

## Original Article

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# Incidence of haemorrhage after tonsillectomy

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### Abstract:

*Tonsillectomy is probably the most common operation performed by an Otolaryngologist. One of the most significant complications is post-operative haemorrhage. Episodes of post tonsillectomy haemorrhage are unpredictable and sometimes life threatening. The aim of the present study was to find out the incidence of reactionary haemorrhage after tonsillectomy. A prospective study was conducted at Shaheed Shamsuddin Ahmed Hospital, Sylhet from April 2010 to March 2011. We had selected 112 cases undergoing tonsillectomy. Tonsillectomy was done by cold steel dissection technique and bipolar diathermy haemostasis. Post operatively every patient was treated with pain killer (diclofenac sodium and paracetamol), antibiotics (amoxicillin and cloxacillin) and hydrogen peroxide mouth wash. Postoperative follow-up was done till the tonsillar fossa healed. The incidence of reactionary haemorrhage was 2.68%, primary and secondary haemorrhage was 0%. In our series haemorrhage (2.68%) was higher than that reported in most publications and may be due to inadequate per-operative haemostasis.*

**Key words:** Tonsillectomy, Haemorrhage.

### Introduction:

Tonsillectomy is one of the most frequently undertaken procedures in otolaryngology, representing approximately 20%-40% of surgical procedures performed in this field<sup>1,2</sup>.

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The traditional methods for removing the tonsils are the so-called 'Cold steel' techniques using metal instruments. The most common method of 'Cold steel' tonsillectomy is the dissection technique. Cold steel dissection may be combined with diathermy to aid haemostasis, but many surgeons prefer ties or swabs. The most common technique used for removing tonsils in the United States today is monopolar electrocautery, also called 'hot' tonsillectomy, but cold dissection tonsillectomy is currently the most common method of tonsillectomy in the UK<sup>3</sup>. In the NPTA (National Prospective Tonsillectomy Audit, UK) the use of 'cold steel' dissection without diathermy was associated with the lowest haemorrhage rate<sup>4</sup>.

Primary haemorrhage is haemorrhage occurring immediately as a result of an injury

or surgery. Reactionary haemorrhage is haemorrhage within 24 hours after surgery and is usually caused by dislodgement of clot after resuscitation from general anesthesia, normalization of blood pressure and vasodilatation. Reactionary haemorrhage may also result from technical failure such as slippage of ligature. Secondary haemorrhage is caused by sloughing of the wall of a vessel. It usually occurs 7-14 days after surgery and is precipitated by factors such as infection, pressure necrosis or malignancy<sup>5</sup>.

The most significant immediate complication of tonsillectomy is reactionary haemorrhage. By definition this occurs up to 24 hours postoperatively, but the vast majority of reactionary haemorrhage occurs within the first eight hours. Reactionary haemorrhage after tonsillectomy is not uncommon, occurring in about 0.5-1% of operations<sup>6,7</sup>.

Haemorrhage varies according to techniques used for tonsillectomy. According to NPTA, using cold steel and ties/pack technique primary and secondary haemorrhage were 0.8% and 1% respectively. Using cold steel and mono-polar diathermy the rate of primary and secondary haemorrhage were 0.5% and 2.4%, using cold steel and bipolar diathermy the rate were 0.5% and 2.3% respectively<sup>8</sup>. None of the techniques seem to be significantly more prone to reactionary haemorrhage than the others.

In a Singaporean study, the incidence of primary and secondary haemorrhage was 0.6% and 7.1% respectively. The use of post-operative antibiotics did not significantly affect the incidence of haemorrhage<sup>9</sup>.

A study reported that the incidence of primary haemorrhage was 0.4% and secondary haemorrhage was 2.8%. Routine prescription of antibiotics to prevent secondary haemorrhage is probably not useful, therefore antibiotic use be reserved to a few selected cases<sup>10</sup>.

Most of the studies on the incidence and management of post tonsillectomy haemorrhage come from the western countries. Our aim was to study the local scope of this complication and to assess the safety of tonsillectomies in our hospital. In this study we tried to find out the incidence of reactionary, primary and secondary haemorrhage after tonsillectomy. We have selected 112 cases undergoing tonsillectomy. Tonsillectomy was done by cold steel dissection technique and bipolar diathermy haemostasis.

