

Adult Tonsillectomy as a Day care Procedure - Our Experience.

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ABSTRACT

Background: Adult Tonsillectomy as a day care procedure is challenging task for any ENT surgeon because of the sole reason of haemorrhage encountered during Tonsillectomy as the surgeon and anesthetist has to compromise at the airway for the surgery to be done under general anesthesia. With proper patient selection, adequate pre-operative care, meticulous surgical dissection, good post-operative care can bring out success in day care procedure. Thus we can reduce the burden to the patients as well as hospital staff in terms of time, man power, hospital resources, money and less period of hospital stay. **Methods:** In our present study we have performed adult tonsillectomy as a day care procedure for selected 70 patients between the ages of 16 years to 35 years. Patients were selected with the diagnosis of chronic Tonsillitis and obstructive sleep apnea. Tonsillectomy was performed by using Dissection and snare method. **Results:** In our study of 70 patients, we observed that 2 cases had reactionary hemorrhage due to the presence of clot in the tonsillar fossa, which were managed with the simple treatment. There were no cases of secondary haemorrhage. **Conclusion:** Thus we conclude the adult tonsillectomy can be performed as a day care procedure with a careful selection of the case, pre and post-operative management as this will be more economical by reducing the cost as well as hospital stay for the patient

Keywords: Tonsillectomy, Haemorrhage, Day care procedure, Hospital, Bipolar electro cautery.

INTRODUCTION

Tonsillectomy is one among the oldest otolaryngological procedure done in the entire world. It represents approximately 20% - 40% of surgical procedures, performed in this field.^[1,2] Variety of surgical techniques are used to perform Tonsillectomy which includes Dissection And snare method, guillotine tonsillectomy, electro cautery, cryosurgery, harmonic scalpel, laser removal, coblation, radiofrequency, bipolar electro cautery, thermal welding tonsillectomy and ligature procedure.^[4] The choice of the technique depends on individual surgeon's preference. Different procedures have different impact on Post-operative morbidity.^[3]

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Haemorrhage after Tonsillectomy procedure remains the most serious complication. Haemorrhage has been divided into three broad categories, primary,

reactionary and secondary hemorrhage. Primary occurring during the procedure, reactionary hemorrhage occurring within 24-48 hours and secondary hemorrhage commonly occurs between 5-10 days. Primary and Reactionary hemorrhage is generally considered to be related the surgical technique adapted by the surgeon whereas environmental factors, the dosage and the type of antibiotic that influence oropharyngeal healing contribute to secondary haemorrhage.^[5,6] There are recent literatures suggesting a higher bleeding rate after electro cautery techniques compared with cold techniques.^[8] Even though coblation technique is a unique one, there is significant higher frequency of haemorrhage after Tonsillectomy compared to cold blunt dissection and snare method.^[10]

Cold dissection technique is currently most common method is the UK, whereas monopolar electro cautery is the most common method in the United States today.^[9]

Post-tonsillectomy complication especially reactionary haemorrhage and its possible serious outcome is the main reason that make the surgeons delay discharging the patients and hence the hospital stay becomes longer.

If the day care tonsillectomy procedure is encouraged, it will reduce the cost of treatment and days of hospital stay, thus more number of patients can be operated. For these reasons more and more ENT surgeons are preferring the Day-care Tonsillectomy procedure.^[11] Many surgeons believed that this procedure can be performed as an outpatient procedure if patients are carefully assessed and selected.^[6] However, in case of tonsillectomy procedure, the first few hours of post-operative period [reactionary haemorrhage] is crucial, the careful measures taken both pre and postoperative period can safely give a successful result.^[3]

As the dissection and snare method is an age old method adopted globally, we in our study adopted the same with good results.

MATERIALS AND METHODS

We took up this study in Shadan Institute of Medical Sciences (SIMS) Hyderabad during the period between November 2014 to November 2015. It included 70 adult patients between the ages of 16 years to 35 years. Patients below 16 years were not considered as they fall in Paediatric age category. Patients were selected with the diagnosis of chronic Tonsillitis and obstructive sleep apnea. Tonsillectomy was performed by using Dissection and snare method. Haemostasis was obtained by ligation of bleeding vessels and bipolar electrocautery.

The exclusion reasons for day care procedure were medical illness such as uncontrolled Diabetes Mellitus, severe Asthma, coagulation disorders, bleeding disorders, epilepsy, cardiac diseases, orofacial malformations, developmental defects, acute infection and the cases which were unfit for general anaesthesia.^[11]

The patients and family were given detailed verbal and written information regarding the admission, procedure, discharge procedure and also about possible complications.

After the Tonsillectomy operations, patients were kept in recovery from where they were monitored by a recovery nurse till they were fully alert. Afterwards they were transferred to post operative ward. All patients were observed for 8-10 hours after the operations. Before discharge, all the patients were seen by the ENT surgeon and Anesthesia staff. If the patients were suiting the criteria for discharge, they were allowed to go home with Antibiotics, appropriate analgesic and Hydrogen peroxide Mouth gargle.

The discharge criteria were:

- The patient was alert, awake and had vital signs within normal range for age (Temperature, blood pressure, pulse rate and respiratory rate)
- Good emotional status for the age.

- Patient was ambulant (within the normal range for the individual and was drinking and tolerating fluids well.
- The patients were not having any signs of dehydration.
- The Patient's oropharynx has been checked for post-operative hemorrhage by E.N.T Surgeon for presence of any clot or bleeding in the tonsillar fossae.

Findings

In our study of 70 patients, we observed that 2 cases were reactionary hemorrhage due to the presence of clots in tonsillar fossa, which were managed with the simple treatment. There were no cases of secondary haemorrhage. Most of the patients were in the age group 16-20 which accounted for 46% of total.

