

Adenotonsillectomy

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SUMMARY

A brief review of studies on adenotonsillectomy is presented, together with a survey of the views of the parents of 177 tonsillectomised patients.

This shows that the majority of parents are satisfied with the results of the operation, added benefits are often noticed, and the general practitioner's time is saved when the indications for operation are carefully observed.

S. Afr. Med. J., 48, 1383 (1974).

If a man will begin with certainties he shall end in doubts; but if he will be content to begin with doubts, he shall end in certainties.

Francis Bacon

More than 1 200 papers have been published concerning tonsils and adenoids since World War II. Adenotonsillectomy has been through a phase in which it was fashionable, and indications for the procedure were many and varied. Much criticism has been aimed at the use of the operation in such a random and irrational manner.^{1,2}

Many regard tonsillectomy as an insult to the immune system of the child, to be avoided at all costs. The general consensus of opinion in current literature is that tonsils and adenoids have an immunological function, but that, when overwhelmed and scarred by infection, they constitute a nidus for culture of pathogenic organisms.

Thus, in controlled trials of tonsillectomy versus non-tonsillectomy in the general population, no significant improvements may be discerned among the children whose tonsils have been placed at random upon the pile.¹ In trials where the indications for operation are essentially chronic or recurrent tonsillitis, and controls are selected from a group with this condition, a real difference may be noted. Mowson *et al.*³ conducted this type of trial and found that tonsillectomised children suffered less from sore throats, cervical adenitis, colds, mouth breathing, snoring and coughing, and gained weight more effectively than children who retained their tonsils under antibiotic coverage.

Roydhouse⁴ went one step further and studied the difference among children with recurrent tonsillitis who were tonsillectomised; children with recurrent tonsillitis awaiting tonsillectomy; and closely matched controls chosen from the local population. He found that adenotonsillectomy reduced the incidence of throat disease in children with a history of recurrent tonsillitis; colds were reduced in severity but not in incidence; although coughs, chest infections, behavioural upsets and non-respiratory illnesses

were not markedly relieved. It appears from these trials that adenotonsillectomy is definitely of benefit to the child suffering from recurrent tonsillitis.⁵

An editorial in the *South African Medical Journal*⁶ called for general practitioners' viewpoints on the question of tonsillectomy. A few sporadic replies appeared to indicate that tonsillectomy was of definite value in children with recurrent tonsillitis, in the eyes of their general practitioners.

It occurred to us that, while the victims themselves might not be able to vouchsafe an answer, the parents might have something relevant to say.

PATIENTS AND METHODS

Between February 1967 and September 1972, 311 dissection tonsillectomies were performed in Gatooma Hospital by a group of general practitioners, mostly on their own patients, but some were referred from elsewhere. The patients were all White or Eurafrikan, in the age group 2-16 years of age, except 12 who were 17 to 40 years old.

The major indication for operation was recurrent tonsillitis. A rule of thumb, not always strictly adhered to, laid down 4 attacks of tonsillitis with fever annually, sufficient to keep the child out of school for several days. For several years an additional rule was that the child had relapsed after 3-6 months on prophylactic penicillin. Since prophylaxis appeared to afford relief only while administered, it was considered worthless and abandoned.

Of these cases 35 had left Southern Africa. A questionnaire was sent to the parents of the remainder (276) in March 1973 and by May 1973, 177 (64%) replies had been received. The questionnaire requested information as to

- the parents' idea of the indication for tonsillectomy;
- the parents' assessment of change in the child's health after operation;
- an imprecise evaluation of the change in health in terms of frequency of visits to the doctor before and after operation;
- comment in general.

RESULTS

Of the 177 respondents, 167 (94%) reported that the operation had been performed because of repeated severe attacks of tonsillitis. The other 10 reported indications such as rheumatic diathesis, airway obstruction and recurrent otitis media. Of the 167, 160 (96%) reported visiting the doctor less frequently after tonsillectomy, while 7 reported no change.

Of the 167 respondents, 63 volunteered 94 other benefits, which have been summarised in Table I.

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*Deceased.