Post operatively every patient was treated with pain killer (diclofenac sodium and paracetamol), antibiotics (amoxicillin and cloxacillin) and hydrogen peroxide mouth wash. Postoperative follow-up was done till the tonsillar fossa healed.

#### **Methods:**

**Aim and Objective:** To assess the incidence of reactionary haemorrhage after tonsillectomy operation.

**Type of Study:** Prospective study.

**Place of Study:** Shaheed Shamsuddin Ahmed Hospital, Sylhet.

**Study Period:** April 2010 to March 2011.

**Study population:** 112 patients admitted for tonsillectomy during the study period.

**Methods of sampling:** Patients suspected of chronic tonsillitis are evaluated properly by detailed history taking, clinical examination and relevant investigation.

**Technique of tonsillectomy:** Cold steel dissection technique and Bipolar diathermy haemostasis under general anaesthesia.

**Data collection:** Relevant data were collected in a pre-designed data collection sheet for each of the patient with chronic tonsillitis who was undergone tonsillectomy.

Post operative management: Every patient was treated with pain killer (diclofenac sodium and paracetamol), antibiotics (amoxicillin and cloxacillin) and hydrogen peroxide mouth wash.

Postoperative follow-up: Post-operative follow up was done till the tonsillar fossa healed.

### Results:

**Table-I**  
*Age distribution of the cases (n=112)*

Age group	Number of cases	Percentage (%)
0-10	8	7.14
11-20	56	50
21-30	30	26.78
31-40	14	12.5
41-50	2	1.78
51-60	2	1.78

In this table, 50% (56 cases) were from 11-20 age groups. Highest age of the tonsillectomy patients was 55 years and lowest age was 6 years. Mean age was 22.21 years.

**Table-II**  
*Incidence of Haemorrhage (n=112)*

Type of haemorrhage	Number of cases	Percentage (%)
Primary	0	0
Reactionary	3	2.68
Secondary	0	0
No other complications	109	97.32

Reactionary haemorrhage was 2.68%.

### Discussion:

Tonsillectomy is one of the common operations performed by an Otolaryngologist. Most significant complications are post-operative haemorrhage. Episodes of post tonsillectomy haemorrhage are unpredictable and sometimes life threatening. In this study we tried to find out the incidence of primary, reactionary and secondary haemorrhage after tonsillectomy. 'Haemorrhage' was defined as a bleed that prolonged the patient's hospital stay, required blood transfusion, a return to the operating theatre, or in the case of 'secondary' haemorrhage readmission to hospital. Table-I shows, 50% (56 cases) were from 11-20 age group, 26.78% (30 cases) were from 21-30 age group, 12.5% (14 cases) were from 31-40 age group and 7.14% (8 cases) were from 0-10 age group. The highest age of the tonsillectomy patients was 55 years and the lowest age was 6 years. The mean age was 22.21%. Table-II shows, 60.71% (68 cases) were female and 39.29% (44 cases) were male.

Table-III shows, the incidence of reactionary haemorrhage was 2.68% and Secondary haemorrhage was 0%. According to a study, incidence of primary haemorrhage was 0.5-1% and secondary haemorrhage was 1%<sup>6</sup>. According to another series incidence of primary haemorrhage was 0.56% and secondary haemorrhage was 16.8%<sup>4</sup>. A study revealed that primary haemorrhage was 0.6% and secondary haemorrhage was 3.7%<sup>7</sup>. According to a series primary and secondary haemorrhage was 0.65 and 7.1% respectively<sup>9</sup>. According to a literature paper, reactionary and secondary haemorrhage was 0.45 and 2.8% respectively<sup>10</sup>.

In our series reactionary haemorrhage (2.68%) was higher than that reported in most publications and may be due to inadequate per-operative haemostasis. Primary and secondary haemorrhage was nil (0%) and

may be due to use of antibiotics in the post operative period.

**Conclusion:**

In our study, the incidence of reactionary haemorrhage was 2.68%. Use of antibiotics after tonsillectomy operation probably reduces the incidence of secondary haemorrhage.

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