The percentage of haemorrhage accounted for only 0.029% of total 70 patients. 0.029% accounted for reactionary hemorrhage and 0% accounted for secondary haemorrhage. The findings of our study are shown in [Table 1-3].

Table 1: Sex Distribution.

Sex	Number of patients	Percentage (90)
Male	38	54%
Female	32	46%
Total	70	100%

Table 2: Age wise Distribution.

Age group	Number of Patients	Percentage (%)
16-20	32	46%
21-25	16	23%
25-30	12	17%
30-35	10	14%
Total	70	100%

Table 3: Types of Haemorrhage and Its Percentage.

Type of Haemorrhage	Number of Patient	Percent (%)
Primary Haemorrhage	0	0%
Reactionary Haemorrhage	2	0.029%
Secondary Haemorrhage	0	0
Total	0	0.029%

RESULTS & DISCUSSION

We performed this study to analyze the prevalence and various patterns of haemorrhage after Tonsillectomy performed as a day care procedure. The safety of Dissection and snare method combined with ligation of bleeding vessels and bipolar electrocautery was evaluated in detail in our institute as a day care procedure. In our study there was no primary haemorrhage which attributed to the good surgical technique we adopted. In the recent past, so many different surgical techniques have been introduced for decreasing the duration of surgery and post-operative hospital stay and also to reduce complications of tonsillectomy especially post-operative hemorrhage and pain. In various previous studies the secondary haemorrhage rate was much higher as compared to our study. Raut noticed 16.9% secondary haemorrhage rate in 200 patients while assessing 15-17 days post operatively.^[13] Ghote found a secondary haemorrhage rate of 26%. Some

surgeons noticed post tonsillectomy bleeding rates of 5.1% in adults and bleeding rates of 6.75% in pediatric patients. Blogmren found that 32.8% of mixed adult and pediatric patients had experienced some secondary haemorrhage following tonsillectomy.^[20] In a study by Blakley, he concluded that post- Tonsillectomy haemorrhage rates of about 5% are typical.^[14] Benson and Mitchell found that 16% of children had experienced some bleeding in a 2 week postoperative follow up.^[12]

In our study, the rate of revision surgery to stop haemorrhage was nil. No patient required blood transfusion. Electro cautery has the advantage of significant reduction of operative time and blood loss. However, pain is increased with this technique. Ahsan et al found post-tonsillectomy secondary haemorrhage rate of 9.5%. The incidence of post-tonsillectomy secondary haemorrhage observed in their study was higher than the published rate of 3-5%. The presence of disposable instruments and hot methods are possible contributing factors in increased secondary haemorrhage rate has seen in the subject of recent UK- based audits.^[2]

British Association of otorhinolaryngologists and head and neck surgeons (BAO-HNS) recommended surgeons to use as little electro cautery as possible especially when it was used for both dissection and haemostasis.^[15]

Stephen O'Leary et al showed that the incidence of secondary haemorrhage was more frequent after electro cautery tonsillectomy.^[18] The possible explanation for higher rate of haemorrhage after electro cautery technique may be related to greater thermal damage to tissues as the result of excessively high power settings or prolonged application of electrocautery.^[8] In a study by Raut et al, the overall reactionary haemorrhage was 4% while the incidence of secondary haemorrhage was 14% that seemed to be higher than the most values rated in the literature (7-9%). Also it is much higher compared to our present study. Their study noticed that bipolar scissors tonsillectomy was relatively safe technique is children age 10-14 years with a similar morbidity to the cold dissection technique. Mann et al, and Weimer et al, concluded in their studies that there was no difference in the rate of post operative haemorrhage for two methods.^[9] In our study the rate of reactionary haemorrhage was 2 in total of 70 patients. It accounts for only 0.029% of total patients. This shows that in an ideal situation, tonsillectomy can be done safely as a day care procedure. Murthy et al found that the rate of postoperative complications following adenotonsillectomy was very less (0-4.4%) and hence it was not the major factor that should dictate the length of stay in the hospital.^[11] In another study by Jose Granell et al, primary and secondary haemorrhage rates were 6.27% and 0.48% respectively. They came to a conclusion that an

overnight stay does not necessarily improve the management of haemorrhage complications.

According to the current literature, the overall incidence of haemorrhage in post – tonsillectomy operation in children varied from 0.3% to 7.6%.^[18] Bennet et al, based on the extremely unlikely incidence of a primary haemorrhage between 8-24 1 hours (0.1%), found out that there was little benefit of overnight admission from the point of view of monitoring for primary haemorrhage.^[5] Paul Aylin et al in their study showed that the British NHS plan has predicted 75% of all elective operations would be managed as a day care procedures.^[17] The American Academy of Head and Neck surgery considers Tonsillectomy in Adults as a day care procedure preferred if the cases were selected carefully enough.^[19]

All the above mentioned trials like our study conclude that the rate of primary or reactionary hemorrhage was too low to dictate the length of stay is hospital. The wide variation of hemorrhage rates in different studies may be probably due to difference in the criteria used in the definitions. However all the above mentioned studies as well as the present study considers Adult Tonsillectomy as a safe day care procedure in patients who fit to the inclusion criteria of day care procedure.

CONCLUSION

We conclude that dissection and snare method combined with ligation of bleeding vessels and bipolar electro cautery to control the bleeding during the surgery is a reasonable safe method to do Adult Tonsillectomy as a day care procedure. The Statistical data of our study shows the safety of this method. This reduces the hospital stay and morbidity associated with this surgery, so also the cost factor. The data of our present study will encourage ENT Surgeons to do more and more day care Tonsillectomy procedure in Adult population.

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