

Paediatric tonsillectomy: parental experience and outcomes

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Abstract

Objective: To evaluate parental experience, satisfaction and outcomes following their child's tonsillectomy surgery.

Design: Structured postal questionnaire sent to the parents or guardians of 77 sequential children undergoing elective day-case tonsillectomy.

Subjects: Seventy-seven children with a mean age of 6.25 years (range three to 17 years) undergoing day-case tonsillectomy predominantly for recurrent acute tonsillitis, upper airway obstruction or a combination of these symptoms; 63.6 per cent of the parents or guardians of these children responded to the questionnaire.

Results: There was overall satisfaction with the operation, and positive health outcomes.

Conclusions: Despite the current public health agenda to limit access to routine high volume operations such as childhood tonsillectomy on economic grounds, the users of this service rated the outcomes and benefits of the procedure highly.

Key words: Tonsillectomy; Paediatric Outcomes; Attitudes; Questionnaire

Introduction

More than 40 000 patients in England and Wales have their tonsils removed each year, of which about 25 000 are children under the age of 16 years.¹ The common indications for such surgery are recurrent acute tonsillitis or upper airway obstruction with or without obstructive sleep apnoea. Guidance on the threshold frequency of recurrent tonsillitis at which to recommend surgical tonsillectomy is available both from UK² and US³ sources. A decision to remove the tonsils to treat upper airway obstruction is usually based on the clinical history, in the absence of symptoms of severe obstructive sleep apnoea (in which case specialised investigations (e.g. sleep study, echocardiography and electrocardiography) are indicated).⁴

In 2007, Dr T Crayford, President of the Association of Directors of Public Health, recommended that tonsillectomies should no longer be funded for National Health Service (NHS) patients.⁵ In a presentation to The Association of Public Health Observatories, Dr Crayford advised that Primary Care Trusts should only commission tonsillectomies in cases of suspected malignancy.⁶ Dr Crayford was quoted in the popular press as saying,

Tonsillectomies do benefit some individuals but it is a very small number. . . . Lots of people

believe that having their tonsils out did them good, but most research evidence suggests that it probably didn't.⁷

Method

At our hospital during the period June 2006 to June 2007, 77 children underwent elective tonsillectomy, with or without adenoidectomy or grommet surgery. These 77 children were included in the study. They were aged between three and 17 years; the mean age was 6.25 years. Forty were male and 37 female. Patient details were collected retrospectively from operating records, and the children's parents or guardians were identified from the hospital patient record database.

In order to minimise variation in surgical technique and outcome, only children operated upon by one author (PJR), using Coblation[®] (ArthroCare Corporation, Austin, TX, USA) dissection, were included in the study. All children were operated upon as day-case patients. A standard day-case anaesthetic technique (the Epsom protocol) was used to minimise the risk of post-operative pain, nausea or vomiting.⁸ Two children (2.6 per cent) were taken back to the operating theatre on the same day because of reactionary haemorrhage. Two

children (2.6 per cent) had a secondary haemorrhage requiring admission to hospital but not further surgical intervention.

Between five and 18 months after the operation, the children's parents (or legal guardians) were posted a structured questionnaire (Appendix 1). Forty-nine parents (63.6 per cent) had responded within 10 weeks of receiving the questionnaire, and these responses were available for analysis.

Results

Of the 77 children undergoing tonsillectomy, the main indication was almost equally split between frequent, recurrent attacks of tonsillitis (33/77) and obstructing tonsils (32/77). Twelve other children were diagnosed as having both recurrent tonsillitis and obstructive tonsils.

Recurrent tonsillitis

Of those children undergoing surgery for recurrent tonsillitis, the majority (95.9 per cent) were reported to have suffered more than three episodes per year (Figure 1).

Most of the children were reported to have experienced fever, sore throat, difficulty in eating and drinking, trouble with sleeping, and swollen neck glands with each episode. Headache, vomiting and abdominal pain were also frequently reported, and most parents reported observing white spots on the tonsils (as a proxy observation for clinical exudate) (Figure 2).

All but two children were reported as missing time off school with each attack of tonsillitis. Of the time missed, the median period was three to five days, with a range of one day to more than five days.

