

The management of quinsy—a prospective study

C. R. CHOWDHURY, F.R.C.S., R.A.M.C., M. C. M. BRICKNELL, B.M., R.A.M.C. (BMH, Rinteln, Germany)

Abstract

A prospective study for the treatment of quinsy was undertaken between January 1989 and September 1991. This was to determine whether abscess tonsillectomy reduces inpatient stay without increasing operative risk compared to incision and drainage combined with interval tonsillectomy. Fifty-three patients were entered into the study. Twenty-one had abscess tonsillectomy and 32 had incision and drainage. This study showed that there is a 95 per cent probability that abscess tonsillectomy reduces hospital stay by between 2.04 and 4.84 (Student's *t* test $t = 5.01$; $df = 31$, $p < 0.001$) days compared to incision and drainage followed by interval tonsillectomy. This is a significant saving in time and resources. Abscess tonsillectomy reduces patients lost to follow-up, avoids the social inconvenience of a second admission, effectively relieves symptoms, treats a contralateral abscess and is the only method of treating children with a quinsy. We recommend abscess tonsillectomy should be performed for quinsy where expertise and facilities are available.

Introduction

Quinsy (peritonsillar abscess) is a complication of acute tonsillitis. It is the result of infection spreading from the tonsillar crypts to the peritonsillar tissues. Initially there is peritonsillar cellulitis which may progress to abscess formation. Complications of untreated quinsy are either due to pharyngeal obstruction or to extension of the infection to other structures of the neck and larynx. These may be fatal.

Although tonsillitis is commonest in the first decade of life quinsy has the highest incidence in the second and third decades (Beeden and Evans, 1970; Bonding, 1973; Yung and Cantrell, 1976). This is the age group of the majority of the military population.

The treatment of established quinsy depends on drainage of the abscess and administration of antibiotics (Hibbert, 1987). Incision and drainage or permucosal needle aspiration will drain the pus and may be performed under local anaesthesia. However the risk of recurrence of quinsy is reported to range from 5.9 per cent to 22.7 per cent (Dalton *et al.*, 1985). This is additional to the risk of recurrent tonsillitis which occurs in many patients who have had a quinsy (Kronenberg *et al.*, 1987). Many surgeons therefore recommend interval tonsillectomy as definitive treatment after the quinsy has resolved. Some surgeons would be selective as the recurrence rate is low particularly in the absence of preceding problems. Patients with a history of previous throat problems or under the age of 40 years are most at risk of recurrence (Harris, 1991). In Army practice the risk of recurrence is unacceptable as soldiers may spend long periods away from hospital facilities. Therefore tonsillectomy is regarded as mandatory for soldiers after a quinsy.

Immediate or abscess tonsillectomy at the time of pres-

entation has many practical advantages. This will relieve the trismus, dysphagia and stridor with certainty of clearance of the abscess. An unrecognized contralateral abscess will also be evacuated. It will also eliminate the administrative and social inconvenience of a second operation. These are significant advantages for an active, mobile population such as the military. The operation has theoretical risks of abscess rupture during intubation, haemorrhage and septicaemia.

A prospective study was undertaken to determine whether abscess tonsillectomy compared to incision and drainage followed by interval tonsillectomy reduces inpatient stay without increasing operative risk.

Materials and methods

A controlled trial of abscess tonsillectomy compared to incision and drainage followed by interval tonsillectomy for the treatment of quinsy was undertaken between January 1989 and September 1991. Patients presenting with clinical features of quinsy in whom surgical drainage was indicated were included. Patients with peritonsillar cellulitis were treated with antibiotics alone and excluded from the study.

Unfortunately the varied availability of otorhinological expertise precluded randomization of treatment. In uncomplicated cases of quinsy if consultant or middle grade expertise was available abscess tonsillectomy was performed on an alternate patient basis. All patients with imminent airway obstruction or who were too young to tolerate incision and drainage under local anaesthesia had abscess tonsillectomy. Incision and drainage was performed on alternate patients by senior staff. This was the mode of treatment if only junior staff were available. All

patients who had incision and drainage of quinsy had an interval tonsillectomy booked.