TABLE I. FREQUENCY OF TYPES OF BENEFICIAL EFFECT VOLUNTEERED

Beneficial effect	No. of respondents
Improved general health	28
Regained appetites	18
Weight gain	15
Decreased incidence of earache	6
Decreased incidence of colds	6
Snoring and mouth breathing relieved	6
Decreased complaint of abdominal pain	4
Decreased complaint of joint pain	3
Relief of bed-wetting	2
Improved hearing, halitosis relieved, cessation of vomiting, decreased herpetic sores, reduced glandular swelling and relief of croup	6

On the other hand, 30 respondents reported the ill-effects listed in Table II.

TABLE II. FREQUENCY OF TYPES OF ILL-EFFECTS VOLUNTEERED

Postoperative complications	No. of respondents
Postoperative pain	4
Secondary haemorrhage	1
Postoperative earache	1
Failure to improve	
No decrease in number of sore throats	3
Respiratory tract injections continued	1
Earache, cough and colds continued	1
Frequent cough and cold persisted	1
Other	
One tonsil bed remained inflamed	1
Influenza postoperatively	1*
German measles postoperatively	1*
Developed toxoplasmosis	1*
Regrowth of adenoids	3
Continued earache	3
Two sore throats in 11 months	1
Chemical imbalance	1*
Malaria, 3 times in 4 years	1*
Child remained bronchitic	3*
No weight gain	1
Nose still blocked	1

* The ill-effects are probably not related to the operation.

DISCUSSION

It appears that most of the adverse effects mentioned are either not related to the operation, or would not have been mentioned had there been a full discussion of the operation beforehand.

The over-all result is one of general satisfaction with the effect of the operation, with a significant reduction in surgery attendance. This corresponds with our own impression. Thirty-four respondents who had indicated frequent previous visits in the questionnaire, said that after the operation there was no further illness.

We are disappointed, however, that 4 people commented on the continued occurrence of earaches, while only 6 found it worthwhile to comment on a reduced incidence. Furthermore, no respondents commented on any reduction in coughs, hay fever or sneezing, although 6 claimed a reduction in the incidence of colds, whereas, among the adverse groups, 12 commented on coughs, colds, hay fever and sneezing. These patients were either introduced into operating lists without any true indication of recurrent infection, and were in fact allergic patients in disguise; or the operation itself in some manner causes, or releases a suppressed tendency to, allergic and related respiratory manifestations.

While there were 6 postoperative complications, only one of these is significant, i.e. secondary haemorrhage. Occurring 7-10 days after operation, this can be most alarming.

Postoperative pain must occur in all cases, but when pain persisted after the first week they all referred to children over the age of 12 years.

Since during the first few days many children complain of earache which is apparently referred from the tonsil bed, the fact that it was mentioned only once probably reflects the good communication between hospital staff and parents.

The 6 failures to improve all relate to respiratory tract symptoms and may represent poor selection. This can happen because of deliberate misrepresentation on the part of parents who, aware of our criteria, want the tonsils removed; to misunderstanding; or to hurried and inadequate consultation. Many viral infections, including colds, are misdiagnosed as tonsillitis, thus affecting a decision for or against operation. The external appearance of tonsils at any one time often have no diagnostic importance.

The other adverse factors offered and tabulated are for the most part volunteered in response to the interest shown in the health of the child.

There was no preponderance of one sex over the other.

An attempt to equate the surgery attendance ratio and beneficial or adverse effects to age groups was not instructive, although possibly the most benefit was experienced by those in the 3-7-year age group. Memory fades with time, and information about additional effects decreased with time elapsed since operation.

While the criteria used are imprecise, retrospective and by no means methodical, the information gleaned supports the clinical impression that removal of tonsils and adenoids confers considerable benefit on those who suffer from repeated attacks of tonsillitis.

CRITERIA FOR SELECTING PATIENTS

'It's easy finding reasons why other folks shall be patient.'

George Eliot

Though the criteria for selecting patients for adenotonsillectomy are well known to the general practitioner, he is often beset by impatient parents who still believe, as do some doctors, that prophylactic adenotonsillectomy should be performed on every child before he or she attends school, in order to counter the inevitable infections to which children are exposed during the first years at school.