Twenty-nine parents reported that they always visited their general practitioner or general practice when their child was affected. Of those responding, 43/44 reported that antibiotics were prescribed; for 38/43, this was usually penicillin. The questionnaire did not attempt to identify those children allergic to penicillin or to differentiate between penicillin V and amoxicillin (the latter being relatively contraindicated in a pharyngitis that might be caused by infectious mononucleosis, but being widely prescribed in primary care for this clinical presentation).

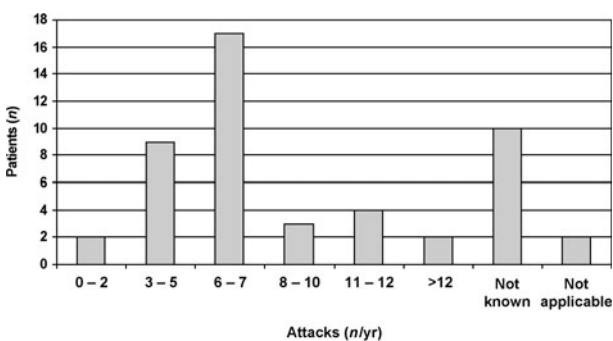


FIG. 1

Frequency of tonsillitis attacks. Yr = year

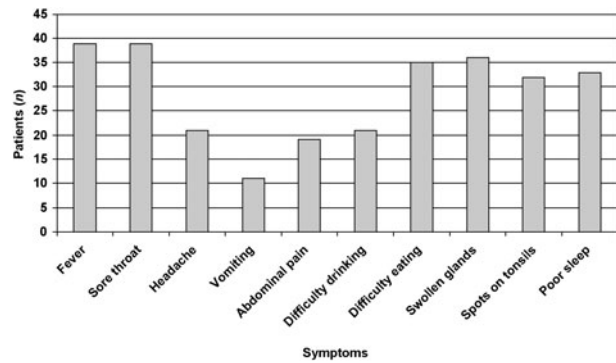


FIG. 2

Symptoms of tonsillitis episodes.

Obstructive symptoms

For the children with obstructive tonsillar symptoms, nearly all parents reported snoring with restlessness and sweating at night. Most reported night time waking and tiredness during the day. Other common symptoms reported included choking on food and difficulty eating solids. A significant minority of respondents (12.2 per cent) reported bed-wetting (Figure 3).

Following tonsillectomy, the median period of need for regular analgesia was reported as 6-7 days, with seven children requiring regular analgesia for only 2-3 days and one requiring analgesia regularly for up to 28 days.

Of the 47 parents who responded to the question about missed school days due to throat infections since the operation, 42/47 (89 per cent) reported that their child had not missed any school days since the operation. Forty-five of 48 (94 per cent) reported that the health of their child had been better or much better since the operation.

Forty-nine parents responded to the question 'if you could turn back the clock, would you have chosen to have the operation again?'; 48 answered 'yes' and one answered 'not applicable'.

Thirty-eight of 45 parents reported no problems following the operation which had not been expected from the information booklet routinely sent with the admission letter.

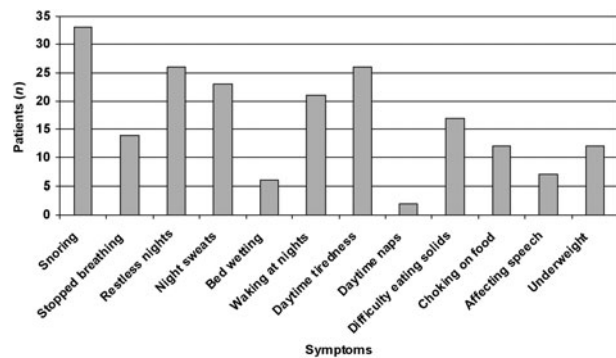


FIG. 3

Symptoms of obstructive tonsils.

Free text comments

Forty-seven parents added free text comments when completing the questionnaire; 45 of these were positive. One parent expressed anxiety about the experience of their child's secondary haemorrhage and admission to a hub hospital for intravenous antibiotics, and another noted that their child started to snore following the tonsillectomy. Verbatim comments typical of the free text feedback are included as Appendix 2.

