

Original Article

Daycare adenotonsillectomy - Indications, complications and outcome

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Abstract

Adenotonsillectomy is one of the commonly performed operations in children. Daycare adenotonsillectomy is common in many parts of the world but it is not a common practice in major hospitals of our country due to fear of complications. 105 children within 6-12 years of age with a range of  $8.8 \pm 1.4$  years (mean  $\pm$  SD) underwent daycare adenotonsillectomy in between April 2000 to September 2001. Reactionary hemorrhage is found in 1.9% cases and secondary hemorrhage in 0.9% cases. None required return to the operation theatre. 95.2% cases were discharged 8-12 hours after operation with a stay of  $10.2 \pm 1.4$  hours (mean  $\pm$  SD). 5 patients required admission for overnight observation and treatment for complications. There was no mortality. The incidence of complication is low and comparable to other studies. The result suggests that daycare adenotonsillectomy can be safely performed in properly selected children.

**Key words:** adenotonsillectomy, children, daycare, hemorrhage

Introduction

Tonsillectomy with or without adenoidectomy is one of the most frequently performed surgical procedures in any otolaryngology unit. The exact number of this operation performed annually in our country is not known. But in USA over 340,000 operations are performed annually.<sup>1</sup> Number of hospital admissions for adenotonsillectomy is still a sizeable proportion in an otolaryngology unit. In order to minimize the health care cost, there is increasing trend to perform adenotonsillectomy as an outpatient procedure in developed countries. Daycare adenotonsillectomy is very common in many parts of USA. Patients are usually discharged 6 - 8 hours after surgery.

But it is not a routine practice in our hospitals. Many of our otolaryngologists do not discharge the patients so early due to fear of complications. Lack of parental awareness of a normal post operative course will result in unnecessary visits after discharge or may cause delay in seeking treatment when it needed. But after proper instructions to the parents regarding post operative care, this obstacle can easily be overcome.

This prospective study analyses the complications and outcome of 105 day case adenotonsillectomy, performed at Dhaka Medical College Hospital and different private hospitals in Dhaka city during the period of January 2005 to June 2006.

Methods

One hundred & five (105) patients within 6-12 years of age were studied who had tonsillectomy with adenoidectomy between January 2005 to June 2006 from a period of 18 months at Chittagong Medical College Hospital and different private hospitals in Chittagong. The indications were- a) Recurrent tonsillitis with enlarged adenoids, b) Secretory otitis media, c) Persistent CSOM. The exclusion criteria were a) Recent upper respiratory tract infection, b) Uncontrolled bronchial asthma and c) Bleeding disorders.

Laboratory investigations were Blood R/E, BT, CT, Urine R/E, X-ray chest P/A view and X-Ray nasopharynx lateral view. The parents were explained about the nature of operation, possible complications and their role after operation. All the operations were done within 10 AM in the morning under G/A. All the patients received preoperative and postoperative antibiotics in the form of ampicillin and cloxacillin.

In the postoperative room, patients were monitored (Pulse, respiration, any signs of bleeding) every 15 minutes for 2 hours, ½ hourly for next 2 hours, hourly for 4 hours and 4 hourly till the patients were discharged or shifted to the ward. 100 patients were discharged within 8-12 hours after operation. 5 patients having signs of reactionary hemorrhage and vomiting were kept overnight for observation and management. During discharge, the parents were advised to report immediately if there is any suspicion of complication. The patients were followed up on 7th, 14 and 30th postoperative day to find out any complication.

Results

In this series; 105 cases of adenotonsillectomy as a day case surgery were studied. There were 70 males and 35 females with male female ration of 2: 1. All the patients were 6-12 years old with the range of  $8.8 \pm 1.4$  years (Mean  $\pm$  SD). The indications were listed in (Table-I).

Table-I: Indications of adenotonsillectomy (N=105)

Indications	Number	Percentage
Recurrent tonsillitis with enlarged adenoids	70	67%
Secretory otitis media	30	29%
Persistent CSOM	5	4%

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In this series, 2 patients developed reactionary haemorrhage within 4 hours after operation, 1 patient had secondary hemorrhage on 5th post operative day, 3 patients had local infection in tonsillar bed between 5th and 6th post operative day and 5 patients had injury to lip and palate during surgery (Table-II).

