groups A, B and C, respectively, till attaining 12 cases in each group. All the cases were in 3 to 12 year age group and underwent elective tonsillectomy, with or without, adenoidectomy. Exclusion criteria employed, were, allergy to penicillin or ceftriaxone and patients on antibiotic treatment over preceding 2 weeks of surgery, for pharyngeal infection. Tonsillectomy was performed under general anaesthesia, employing, propofol-fentanyl induction and isoflurane maintenance. In all cases, blunt dissection technique was used, with haemostasis by cautery.

Group A patients were given, 50mg/kg ceftriaxone, intravenously, divided into two doses, in first 24 hours and third dose (25mg/kg), next day. Group B patients were given, oral augmentin, as per calculated dose, daily, for 5 days and group C did not receive postoperative antibiotics, unless, suffered fever. Patients were discharged, the next morning, after tonsillectomy and parents were instructed to bring them back, in instance of, bleeding or fever. Routine follow up was at, 1st, 2nd and 4th post-operative week. Patients' parents were

instructed, to make note of events of post-operative first week, as: post-operative day of resuming normal food, complaints of nausea and vomiting, abdominal pain, pain (specified to be recorded, on a 0 to 10 subjective score, on each day) and frequency of analgesic intake and instance of significant bleeding.

OBSERVATIONS AND RESULTS

Male/female gender composition was near even, in the groups, viz 5/7, 6/6, 6/6 in respective groups. Mean ages

were matching, as 6.1, 6.3 and 6.1 years. All patients had uneventful first post-operative day and were discharged next day.

The profile of events, in first post-operative week, in different groups is shown in table 1.

Table 1. Profile of events, in first post-operative week

S. No	Observation	Group A	Group B	Group C
1.	Median day of resuming diet	4th	4th	4th
2.	Fever	1	1	2
3.	Nausea/Vomiting	1	4	2
4.	Abdominal pain	1	3	2
5.	Daily analgesic doses	4	4	4
6.	Pain score (mean±SD)	6.8±2.7	6.4±2.9	6.8±3
7.	Bleeding	1	1	1

All cases of bleeding were brought to hospital and controlled without any need to be given blood transfusion. In all these cases, 3rd generation intravenous cephalosporins and intravenous fluids were given and kept for 48 hours under observation.

Patients from group B, suffered, most instances of nausea/vomiting and abdominal pain. Group C, had high fever, in two patients, who were put on similar antibiotic treatment, for 5 days.

DISCUSSION

Post-operative fever is a concern, even, in the referred guidelines, with directive to institute antibiotic treatment^[8]. Present observations show, the '3 dose i.v. ceftriaxone' and 'no antibiotic' protocols, to yield, not very different outcomes, as compared to 5 day long oral augmentin treatment. The later, on the contrary, was associated with, particularly high incidences, of nausea/vomiting and abdominal pain. Similar morbidity in 'antibiotic' and 'no antibiotic' treatment groups in tonsillectomy series has been reported^[11]. Yet, another report found, antibiotic group bearing worse outcome^[12].

CONCLUSION

In accordance with the guidelines, present observations endorse, use of antibiotics, only in cases, that develop significant fever, in post-operative period, after tonsillectomy. Although, oral antimicrobial spectrum of augmentin^[13] and ceftriaxone^[14,15] are, both, wide and strong, oral treatment does not seem to be well tolerated in children.

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