Discussion

About 12 per cent of the population suffers recurrent tonsillitis at some stage, and there is a substantial familial element.⁹ Little concluded that, in patients with four sore throats (sic) a year who do not undergo tonsillectomy, two and a half days of sore throat are likely in the next six months; in the long term, this represents five days per year indefinitely. Following tonsillectomy, four episodes of tonsillitis a year is replaced by no episodes ever again. This is analogous to undergoing an appendicectomy; it is impossible to have another episode of appendicitis thereafter. However, the benefits of tonsillectomy must be weighed against the risks of anaesthesia and surgery, including post-tonsillectomy bleeding, with an estimated mortality rate of 1:40 000 or more following tonsillectomy surgery.¹⁰

In the literature, much confusion surrounds the primary care diagnosis of acute bacterial tonsillitis. A throat swab has both low sensitivity and specificity in diagnosing haemolytic streptococcal throat infection when compared with the 'gold standard' of antistreptolysin O titre testing.^{11,12} While 90 per cent of patients are well one week after the onset of a sore throat, with or without antibiotics, this fails to address the group with true bacterial tonsillitis.¹³

- **There is pressure from primary care trusts to decommission routine operations such as tonsillectomy**
- **The public health view is that tonsillectomy is a placebo operation**
- **A questionnaire study of parents whose children had undergone tonsillectomy contradicts the view that tonsillectomy is of no benefit**

Rapid streptococcal antigen testing is both sensitive and specific, and is recommended by the American Academy of Family Physicians as the best confirmatory test to inform the decision to prescribe or withhold antibiotic treatment in a patient with symptoms of infective sore throat. This test is not routinely available in UK primary care, and this creates a fundamental problem both in managing children with throat infections and in documenting attacks of tonsillitis for those who may be heading toward surgical remedy.

In contrast, when streptococcal throat infections are documented, tonsillectomy is effective, for both adults and children, in abolishing future infections and reducing the need for future medical intervention for pharyngitis from other causes.^{14,15} There is an improvement in general quality of life, based on the Glasgow benefit inventory assessment tool for health-related quality of life.¹⁶

For upper airway obstruction and sleep-disordered breathing, adenotonsillectomy is effective in abolishing symptoms in otherwise healthy children, with a dramatic improvement in respiratory parameters as measured by polysomnography. Quality of life in general also improves following tonsillectomy.¹⁷ In our group, analysis of the median frequency of attacks of tonsillitis and of school days missed would appear to indicate a significant 35 days illness in a year, with significant school time missed. While both adenoidectomy and tonsillectomy contribute to airway improvement, tonsillectomy is the more symptomatic of the surgical interventions, and its morbidity is easier for parents to assess; for this reason, feedback about adenoidectomy was excluded from the questionnaire.

Conclusions

While a parental questionnaire carries less intrinsic scientific value than a well designed, prospective trial, our results contribute to the debate on the efficacy of tonsillectomy for both recurrent tonsillitis and upper airway obstruction.

Most parents are unwilling to submit their child to general anaesthesia and surgery, and the recognised risks of both, without good reason. Set against these risks is the expectation that the procedure will ultimately be of benefit to their child.

In our study, there appeared to be well documented observation of either recurrent throat infections, more severe than viral pharyngitis, or significant symptoms of upper airway obstruction.

The underlying public health debate should not centre on whether tonsillectomy is effective but rather on how to identify, in a primary care setting, those who will benefit from the operation, in order to inform referral to an ENT clinic accordingly. However, such discrimination will require the availability of more sensitive and specific diagnostic tools than those currently available to primary care practitioners.

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Appendix 1. Survey letter and questionnaire

Letter

Dear

TONSILLECTOMY PATIENT SATISFACTION SURVEY

We are seeking the views of the parents of children who have had their tonsils removed.

You may have seen recent press reports stating that some public health doctors believe that tonsillectomy is an unnecessary operation. They believe that the NHS should not pay for tonsillectomy surgery, as it does no good.

We believe that tonsillectomy is an operation that is helpful to stop attacks of tonsillitis (but not viral sore throats), and also for those who have significant difficulty breathing because their tonsils are so big.

We would be very grateful if you would take a few minutes to complete the enclosed questionnaire and return it to us in the self-addressed envelope.

