Surgery

Tonsillectomy

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In or out of fashion?

Tonsillectomy was once fashionable. Regarded as a panacea for upper respiratory tract problems, many children in the late 1950s and 1960s underwent tonsillectomy. In 1967, 120 per 10 000 children (age ≤ 14 years) had their tonsils removed. But over the years fashions change; by 1985 this was 51 per 10 000, up to 81 in 1990, and down again to 65 in 1998.¹

As an *issue*, tonsillectomy is back in fashion for two important reasons—the increasing focus on “evidence based medicine”, and the recent débâcle about disposable surgical instruments and new variant Creutzfeldt-Jakob disease (vCJD).

In a Cochrane systematic review² we found no good evidence for or against tonsillectomy. Evidence from two randomised controlled trials (RCTs) in children^{3,4} was inconclusive. There has been some scepticism about the review's conclusion that a further RCT is required to address this issue. Surely, taking the tonsils out must prevent tonsillitis? It is axiomatic that if a child has recurrent acute tonsillitis and the palatine tonsils are solely and uniquely responsible for that child's symptoms, removing those tonsils will prevent further similar episodes. In practice two problems arise. What role do the palatine tonsils play in the pathogenesis and natural history of any particular child's symptom complex? Is the child who has had a lot of “tonsillitis” in the past going to carry on getting “tonsillitis” in the future?

We are not able to answer the first question easily. During the clinical interview it is normal practice to enquire about the frequency and severity of sore throats, the need for, and effectiveness or otherwise of antibiotics, time off school, etc. It has never been suggested that any of these factors, as important as they may be, are related solely to the role of the palatine tonsils. An extreme view—that swelling and inflammation of the palatine tonsils is an epiphenomenon in patients with pharyngitis, all their symptoms being attributable to inflammation of the other lymphoid tissue in Waldeyer's ring, the pharyngeal wall and the associated lymphoid tissue—is clearly absurd. But only as absurd as the notion that all the symptoms are caused by palatine tonsil disease. The truth must lie in between—but where exactly?

The second question is also difficult to answer. Just as in the financial markets, past performance does not necessarily predict the future, so too in tonsillitis. To enter Paradise and colleagues' study,³ children required seven episodes of confirmed tonsillitis in the preceding year, five per year in the preceding two years, or three per year in the preceding three years. Yet 74% of these “severely affected children” who did *not* have surgery, had only one or no episodes at all of moderate or severe sore throat in the year following randomisation.

“Obstructive sleep apnoea is widely regarded as an absolute indication for tonsillectomy”

Despite this absence of “evidence”, tonsillectomy remains popular with both ENT surgeons and, more particularly, their patients. The Scottish Tonsillectomy Audit⁵ showed that 95% of patients or parents who responded to a questionnaire were “glad” that the surgery had been performed. The benefit obtained by a sibling can be the reason for presentation to specialists and a persuasive factor in any decision making process. Capper and Canter showed that 59% of doctors were at least sometimes influenced to list a child for tonsillectomy because parents reported that a sibling had benefited (personal communication). Anecdotal evidence suggests that children can be “transformed” by the operation. Is this because of a reduction in the number or severity of episodes of “tonsillitis”? Or does the child who has had a tonsillectomy eat better, breathe better (especially at night), and sleep better? Although there is currently no published systematic review on (adeno)tonsillectomy for obstructive sleep apnoea in children, this is widely regarded as an absolute indication for the procedure. Might some children with “recurrent tonsillitis” and large tonsils have a degree of upper airways resistance producing non-specific symptoms (such as poor breathing at night) which are relieved by surgery? Any general change may occur irrespective of any effect on their throat symptoms per se. These issues highlight the importance of including those outcome measures that examine general health and well being in any future RCT.

It must be accepted that the evidence for or against tonsillectomy is not of high quality. Information on adverse effects on the other hand has always been widely available. Recently it has become much more robust.