In all cases intravenous cefuroxime and metronidazole were administered in standard doses from admission until oral medication was tolerated. The oral formulations were prescribed in most cases for five days post-operatively or, if symptoms persisted, for a maximum of ten days.

Details of age, sex, side of quinsy, previous history of tonsillitis or quinsy and antibiotics administered prior to admission were recorded to test the validity of the case control comparison. The length of hospital stay (including day of admission and discharge) and the complications were also recorded. Where appropriate the results from the two groups were compared using confidence interval analysis (Gardner and Altman, 1986).

Results

A total of 53 patients were entered into the study giving a rate of 19.3 patients per year. There were 21 patients who had abscess tonsillectomy (AT) and 32 who had incision and drainage (I+D). Of those who had incision and drainage only 12 had an interval tonsillectomy (IT) at our hospital and one had a further quinsy treated by abscess tonsillectomy. Nineteen were advised to seek referral to their nearest hospital for interval tonsillectomy.

The comparison of clinical features of the two groups is shown as a proportion of the group total in Figs. 1 and 2. There was no significant difference between the groups for these parameters. There was no bias between the groups for positive serology for infectious mononucleosis. Two cases in the incision and drainage group and three cases in the abscess tonsillectomy group grew *β-haemolytic streptococcus* on throat swabs. There were no other significant throat swab culture results.

Most patients had a previous history of tonsillitis and three (one in I+D group and two in AT group) had a previous history of quinsy. About half of each group had received penicillin prior to admission. Other antibiotics prescribed were amoxycillin (3), co-fluampicil (1), co-trimoxazole (1), co-amoxiclav (1) and one patient received both cephradine and metronidazole.

The confidence intervals for the four groups, I+D (32), IT alone (13), I+D and IT together (13) and AT (21) alone are shown in Fig. 3.

When the hospital stay for I+D and IT are compared separately to the stay for AT the confidence intervals

widely overlap and consequently there is no significant difference between the groups at $p < 0.05$. However when the combined hospital stay for I+D and IT are compared to the stay for AT the confidence limits are separate. There is a significant difference between the means of these two groups (Student's t test $t = 5.1$, $df = 31$, $p < 0.001$ difference between means 3.44 days with 95 per cent confidence limits of 2.04 to 4.84 days).

In the incision and drainage group one patient had a further quinsy treated by abscess tonsillectomy. Two patients at interval tonsillectomy were found to have collections of peritonsillar pus. Two children (aged 2 and 2½) had abscess tonsillectomy as there was marked stridor and incision and drainage under local anaesthesia was not considered. Two adults had stridor which necessitated abscess tonsillectomy. The anaesthetist in both cases had difficulty with intubation due to severe trismus. One of these cases had a respiratory arrest on induction of anaesthesia. He required an emergency tracheostomy to establish an airway which unfortunately became infected. He spent 20 days in hospital and is excluded from the analysis because this was not a complication of the primary operation. In three cases there was marked bleeding at operation. One case had reactionary bleeding post-operatively requiring diathermy coagulation under general anaesthesia. Two cases had secondary bleeding and were treated conservatively. None of these cases required blood transfusion.

Discussion

This study compares the two most commonly used forms of treatment for quinsy. The study shows that there is a 95 per cent probability that abscess tonsillectomy reduces the mean hospital stay by between two and 4.84 days compared to incision and drainage followed by interval tonsillectomy. This represents a significant saving in time.

Of those who had incision and drainage alone eight were referred to other military hospitals for interval tonsillectomy, three were advised to seek referral to civilian hospital from their general practitioner and eight failed to attend our hospital for tonsillectomy. This demonstrates the administrative workload and the loopholes for arranging interval tonsillectomy.