Thank you for taking the time to help with this survey.

P J Robb FRCS, Consultant ENT Surgeon,
K Gowrinath FRCS, ENT Associate Specialist,
K Agyeman FRCS, ENT Associate Specialist,

J Joseph FRCSI, Staff Grade Surgeon

Questionnaire

What was the main reason for your child having their tonsils removed? (Please tick):

Frequent attacks of tonsillitis

Very large tonsils causing problems with breathing

Other problems (please say what these were) _____

If your child had attacks of tonsillitis, how many times in a year?

Which of the following did your child have with each episode of tonsillitis? (Please tick):

Fever/high temperature (more than 38°C or 101°F)

Throat pain requiring regular painkillers

Headache

Vomiting

Tummy pain

Difficulty drinking

Difficulty eating

Glands in the neck

White spots on tonsils

Poor sleeping

How many days did your child miss from school with each attack? (Please circle):

1 day

2–3 days

3–5 days

More than 5 days

Did you always visit your GP or practice nurse? (Please circle):

Yes

No

Was your child prescribed antibiotics? (Please circle):

Never

Sometimes

Usually

Always

If your child was prescribed antibiotics, was this usually penicillin? (Please circle):

Yes

No

How long did it usually take for the antibiotics to help the symptoms of tonsillitis? (Please circle):

1 day

2–3 days

3–5 days

More than 5 days

If your child had their tonsils (and/or adenoids) removed because they were very large, which of the following problems did they have before the operation? (Please tick):

Snoring

Stopping breathing at night (sleep apnoea)

Very restless at night

Very sweaty at night

Bed-wetting

Waking up at night

Tired in the daytime

Having a daytime nap

Difficulty eating solids

Choking on food

Difficult to understand speech

Underweight and skinny

After the operation, how many days did it take for your child to get back to normal eating and drinking?
After the operation, how many days did your child need regular painkillers?

Has your child missed any school days for throat infections since the operation? (Please circle):

Yes

No

If yes, how many? _____

Since the operation, has your child's health been (please circle):

Worse

The same

Better

Much better

If you could turn back the clock, would you choose to have the operation again? (Please circle):

Yes

No

If 'no', why not? _____

Did your child have any problems after the operation that you had not expected from what you had been told or read in the information booklet? (Please circle):

Yes

No

If 'yes', what were these? _____

Please add any other comments or remarks that you wish: _____

Appendix 2. Free text examples from questionnaire responses

'She no longer snores, sleeps throughout the night, has not had an infection in last 10 months and only one prior to that.'

'He is in perfect health now.'

'The idea that tonsillectomy should not be available on the NHS is ridiculous. It is just another way to cut costs. Lose unnecessary managerial staff instead!'

'Whoever says it's not needed is an idiot! Both of my children suffered for years and missed so much school, now they are fine. An unnecessary operation??? Yes, let's save some more NHS money and watch all the children suffer shall we? Idiots!!!'

'No parent would put a child through a general anaesthetic unless it was absolutely necessary. This operation has changed my daughter's life for the better.'

'Harry was having five or six throat infections per year involving visits to the doctors, antibiotics and time off school. Since having his tonsils out he has had no trouble whatsoever.'

'Public Health doctors have clearly never had tonsillitis.'

'I would suggest that these public health doctors have never had a child with tonsillitis and are just 'money grabbing'.'

'The difference in our daughter in the last six months since the operation has been remarkable – the best thing is she is enjoying all aspects of life to the full.'

'Can't stress enough the improvement to my daughter's health and well being, so glad she has finally had operation.'

'My daughter has only gone from strength to strength since her tonsillectomy. She has slept through the night for the first time since she was born.'

'The quality of our son's life has drastically improved since having his tonsils out.'

'It is ludicrous for the NHS to suggest that this is not a necessary operation! The improvement in my child was life-changing!'

'This operation has had a dramatically positive effect on X and the family.'

'A success. Thank you very much.'

'I would happily argue with any health professional or politician who claims that this is not a worthwhile and necessary operation. I was very fortunate that the NHS paid for my child's tonsillectomy and it would be shameful if other children could not have their lives improved by this surgery.'

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Mr P J Robb takes responsibility for the integrity of the content of the paper.

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