

# Occurrence Of Post-Tonsillectomy Haemorrhage In Malta: Do Pre/Peri/Post-Operative Antibiotics Influence Outcome?

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## Abstract

**Introduction:** Haemorrhage is the most common complication after tonsillectomy. It requires re-admission of the patient to hospital, most commonly for observation, but active intervention is sometimes needed.

**Method:** The notes of 1464 patients who underwent tonsillectomy with or without adenoidectomy over a 3½ year period were analysed retrospectively to determine the incidence of post-tonsillectomy haemorrhage and its relationship to pre/peri/post-op antibiotic cover.

**Results:** Secondary haemorrhage occurred in 41 (2.8%) patients. The majority of these, 29 (70.7%) required no active treatment, whilst 12 (29.2%) required further surgery to achieve adequate haemostasis. In 2 cases (4.9%), bleeding was severe and the patient required a blood transfusion. Thirty eight (92.6%) patients who suffered secondary haemorrhage had received pre/peri/post-op antibiotics. Only 3 (7.3%) had not received any antibiotic cover.

**Conclusion:** Antibiotic administration pre/peri/post-tonsillectomy does not influence the incidence of secondary haemorrhage.

## INTRODUCTION

Post-tonsillectomy haemorrhage is classified as primary (occurring within 24 hours of operation), or secondary (occurring from 1 day to 14 days later). It is the most common and potentially most serious complication after tonsillectomy, and gives rise to serious patient concern<sup>1,2</sup>. Most patients who experience even slight post-op bleeding seek medical attention. One of the advocated methods to decrease this complication is by the administration of antibiotics pre/peri/post-operatively, but this has been recently questioned<sup>2,3,4</sup>.

The aim of this study was to establish the incidence of this complication in our hospital and to determine retrospectively whether such antibiotics actually influence the incidence of post-tonsillectomy haemorrhage.

## MATERIALS AND METHODS

This retrospective observation reviewed the clinical notes of 1464 consecutive patients who underwent tonsillectomy with or without adenoidectomy at St. Luke's Hospital, Malta, between January 1999 and June 2003. Demographic details,

medical conditions, operation details, methods of haemostasis and antibiotic use, were recorded. All patients were operated under general anaesthesia by a consultant or senior registrar after undergoing a pre-operative examination.

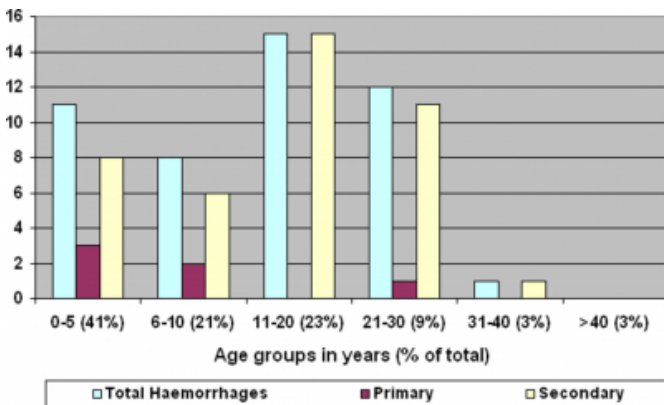
Post-tonsillectomy haemorrhage was determined by the number of patients who required re-admission to hospital. For these patients, the admission date, the findings on physical examination, blood investigation results, management and treatment administered were recorded. The severity of haemorrhage was classified as mild (no active management), moderate (requiring surgical intervention) or severe (requiring surgical intervention and blood transfusion).

## RESULTS AND ANALYSIS

A total of 1464 tonsillectomies with or without adenoidectomy were performed during the study period. 758 patients (51.8%) were male and 706 (48.2%) were female. The median age of the patients was 7 years. The age distribution is shown in Figure I.

