



## A PROSPECTIVE STUDY ON IMMEDIATE COMPLICATIONS FOLLOWING ADENOTONSILLECTOMY

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**ABSTRACT** This is an analytical study on evaluation of incidence of post tonsillectomy immediate complications. Since adenotonsillectomy is done by both conventional and coblation method, the incidence of immediate and delayed complications were compared in both technique and statistical significance is obtained. This study includes 150 patients of age group above 5 and below 14 years who underwent adenotonsillectomy, among them 100 patients undergone conventional technique and 50 patients undergone coblation technique. The study emphasis explaining the risk of postoperative haemorrhage to patient, expertise training of Surgeons in securing haemostasis in both conventional and modern technique, recording and analyzing the complications to improve patient safety.

**KEYWORDS :** Tonsillectomy, Primary haemorrhage , complication .

### 1.INTRODUCTION

Aggregated Mucosa Associated Lymphoid Tissue (MALT) in the subepithelial pharyngeal layer at the entrance of the aerodigestive tract are collectively called as the Waldeyer's ring. Tonsils and adenoid act as host defense and sentinels at the portal of aerodigestive tract. The T-lymphocytes in the parafollicular region of these lymphoid aggregates provide cell mediated immunity. The crypts in the tonsils increase the surface area for contact with foreign substances B-lymphocytes in the germinal centers of these lymphoid tissue produce IgA antibodies. The most common problems affecting the tonsils and adenoid tissue are recurrent infections (throat or ear), significant enlargement and obstruction that causes swallowing and breathing problems. Abscesses around the tonsils and chronic infections can also affect the tonsils and adenoids, making them sore and swollen. Tumors are rare, but can grow on the tonsils.

### 2.AIM OF THE STUDY

To evaluate the incidence of immediate complications following adenotonsillectomy.

### 3. MATERIALS AND METHODS

#### STUDY METHOD

The analysis is based on patient attending the Department of Otorhinolaryngology at government sivagnagai medical college hospital. An Analytical study of 150 patients of age group 5-14 years who had undergone adenotonsillectomy between are included.

### MATERIALS AND METHODS

The study was conducted in 150 patients who had undergone adenotonsillectomy in Government sivagnagai Medical College. Ethical committee approval was obtained.

### INCLUSION CRITERIA

1. Age group: 5 – 14 Years
2. Sex : Male and Female
3. Patients diagnosed with
  - i. Acute recurrent tonsillitis,
  - ii. Peritonsillitis,
  - iii. Streptococcal carriers
  - iv. OSA,
  - v. Conductive hearing loss due to secretory otitis media
  - vi. Diphtheria carriers.

### EXCLUSION CRITERIA

1. Patients with age < 5 years and > 14 years,
2. Acute tonsillitis,
3. Blood dyscrasias,
4. Palatal abnormalities like submucous cleft palate,
5. Down's syndrome

### GRADING OF TONSIL

- Grade 0 : Tonsils absent  
Grade 1 : Hidden behind tonsillar pillars  
Grade 2 : Extend to pillars

Grade 3 : Visible beyond pillars

Grade 4 : Enlarged touching in midline

### 4. RESULTS

**General Description of the Study Population** There were 100 patients in Conventional Tonsillectomy group and 50 patients in Coblation Tonsillectomy group. In the Conventional Tonsillectomy group, 43 (43.0%) were males and 57 (57.0%) were females. In the same manner, in the Coblation Tonsillectomy group, 21 (42.0%) were males and 29 (58.0%) were females and so both groups are comparable as evident by p-value > 0.05. The minimum age of the study population is from 5 years to maximum of 15 years. The mean age was 9.42 years with standard deviation of 2.67 years. The mean age ( $\pm$  standard deviation) in Conventional Tonsillectomy group is 9.67 ( $\pm$  2.69) years while the mean age ( $\pm$  standard deviation) in Coblation Tonsillectomy group is 8.92 ( $\pm$  2.58) years. This difference is not significant as the p-value is > 0.05. So both the groups are comparable by age too. Regarding the preoperative symptoms of the study population, Odynophagia is the most common symptom as seen in 144 (96.0%) patients followed by Throat pain in 143 (95.3%) and Difficulty in swallowing in 134 (89.3%) patients.