**Table-II:** Complications of adenotonsillectomy (N=105)

Complication	Number	Percentage
Haemorrhage		
Reactionary	2	1.9%
Secondary	1	0.9%
Infection in tonsillar bed	3	2.8%
Injury to lip, palate & teeth	5	4.8%

Among 105 patients, 100 were discharged in the evening and 5 patients were kept overnight for observation and management. In these 5 patients, 2 patients developed reactionary haemorrhage and other 3 had repeated episodes of vomiting and inadequate fluid intake. The reactionary haemorrhage was managed by removal of blood clot from tonsillar fossae, ice cold drinks and hydrogen peroxide gargle. No patient required return to operation theatre to control bleeding. The patients with vomiting were managed with antiemetic drugs and intravenous fluid (Table-III).

**Table-III:** Outcome of surgery (N=105)

Group	Number	Percentage
Discharged	100	95.2%
Admitted for overnight observation	5	4.8%
Mortality	Nil	Nil

In this series, 100 patients were discharged in the evening 8-12 hours after operation with a stay of  $10.2 \pm 1.4$  hours (Mean  $\pm$  SD) in the hospital. 7 patients reported on the 1st post operative day with fever around 100°F. On examination there was no sign of infection and we advised to continue analgesic, antipyretic drugs. There was no mortality in this study.

### Discussion

Daycare tonsillectomy and adenoidectomy is commonly practiced in many countries all over the world. But in our country, it is not a common practice due to fear of complications. The most serious complication is reactionary haemorrhage. The incidence of it in the current series is 1.9%. This is consistent with the findings in literatures viz-97% (Hellier)<sup>2</sup>, 2.6% (Steven)<sup>3</sup>, 1.4% (Nicklaus)<sup>4</sup>, 1.6% (Lalakea)<sup>5</sup> and 0.8% (Moralee)<sup>6</sup>. The possible causes of reactionary haemorrhage may be dislodgement of blood clot from the lumen of the blood vessel, failure to ligate a vessel, vasodilatations of a vessel which was in spasm at the time of surgery, change in the blood pressure etc.<sup>7</sup> In our study, only 2 patients developed reactionary haemorrhage within 4 hours after surgery. After removal of blood clots from

tonsillar fossae, we advised ice cold drinks and hydrogen peroxide gargle. Bleeding was controlled with these measures. No patient needed return to the operation theatre.

There was only one patient with secondary haemorrhage reported on the 5th post operative day. It was not severe and did not need transfusion. We changed the antibiotic to cephadrine, blood clots from the tonsillar fossa were gently removed and antiseptic mouthwash was given. The patient was admitted for 1 day for observation and management. With these measures bleeding was controlled. The most likely cause of haemorrhage was infection.<sup>8</sup>

Post operatively tonsillar fossa contains whitish slough which one would expect to be an ideal culture medium. In fact, the fossae rarely become seriously infected and the infection can be recognized by increasing pain around the end of 1st week along with fever. If untreated this may lead to secondary haemorrhage. In this series we had 3 cases of local infection in tonsillar bed. With change of antibiotics it was controlled.

There were 5 injuries to lip and palate in this study due to faulty instrumentation. Gentle insertion of mouth gag can avoid the risk of teeth, lip and palate injuries. All the injuries were minor in nature and these healed with concurrent postoperative treatment.

Among 105 patients, 7 patients reported with fever around 100°F on the 1st post operative day. The tonsillar fossae were healthy. We advised to continue the analgesic antipyretic drugs that were given at the time of discharge. All the patients recovered satisfactorily with this regimen. The etiology of post tonsillectomy fever within 24 hours in obscure. Bacteraemia, anesthetic agents and inflammatory response to injury have been implicated. Blood cultures failed to show compelling evidence of infection.<sup>9</sup>

Among the 105 patients, 100 of them (95.2%) were discharged 8-12 hours after operation with a stay of  $10.2 \pm 1.4$  hours (Mean  $\pm$  SD) in the hospital. This result compare favorably with other series.<sup>4,5,6,10,11</sup>

Though this is a study with small sample size, the results are encouraging. This study suggests that day care adenotonsillectomy is safe in appropriately selected children with proper post operative monitoring. The complication rate is quite low. To minimize health care cost, it can be practiced more widely.

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