In late 2000 the British Department of Health was anxious about the theoretical transmission of vCJD via reusable surgical instruments. The prion causing this disease is known to be present in tonsil tissue long before the disease becomes clinically apparent and the disease is universally fatal. At that time the Department did not believe that instrument decontamination facilities were adequate to reduce the theoretical risk of prion transmission. Given the large number of tonsillectomies performed and the fact that most were undertaken on children, surgeons in the UK were asked to “consider” using disposable tonsillectomy instruments. While these newly designed and built instruments were being sourced, individual surgeons could continue to use the old instruments if they believed that the risk of doing so was outweighed by the risks of not operating. The decision to stop “routine” surgery for recurrent tonsillitis pending the arrival of disposable instruments was recommended by the British Association of Otorhinolaryngologists–Head & Neck Surgeons (BAO-HNS) and was easy to support. It was more difficult to decide whether or not to delay surgery in children with obstructive sleep apnoea. What was the risk associated with delaying such surgery for, say, three months? Undoubtedly it was small. But how did that compare with the risk of vCJD transmission? Who could quantify that “theoretical” risk?

“Some surgeons experienced problems with disposable instruments”

In the spring of 2001, disposable instruments became available and were widely used, but by the summer it became clear that some surgeons were experiencing problems with them. Tonsillectomy was stopped and then restarted when modifications had been made. By the autumn it seemed that there were still problems. An increased rate of secondary haemorrhage (usually cited as 2–3%) seemed to be occurring in some centres. Disposable diathermy forceps were implicated and in December 2001 the Department of Health recommended not using them and returning to non-disposable instruments. At this time the Department had completed a programme of upgrading decontamination units and believed the risk from such instruments to have been reduced to the lowest possible level.

The BAO-HNS has recently completed an audit of secondary haemorrhage rates

around the country and compared a period in 2001 with a similar period prior to the introduction of disposable instruments. Average rates of secondary haemorrhage requiring readmission were similar—4.68% versus 5.09% (2000 versus 2001). Nonetheless, some units had experienced unusually high rates. The organisation hopes to start a prospective tonsillectomy “registry” to evaluate these important issues further.

The bottom line—tonsillectomy is currently undertaken in England using appropriately decontaminated reusable instruments. There is a primary haemorrhage risk of 0.5–1.0% and a secondary haemorrhage risk of about 5%.

So is tonsillectomy back in fashion? Part perhaps of the present day enthusiasm for all things “retro-chic”. It never went away. Otolaryngologists would argue that it is a good operation for selected patients with recurrent throat

symptoms. Armed with an understanding of the natural history of recurrent tonsillitis, details of the management options available and information about the nature and risks of surgery, the appropriately counselled parents can make a decision with and on behalf of their own child. Many of them elect for surgery. But we should not delude ourselves that this decision is made on the basis of anything they have been told during the counselling process. I suspect that in many cases the decision has been made before the consultation with the specialist, perhaps even before the consultation with the general practitioner. In many quarters the “word on the street” is still this—“if you’re having trouble with your throat, you should have your tonsils out”. Fashions may change capriciously; tenets in popular culture are harder to dispel.

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IMAGES IN PAEDIATRICS.....

Caustic burn caused by potassium permanganate

Potassium permanganate solution has antiseptic properties and is useful in managing infected eczema, particularly in children. Formerly dispensed as crystals, it is now more conveniently available as soluble tablets. Patients must be warned that potassium permanganate causes temporary brown staining to the skin and nails and can permanently stain clothing and ceramic basins or baths. Patients also need to be aware that incompletely dissolved crystals and tablets are irritants. This 18 month old boy had an infective exacerbation of his severe atopic eczema and was prescribed potassium permanganate as an antiseptic in the bath. One tablet is dissolved per 3.4 litres (6 pints) of water giving a 1 in 10/000 dilution. Unfortunately he sat on a non-dissolved tablet, resulting in this 1 cm diameter caustic burn to his right buttock. All paediatricians who prescribe potassium permanganate soaks should be aware of the risks and warn parents to make sure that the tablets/crystals are completely dissolved before use.

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