**Table No 1 : Comparision Of Intraoperative Complications**

Complication	Yes/no	N	Cold tonsillectomy %	Hot tonsillectomy%	P value
Primary hemaorrhage	Yes	45	40	6	0.0001
	no	106	60	47	
Pillar injury	Yes	40	33	6	0.0001
	no	110	68	86	
Edema uvula	Yes	34	19	14	0.0001
	no	116	80	73	

Then Mouth breathing is seen in 85 (56.7%) of the patients and Snoring is seen only 35 (23.3%) patients. Among the Intraoperative Anesthetic complications in the study populations, Compression of ET tube is the commonest complication as seen in 19 (12.7%) patients followed by Accidental Extubation seen in 10 (6.7%) patients and Dislodging of Loose Tooth seen in 9 (6.0%) patients.

**Table No 2 : Pre Operative Symptoms**

Preoperative symptoms	Number	%
Throat pain	142	95
Snoring	33	24
odynophagia	140	92
Mouth breathing	86	57

None of the patients had any Dislocation of Temporo Mandibular joint. Complication in the study population as seen in 28 (18.7%) followed by Primary Hemorrhage seen in 21 (14.0%) patients and Nausea, Vomiting seen in 20 (13.3%) patients. Referred Otolgia and Secondary Hemorrhage were observed in 12 (8.0%) patients respectively each and Loss of Taste was seen in 6 (4.0%) of the patients.

## 5. DISCUSSION

Tonsillectomy with or without adenoidectomy is the most commonly performed pediatric otorhinolaryngological procedure. Variety of techniques and approaches for adenotonsillectomy have been tested and tried over the years. Yet post operative complications were mostly noted in terms of oropharyngeal pain, bleeding, and referred otalgia. An analytical study to ascertain the incidence of immediate and delayed complications following adenotonsillectomy was conducted in Government Sivagangai Medical College and Hospital. Since in our hospital we do adenotonsillectomy by both Conventional and Coblation methods, a comparison is also made between them on the immediate and delayed complications. For the study purpose the complications of adenotonsillectomy are classified into 1. Intra operative complications a. Anaesthetic complications b. Surgical complications. 2. Post operative complications.

### I. INTRA OPERATIVE COMPLICATIONS

**a. ANAESTHETIC COMPLICATIONS** With regard to intra operative anaesthetic complications, it has been found that the compression and obstruction of the anesthetic tube is the predominant complication due to selection of faulty size of the blade of Davis mouth gag. In our study also compression of the endo tracheal tube is the most frequently noted complication in the conventional tonsillectomy group. Accidental extubation while changing the head position and also during Doughty's tongue blade removal is another commonly encountered anaesthetic complications in both conventional and coblation tonsillectomy.

**b. SURGICAL COMPLICATIONS** The onset of hemorrhage to the procedure defines 2 categories: I. Primary haemorrhage occurring during surgery. Tonsillar hemorrhage is defined as continuous bleeding for more than one hour, or more than 250ml of blood loss regardless of the duration of bleeding. II. POST OPERATIVE COMPLICATIONS Odynophagia and referred otalgia are the two complications observed in the immediate post operative period following adenotonsillectomy. Odynophagia is due to muscle spasm, especially the superior constrictor fibres and dissection of the tonsil substance. Similar irritation of the superior constrictor occurs while curetting the adenoids. Referred otalgia is probably due to close removal of the tonsil from the tongue base.

**DELAYED POST OPERATIVE COMPLICATIONS** Secondary haemorrhage is the most common delayed post operative complication observed in Coblation tonsillectomy because of dislodgement of the infective slough.

## 6. CONCLUSION

Invention of equipments like Coblation, mono / bipolar electrocautery and Laser have made the outlook better for Adenotonsillectomies with respect to intraoperative and postoperative complications. Primary haemorrhage and uvula edema are found to be the statistically significant complications in Conventional tonsillectomy.

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