The Journal of Laryngology and Otology
December 1995, Vol. **109**, pp. 1166–1167

Would day-case adult tonsillectomy be safe?

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Abstract

Day-case surgery is increasing to improve health care efficiency. Adult tonsillectomy is performed on an inpatient basis in the UK because of safety concerns regarding primary haemorrhage. This study aims to investigate the likely safety of day-case tonsillectomy in adults, by defining the incidence and timing of primary haemorrhage and therefore to establish a safe time period for same-day discharge.

Prospectively recorded data on 2 157 adult tonsillectomies over a five-year period were reviewed. Serious primary haemorrhage was uncommon (0.8 per cent). The 95 per cent reference range of time to primary haemorrhage was within 0 to 6.8 hours of surgery and the 95 per cent confidence interval (C.I.) of its upper limit was 5.2 to 8.4 hours. The results compare favourably with the UK inpatient and US adult day-case literature.

We conclude that day-case tonsillectomy would probably be safe in adults if the patients are discharged after 8.4 hours.

Key words: Tonsillectomy, adult; Day care; Haemorrhage

Introduction

Day-case surgery can have significant economic benefits (Audit Commission, 1990). The current impetus towards obtaining value for money from health care providers (Einthoven, 1985) will lead to an increase in day-case surgery. This will require day-case techniques to be newly applied to an increased number of operations.

In this country tonsillectomy accounts for about 40 per cent of all operations performed by Otolaryngologists. The proportion of tonsillectomies performed on adults varies from 56 per cent to 28 per cent depending on the region. The median total hospital stay is three days (Blair *et al.*, 1994). Therefore, the adoption of day-case adult tonsillectomy could result in significant economic benefits.

The Royal College of Surgeons of England have stated that, in view of the risk of primary haemorrhage (within the first 24 hours following surgery), it was unlikely that tonsillectomy could be satisfactorily performed on a day surgery basis (RCS Eng., 1985).

It has since been shown in the UK, however, that day-case tonsillectomy in children is likely to be safe (Yardley, 1992). Subsequently, day-case paediatric tonsillectomy has been performed safely in the UK (Tewary & Curry, 1993). There is no evidence to support or refute the view of the RCS that adult tonsillectomy is unlikely to be a safe day-case operation in the UK, and in the US day-case tonsillectomy has been performed safely in adults (Maniglia *et al.*, 1989; Helmus *et al.*, 1990; Wagner, 1991). It is, therefore, vital to investigate the likely safety of day-case adult tonsillectomy in the UK.

Primary haemorrhage would be potentially unsafe in day-case adult tonsillectomy only if haemorrhage arose after patient discharge. The aim of this study is to establish the incidence and timing of primary haemorrhage and therefore to establish a safe post-operative time interval for same day discharge.

Materials and methods

The City Hospital, Edinburgh theatre database prospectively records key patient details including age, operation and time entering and leaving the theatre complex. All patient data for five years, from 1989 to 1993, was studied.

We retrieved retrospectively the number of adult (>16 years) tonsillectomies, the number of subsequent serious haemorrhages (defined as sufficient to require a return to theatre for haemostasis) and the time interval between patients leaving and re-entering the theatre complex. All tonsillectomies were performed on an inpatient basis. Patients undergoing operations in addition to tonsillectomy were excluded.

Results

A total of 2 157 adult tonsillectomies were performed. There were 42 serious haemorrhages,

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Accepted for publication: 22 July 1995.

17 of these were primary haemorrhages, a rate of 0.8 per cent and 95 per cent confidence interval (C.I.) of 0.4 per cent to 1.2 per cent.

The time interval for the primary haemorrhages leaving and re-entering theatre ranged from zero to seven hours with a mean of 2.8 hours (s.d. 2.0 hours). The 95 per cent reference range was 0 to 6.8 hours and the 95 per cent C.I. of its upper limit 5.2 to 8.4 hours.

Discussion

This study shows that serious primary haemorrhage is uncommon and 95 per cent occurred within 0 to 6.8 hours of surgery. We can be 95 per cent confident that the true upper limit of this range lies within the interval 5.2 to 8.4 hours. Consequently, day case adult tonsillectomy would probably be safe if the patients were discharged 8.4 hours after surgery.

This study has several problems. Although the data was collected prospectively, the study is retrospective and therefore subject to bias. Furthermore, the study underestimates the incidence of haemorrhage as it does not include those patients whose haemorrhages were controlled at home or on the ward. However, the study does overestimate the time interval for safe discharge, as the time re-entering theatre is used and not the earlier time at which the diagnosis was made.

This is the first study of the likely safety of day-case adult tonsillectomy in the UK and the results are similar to a previous study on children in which the incidence of serious primary haemorrhage was 0.3 per cent and occurred within eight hours (Yardley, 1992). Furthermore, it compares with retrospective studies on day-case adult tonsillectomy in the US in which the incidence of serious primary haemorrhage has been reported as 0.7 per cent with all the documented haemorrhages occurring within eight hours (Maniglia *et al.*, 1989; Helmus *et al.*, 1990). A prospective UK inpatient study reported an incidence of serious primary haemorrhage of 1.3 per cent, with two patients returning to theatre after 16 hours. However this study failed to define the age of the patients involved and did not discuss when the haemorrhages were diagnosed, consequently comparison with this study is difficult (Watson *et al.*, 1993).

We can conclude from this study that serious primary haemorrhage following adult tonsillectomy is uncommon and would probably occur within 8.4 hours of surgery. Consequently, day-case adult tonsillectomy is likely to be safe in adults if the patient is discharged after an 8.4 hour period of observation for haemorrhage in a day-case unit.

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