Abscess tonsillectomy is technically easier than interval tonsillectomy. During the acute phase the abscess provides a plane for dissection. Once resolution occurs this

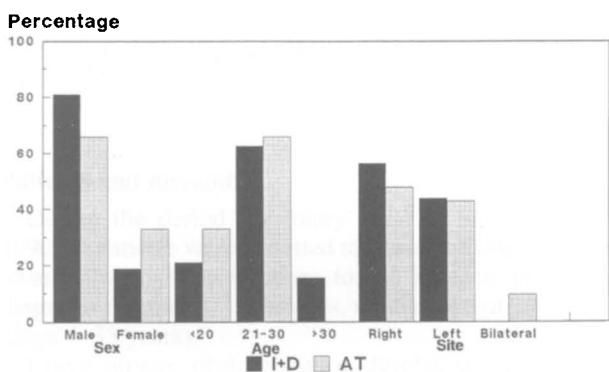


FIG. 1

Case comparison (age, sex, site).
I+D = incision and drainage group.
AT = abscess tonsillectomy group.

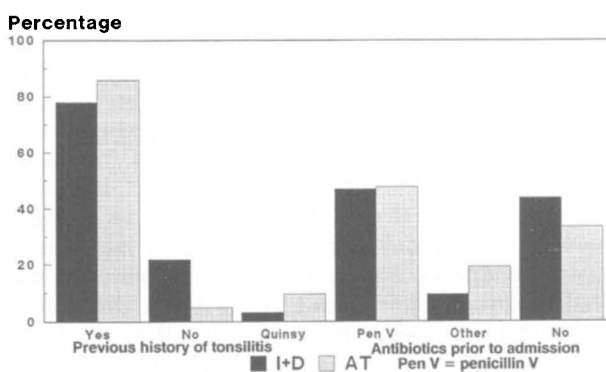


FIG. 2

Case comparison (previous history, antibiotics).
I+D = incision and drainage group.
AT = abscess tonsillectomy group.

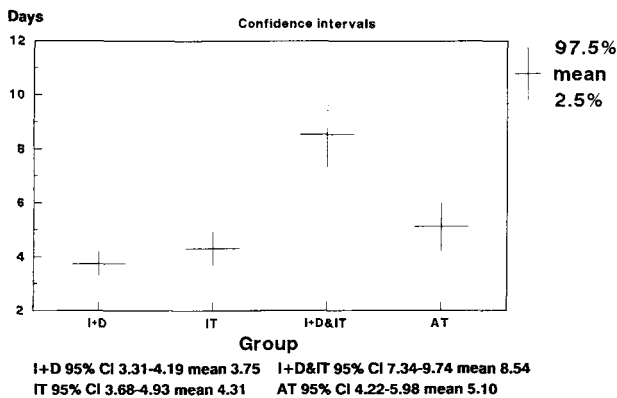


FIG. 3

Hospital stay comparison.

plane may become fibrotic creating technical difficulties during the dissection. Other advantages of abscess tonsillectomy are total evacuation of the abscess cavity (Bateman and Kodicek, 1959), effective relief of symptoms and recognition of an unsuspected contralateral abscess. This is the only method of treating quinsy in children.

The complication rate for abscess tonsillectomy cannot be determined from our sample. The incidence of bleeding requiring treatment has been reported to be similar to that of cold tonsillectomy (Bonding, 1973). Complications relating to spread of infection from abscess rupture and airway obstruction can be prevented by competent anaesthesia (Sumner, 1973).

Abscess tonsillectomy should only be performed by a competent surgeon under general anaesthesia. Incision and drainage under local anaesthesia is technically simpler and may be performed by less experienced junior staff. These factors may preclude abscess tonsillectomy as

a treatment of quinsy in some hospitals. However the results of this study show that for patients in whom interval tonsillectomy is regarded as necessary for the treatment of quinsy abscess tonsillectomy reduces hospital stay compared to incision and drainage combined with interval tonsillectomy.

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Address for correspondence:
 Captain M. C. M. Bricknell, R.A.M.C.,
 British Military Hospital,
 Rinteln,
 British Forces Post Office 29.

Key words: Peritonsillar Abscess; Tonsillectomy