**Figure 1**

Figure 1: Age distribution of 1464 tonsillectomies and 47 cases of post-operative bleeding

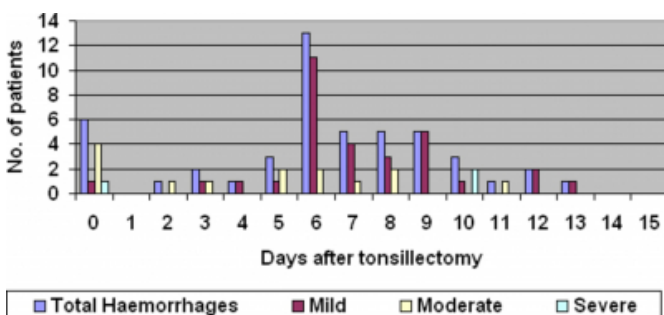


Forty seven patients (3.2%) had post operative haemorrhage. Of these, six (12.8%) were primary haemorrhage, whilst forty one (87.2%) were secondary. The overall incidence of secondary haemorrhage was 2.8%.

Secondary haemorrhage occurred in twenty six (63.4%) males and fifteen (36.6%) females. The average age of the patients was 15 years, with a minimum of 1 and a maximum of 32 years. Bleeding occurred between two and thirteen days after the operation, peaking at six days post operatively (Figure II). Most cases were mild (70.7%), requiring a period of inpatient observation. Nine cases (22.0%) required active surgical intervention and two cases (4.9%) required blood transfusion. No deaths were recorded.

**Figure 2**

Figure 2: Timing of post-operative haemorrhage



**DISCUSSION**

The rate of secondary haemorrhage being reported in this study (2.8%) reflects the number of patients who experienced bleeding that concerned them enough to seek medical attention. These patients presented themselves back to the ward after being discharged and it is departmental policy to admit patients with secondary haemorrhage for

observation. Most of the cases resolved with conservative measures and did not require any active surgical intervention. By comparison, most published incidences of post-tonsillectomy haemorrhage include only those patients who had enough bleeding to require active surgical intervention. This incidence ranges from 0.09 to 3%<sup>5,6,7,8</sup>. In our study, the incidence of post-tonsillectomy haemorrhage requiring a return to the operating theatre is 0.6%.

As reported in other studies<sup>9,10</sup>, most of the patients in our study with post-tonsillectomy haemorrhage are male (63.4%). Bleeding was more common in teenagers, with an average age of 15 compared to an average age of 7 years for all tonsillectomies.

The mean time of secondary haemorrhage was seven days, with 90% of haemorrhages occurring within the first 10 days post-operatively. The remaining 10% of cases presented from the 11<sup>th</sup> to the 13<sup>th</sup> day after the operation. Again, this compares with published reports of post-tonsillectomy follow-up<sup>11</sup>.

Most studies report that primary haemorrhage is more common than secondary haemorrhage<sup>7,8</sup>. However, our study reports a rate of 12.8% for primary haemorrhage and, like other reports showing similar results<sup>5,12</sup>, it looks at all cases of post-operative haemorrhage, even those not requiring a return to the operating theatre.

92.6% of our cases of secondary haemorrhage had been on antibiotic treatment post-operatively. Although it is difficult to draw conclusions from a retrospective analysis, there does not seem to be any relationship between antibiotic prophylaxis and the incidence of post-tonsillectomy haemorrhage. Various studies have produced similar results<sup>2,3,4</sup>, though other studies have defined a role for antibiotics in minimizing other post-tonsillectomy symptoms such as fever, pain, halitosis and return to normal activities<sup>13,14</sup>.

In conclusion, tonsillectomy is a procedure with very few major complications. However, post-operative bleeding can cause serious concern to both patients and their relatives. It is therefore very important that the patient is well informed so as to minimise apprehension. Routine prescription of antibiotics to prevent secondary haemorrhage is probably not useful, and there is no evidence that routine prescription of antibiotics prevents secondary haemorrhage. Therefore antibiotic use should be reserved to a few selected cases

where indicated.

## **SUMMARY**

- Study with large population base confirms the reported incidence of post-tonsillectomy haemorrhage.
- Confirms the typical profile of a patient most likely to bleed after tonsillectomy: Healthy male teenager at 6-7 days after operation.
- No definite role for antibiotics in the prevention of secondary haemorrhage.

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