

# Prophylactic Antibiotics for Tonsillectomy

SHERBAZ HUSSAIN KHOSA, SHAKIL AHMAD, EJAZ RAHI

## ABSTRACT

A randomized prospective controlled trial was conducted to investigate whether a five day course of preoperative lincomycine reduces postoperative morbidity in patient undergoing tonsillectomy for chronic tonsillitis. One hundred patients were selected and equally divided into two groups and B. The patients in group-A were given preoperative lincomycine whereas the patients of group-B were not given any preoperative antibiotics. Postoperative morbidity was assessed using a forty five days diary questionnaire. There was less postoperative morbidity in group-A with regard to secondary haemorrhage, duration of pain, intake of normal diet, postoperative pyrexia and time for return to normal activities.

**Keywords:** Prophylax, tonsillectomy, haemorrhage

## INTRODUCTION

Removal of palatine tonsils by dissection method under general anaesthesia is one of the commonest surgical procedures performed in the otolaryngology practice particularly in paediatric population<sup>1</sup>.

Postoperative morbidity of tonsillectomy includes otalgia, pyrexia, odynophagia with poor oral intake and haemorrhage. These complications may be severe enough to delay the patient discharge from the hospitals or may lead to life threatening situations if not managed appropriately.

Talien et al<sup>2</sup> and Grandis et al<sup>3</sup> have reported reduced post-transillectomy morbidity by administration of amoxicilline and Co-Amoxiclav respectively for seven days before the surgery whereas reports from other studies have ruled out the role of prophylactic antibiotics for tonsillectomy<sup>4,5</sup>.

Most of these studies have been carried out in the developed countries. There is a lack of data from Pakistan about the prophylactic use of antibiotics in tonsillectomy. This study was carried out to evaluate the use of prophylactic antibiotics for tonsillectomy in the prevailing conditions of Pakistan.

## MATERIAL AND METHODS

The study was conducted for 10 months from March 2013 to January 2014 in the ENT Department of Teaching Hospital, DG Khan Medical College, Dera Ghazi Khan. Patients diagnosed with chronic tonsillitis were admitted and operated. Patients were blindly assigned group-A or group-B alternatively at the time of admission. Patients in group-A received intramuscular antibiotic (lincomycine) with dosage adjusted according to body weight. This was followed

by oral medication for four postoperative days. Patients in group-B did not receive the prophylactic antibiotics. Exclusion criteria was poor general medical condition, history of adverse drug reactions, presence of concomitant ENT pathology and abnormality in laboratory investigations.

## RESULTS

There was a marked male preponderance in both groups (Table 1). Most patients were between 5 to 20 years of age (Table 2). Table 3 shows the details of operations. Post-transillectomy haemorrhage is shown in table-4. The other morbidity factors are given in table-5.

Table 1: Sex distribution

Sex	Group-A		Group-B	
	No.	%age	No.	%age
Male	30	60.0	28	56.0
Female	20	40.0	22	44.0

Table-2: Age distribution

Age (years)	Group-A		Group-B	
	No.	%age	No.	%age
5-12	32	64.0	35	70.0
12-40	18	36	15	30.0

Table 3: Operative details

Detail	Group-A		Group-B	
	Average	Range	Average	Range
Right	1	0-4	1-2	0-5
Left	1-5	0-3	1-2	0-3
Mean swabs	7	8	-	-
Under stitching	4	8	-	-
Under stitching with pillar to pillar 1	-	-	-	-

Department of ENT, D. G. Khan Medical College, D.G. Khan  
 Department of ENT, CMH, Bahawalpur  
 Correspondence to Dr. Sherbaz Hussain Khosa

Table 4: Post-tonsillectomy haemorrhage

Type of haemorrhage	Group-A		Group-B	
	No.	%age	No.	%age
Reactionary	2.0	-	-	56.0
Secondary	1	2.0	9	18.0
Total	50	100.0	50	100.0

Table 5: Readmission reasons

Reason	Group-A	Group-B
Otalgia	3	7
Sore throat	2	4
Chest infection	-	5
Pyrexia	1	3
Oral thrush	1	1

## DISCUSSION

Prophylactic use of antibiotics in surgery has been recommended in situation where there is a high risk of infection due to contamination by microorganisms. For surgical prophylaxis antibiotics are usually administered parenterally followed by oral therapy, if needed.

The antibiotic selected for prophylactic use must be active against the most likely contaminating microorganisms. It needs not necessarily include antibiotics that are active against every potential pathogen. Telian et al achieved a significant improvement in post-tonsillectomy morbidity in children with a seven day course of amoxicillin starting in the immediate postoperative period<sup>2</sup>.

