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Research Article

Antibiotic following tonsillectomy: are we justified?

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ABSTRACT

Background: Tonsillectomy remains one of the most commonly performed surgeries in ENT practice. Though rare, post-tonsillectomy hemorrhage is one of the most dreaded complications. Antibiotics are commonly used to reduce the risk of this complication. Not sufficient data is available to prove the use of antibiotics. Aim of current study was to study the role of antibiotics in prevention of post tonsillectomy secondary hemorrhage.
Methods: Randomized control trial was done. Pilot study on 92 patients, operated for tonsillectomy was randomly divided in two groups. All patients were operated by dissection method and both groups were matched in terms of types of anesthesia and post op analgesia. The first group was given antibiotics following tonsillectomy and the other group was not given antibiotics. These patients were followed up for 14 days.
Results: Only one patient in the group where antibiotic was given developed secondary hemorrhage and none of the patients in the non-antibiotic group developed any secondary hemorrhage.
Conclusion: This study does provide a level I evidence suggesting that routine use of antibiotic is not justified following tonsillectomy however a study with larger data is advocated.

Keywords: Tonsillectomy, Secondary hemorrhage, Antibiotics

INTRODUCTION

Tonsillectomy is one of the most commonly performed surgeries in ENT practice.[1] There are number of absolute and relative indications but practically the most common indications for performing this surgery are recurrent tonsillitis and sleep disordered breathing.[2] Various techniques have been used to perform this surgery however dissection and snare remains the most commonly used.

Post tonsillectomy, all the patients have pain which does get relieved by use of analgesics. Hemorrhage is a rare but a dreaded complication following this surgery. It can be primary or secondary. Primary hemorrhage occurs within first 24 hours following surgery. This is related to surgical technique and the re-opening of blood vessels. Secondary hemorrhage occurs after 24 hours but often between 5 and 10 days.[3] This has been attributed to infection or sloughing of the primary eschar as the tonsil bed heals by secondary intention. Rates of secondary hemorrhage range from 0.1% to 3%.[4] Use of perioperative antibiotic is very rampant amongst majority of ENT surgeons across the globe to prevent secondary hemorrhage. This is based on early randomized control trials which suggested improved recovery with use of antibiotics.[5]

Recent studies suggest that there is no role of antibiotics in reducing post tonsillectomy morbidity.[6] Cochrane review has not found any role of antibiotics in reducing incidence of post tonsillectomy secondary hemorrhage. The purpose of the study is to have a randomized

controlled study weather antibiotics have any role in prevention of post tonsillectomy secondary hemorrhage. This is a pilot study aimed to be carried on a larger sample size if the results are favorable.

METHODS

This was a prospective randomized study done over a period of 12 months (June-May 13) at our tertiary care teaching Hospital. All children above 5 years of age posted for tonsillectomy or adeno-tonsillectomy were included. The main indication for surgery consisted of recurrent tonsillitis with last episode of tonsillitis occurring 3 weeks before procedure. Patients with acute attack of tonsillitis, quinsy, bleeding disorder and anemia were excluded from the study. A Total 92 patients formed part of our study group. Patients were randomly divided into two groups. Group A received antibiotics (Amoxicillin) following tonsillectomy for 7 days and group B did not receive any antibiotic.

All surgeries were done by dissection and snare method and hemostasis was achieved either by ligation or by use of bipolar cautery. Both the groups were given similar pre-medication, anesthetic technique and post-operative analgesia. The analgesia consisted of proper doses of NSAID's.

Postoperatively the patients were evaluated on the post op evening and on the first post op day. The findings of general examination and those of tonsillar fossa were noted. Vital signs were checked specifically for any fever or tachycardia. Tonsillar fosses were inspected for any blood clot, active bleeding or oozing. Those patients who had sloughed or clear tonsillar fossae with no evidence of bleed were discharged after 24 hours. All patients were called for follow up on day 3, 7 and 14. They were instructed to report to hospital in case of any oral or nasal bleed. During the follow up visits, tonsillar fossae were examined for any clots, sign of active bleed or oozing. They were also asked if any of them developed fever during the postoperative period.

RESULTS

During the study period of 12 month 92 patients got enrolled in the study. Of these 54 were females and 38 were males. The details are as per Table 1.

Table 1: Details of patients operated for tonsillectomy.

Characteristics	Group A (received antibiotic)	Group B (not received antibiotic)
Male	18	20
Female	30	24
	48	44

In 49 patients intra-operative hemostasis was achieved by use of pressure with gauge. In 31 patients ligation was used and in 12 patients bipolar cautery was used for hemostasis.

One patient in the group in which antibiotic was given developed secondary bleed after 4 days of surgery. None the patients in the non-antibiotic group developed any secondary bleed during hospital stay or during the follow up period (Table 2).

Table 2: Follow up records. Difference non-significant as P >0.05.

Characteristics	Group A (received antibiotic)	Group B (not received antibiotic)
Secondary hemorrhage	01	Nil

This data was analyzed using statistical test and the difference in two groups was not found significant. 'Z' test was used for analysis of the data. The difference in two group in terms of hemorrhage was not significant as the p value was 1.01 (P >0.05).

DISCUSSION

Hemorrhage is the most dreaded complication of tonsillectomy as it increases morbidity and may prove to be fatal. This increases the recovery period and the duration of hospital stay which includes the re-admissions. The incidence of hemorrhage has been reported to be as high as 20%.[7] Myssiorek D et al. studied 1138 patients who underwent tonsillectomy with or without adenoidectomy over 5 years. They concluded that older age, a history of chronic tonsillitis, excessive intraoperative blood loss and elevated postoperative mean arterial pressure were significant risk factors for post-tonsillectomy hemorrhage.[7]

The use of antibiotics has been very rampant following tonsillectomies with the hypothesis that this reduces the post-operative incidence of secondary hemorrhage. There have been some early studies to support this fact.[4] However the Cochrane data base and many other recent studies have concluded contrary to this.[6,8,9]

In the present pilot study there was only one incidence of post tonsillectomy hemorrhages in the group where antibiotic was given and there was no bleed in the non-antibiotic group. This difference analyzed by statistical test was not significant. This result corresponds to that of the Cochrane review which also states that there is no added benefit with use of antibiotics following tonsillectomy in reducing secondary hemorrhage.[9]

CONCLUSION

This study provides a level Ib evidence suggesting that routine use of antibiotic is not justified following tonsillectomy. This results further needs to be supported by a larger sample size and an inter-institutional report.

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