Patients' immunological experiences are widened by new infections. Besides genetic inheritance and nutritional status, there appear to be two other factors determining the level of immunological competence. The first is the frequency of infection experienced during the period of breast feeding after the disappearance of maternal inherited antibodies. The exposure of babies living under more primitive conditions to numerous bacterial and viral assaults while still being partially protected by breast feeding must surely explain the relative freedom from recurrent tonsillitis among Black children. The second factor is the unwarranted use of antibiotics as demanded by parents, and unthinkingly acceded to by doctors, within a few hours of the onset of a childish febrile illness. This practice, understandable when the patient lives many kilometers from the surgery, is indulged in by nearly all, paediatricians included, even though they pay lip service to diagnosis before treatment. What could be more damaging to the development of a satisfactory immune system?

Roydhouse,⁴ in his experiment, did not include these factors, which are possibly more important than the age of the child. Thus it may be that some children have developed a competent immunological response at the age of 3 or 4 years, while others are still in the infantile stage when approaching puberty.

McArthur¹⁰ outlines his approach for forestalling parent insistence upon operation: 'No-one imagines for a moment that a child can become skilful and full of knowledge without toil and trouble.' It is sometimes difficult to convince the parents of a 6-year-old that future health cannot be obtained ready-made; only by toiling through the biological encounters of the early years of life can the immune mechanism learn to recognise and handle the problems posed by infection, many of which are self-limiting.

If a parent is still insistent, although surgery is not indicated, the practitioner may emphasise the immunological function of these organs.

When the size of the tonsils is stressed by the parents a different approach is needed. Should there be sufficient ventilatory obstruction for the pO_2 to drop and the pCO_2 to rise, or ventilatory effort is obvious, this is an indication for tonsillectomy. With a lesser degree of obstruction, mouth breathing, snoring and the adenoid facies may result. In such cases the parents should be told of the differential growth rate of lymphoid tissues as opposed to the general growth, and operation forestalled in this way.

If a child has rheumatic fever, or a predisposition to it, the fact that tonsillar size and the degree of liability to streptococcal infection appear to be proportionately related should be borne in mind.¹⁰ Unless a swab can be cultured within 24 hours of onset of every sore throat, such a child may run the risk of rheumatic fever, or of recurrence, and should be given adequate antibiotic cover at all times, often for life. As people are unreliable about taking medicine, it may be more sensible to remove such tonsils, especially if they are enlarged. The tonsillectomy, of course, will not negate the necessity of antibiotic cover. Similar treatment applies to those with a predisposition to acute glomerulonephritis.

In the same way, a child who suffers from recurrent tonsillitis should have a swab taken and the organism cultured each time and, when indicated, an antibiotic regimen should be instituted. Should facilities not be available it is suggested that the child be placed under adequate antibiotic cover for 6 months, and if after that period he still develops recurrent tonsillitis, tonsillectomy should be performed. In our experience, adequate antibiotic cover means the use of penicillin, since tetracycline and other bacteriostatics appear useless and dangerous in this context. Furthermore, it has been our experience that relapse almost invariably occurs when cover is withdrawn.

DECISIONS TO BE MADE BEFORE ANY PROCEDURE

Should the doctor interfere at all? This is indicated if the child misses several weeks of school a year, spends several days per month infecting other children, experiencing malaise and abdominal pains so often part of the tonsillar syndrome, or has symptoms indicative of rheumatic fever or nephritis.

What improvement can be achieved? According to Roydhouse⁴ this includes a decreased incidence of sore throats and a possible decreased incidence in the severity of colds; according to our parents there should be a marked decrease in visits to the doctor, and a marked improvement in the general well-being of their child (Table I).

Is the treatment contemplated adequate? Roydhouse's trial shows that improvement may be relied upon in selected cases. Our parents in general are more enthusiastic.

What other effects, harmful or otherwise, the treatment may have: Other beneficial effects are numerous (Table I). Pride of place among harmful effects must go to risks of surgery and anaesthesia in general, together with late postoperative haemorrhage. These are minimised by careful technique and attention to detail. Response to our questionnaire indicates a possibility that allergic phenomena are released or aggravated by tonsillectomy in some cases, or that selection has not been careful enough.

Whether the likelihood of benefit is greater than that of damage: Our collective parents indicate that the likelihood of benefit is high and of damage low.

The psychological effect on the child of separation from the parents at such a traumatic time are known to be significant.¹¹ While our hospital cannot offer simultaneous admission of mothers, visiting hours are elastic and visiting encouraged.

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