Gulsen et al<sup>6</sup> and T Akt et al<sup>7</sup> in two separate studies have confirmed that aerobic bacteria including gram +ive and gram -ive are found on the surface of tonsils and anaerobic bacteria are present in depth of core.

We used lincomycine as prophylactic antibiotic because it covers gram +ive and gram -ive bacteria as well as anaerobes which are responsible for throat infection. We have seen that prophylactic use of lincomycine reduced otalgia, sore throat, and pyrexia with improvement in oral intake. Similar results were reported by Gradis et al by using a seven day course of Co-amoxiclav in adults where he reported a reduction in pain, fever and improvement in oral intake. These results are due to prevention of infection in the tonsillar bed and the surrounding area<sup>3</sup>.

Chest infection was more common in patients without antibiotic cover and it may be due to nasal intubation which is used in our department by anaesthesia. In children, nasopharyngeal tonsils are enlarged and some purulent infected material is usually present in the nasopharynx which is pushed lower down into the tracheobronchial tree during nasal intubation. If such patients are not administered

antibiotics prophylactically then this infected material may cause chest infection.

We came across reactionary haemorrhage in only one case (1%) which compares favourably with more other reports. Among the other cause of post-tonsillectomy morbidity, otalgia was the commonest. This is due to common nerve supply of tonsillar bed and ear. It reduces considerably when patient start taking diet liberally, because diet intake leads to early relief of spasm of constrictor muscles. Hence we encouraged the normal diet from the second postoperative day under the cover of antibiotics and suggest that preoperative counseling should be done about postoperative otalgia that is reduced considerably by early intake of normal diet.

Secondary haemorrhage in our series was 10% which is comparable with other series but only different from Cook et al who reported 15% secondary haemorrhage<sup>8,9,10</sup>. If we take these groups separately then secondary haemorrhage was only 2% in group-A and 18% in group-B.

All the patients in this series were admitted, operated and managed postoperatively in similar conditions using the same technique. The only difference was the use of prophylactic antibiotics (lincomycine). In developing countries like Pakistan there is a high risk of wound infection as compared to developed countries. It may be due to low socio-economic conditions leading to malnutrition, over crowding, lack of medical education, poor personal hygiene and environmental pollution. These factors increase chance of wound contamination and reduce the ability to fight against infections.

## CONCLUSION

We conclude that the prophylactic use of lincomycine for tonsillectomy decreases the postoperative morbidity in general and secondary haemorrhage in particular.

## REFERENCES

1. Yardely MP. Tonsillectomy, adenoidectomy and adenotonsillectomy: are they safe day care procedure? *J Laryngol Otol* 1992; 106: 299-300.
2. Telian SA, Handler SD, Fleisher GR, Baranak CC, Wetmore RF, Postsic WP. Effect of antibiotic therapy in recovery after tonsillectomy in children. *Arch Otolaryngol Head Neck surg* 1986; 112: 610-5.
3. Grandis JR, Johnson JT, Vickers RM, Yu VL, Wagener MM, Wagner RL et al. The efficacy of perioperative antibiotic therapy on recovery following tonsillectomy in adults. *Otolaryngol Head and Neck Surg* 1992; 106: 137-42.
4. Khan MHZ, McCombe AW, Swift AC. Prophylactic antibiotics for tonsillectomy. *Pak J Otolaryngol* 1994; 10: 122-6.

5. Kaiser A. Postoperative infectionsanti-microbial prophylaxis. In: Mandell GL, Douglas RG, Bannet JE editors. Principles and practice ofinfectious diseases. 3<sup>rd</sup> ed. New York. Churchill Living Stone 1990.
6. Hascelik G, Onerci M, Sener B, Berkman E. surfaceversuscore aerobic andanaerobic tonsillar flore in recurrent tonsillitis. Pak J Otolaryngol 1991; 7: 154-7.
7. Cool JA, Murrant NJ, Evans KL, Lavelle RJ. A randomized comparison ofthree post-tonsillectomy diets. ClinOtolaryngol1992; 17: 28-31.
8. Patel KS, Oyarzabal M, Kotecha B, Tplley NS. A prospective randomized study comparing pain following tonsillectomy with different methods of haemostasis. Clin Otolaryngol1992; 17: 90-1.
9. Roberts C, Jayaramachandrans S, Raine CH. A prospective study of factors which may predispose to postoperativetonsillar fossa haemorrhage. Clin Otolaryngol 1992; 17: 13-7.