

Persistent glue ear in children

EDITOR,—In the editorial on treating persistent glue ear in children Ruut A De Melker frequently refers to the recent *Effective Health Care* bulletin.^{1,2} Regrettably, the bulletin is filled with inconsistencies and factual errors.

The authors draw attention to what seems to be a large regional variation between rates of surgical treatment for glue ear. They do not use actual figures specific to treatment of that condition alone but figures derived from data from the Office of Population Censuses and Surveys to which a correction based on figures from the Yorkshire region has been applied. Anyone dealing with such figures will know of the enormous variation in coding practice in different areas. The accuracy of data must be suspected when the same document reports that 22% of tonsillectomies in the Yorkshire region are performed as day case procedures. No surgeons in the Yorkshire region perform tonsillectomy as a day case procedure. If there is a regional variation in the rate of treatment for glue ear need this to be a sign that overtreatment occurs in some areas? I have held posts in the north of England, East Anglia, and the west of Scotland and have gained a strong clinical impression of wide regional variations in many conditions of the respiratory tract.

The authors of the bulletin reject one large controlled trial that compared the effects of different treatments applied to each ear, one ear serving as the other's control. The reasons given for rejecting this paper are that the brain may compensate for poor hearing by enhancing hearing in the treated ear, resulting in an overestimate of the likely effects of treating both ears. This is an interesting theory, but the authors can supply no evidence for it. Having rejected much of the literature because of faults found in the methodology, the authors focus their attention on three relatively small clinical trials. One of these has not yet been published, so people are unable to satisfy themselves that its design is appropriate.

The bulletin is not a wide ranging, objective, scientific review as De Melker would have us believe. I recommend that anyone interested in glue ear should read it, but carefully.

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1 De Melker RA. Treating persistent glue ear in children. *BMJ* 1993;306:5-6. (2 January.)

2 The treatment of persistent glue ear in children. *Effective Health Care* 1992;No 4.

EDITOR,—Ruut A De Melker objectively summarises the literature on the treatment of glue ear as published in the recent bulletin from the Effective Health Care Group. One of the most striking findings to an ear, nose, and throat surgeon is the apparent focus on hearing loss to the exclusion of all other symptoms related to this condition and therefore the ignoring of the overall picture of morbidity associated with the condition of glue ear.

In clinical practice grommet insertion may be performed for a number of different indications apart from hearing loss. These include recurrent episodes of otitis media and otalgia, often more distressing and pressing symptoms from both the child and parental viewpoint since they require

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frequent treatment with antibiotics. A randomly selected sample of 159 children from this unit aged 14 years or under who underwent grommet insertion over the past six months showed that 39% (62) had the operation performed predominantly for reasons other than hearing disability, a point not even mentioned in the document.

The suggestion of using a period of "watchful waiting" is accepted and in widespread clinical practice. In Britain most children have already undergone a long period of conservative management at the hands of their general practitioners, often with trials of non-operative intervention using long term antibiotics. The importance of symptom control in this context cannot be ignored since few adults would be prepared to tolerate long periods of disability from hearing loss, otalgia, or otitis media. In any event most ear, nose, and throat departments have a review facility whereby patients whose symptoms had spontaneously resolved would have their operations postponed.

It behoves otolaryngology as a specialty to assess other measures of outcome for grommet insertion such as otalgia, recurrent otitis media, sleep disturbance, dysequilibrium, personality or behavioural changes, family disruption, or absence from school. This, however, will be difficult.

Although they are welcome as an attempt to rationalise clinical practice, we believe the bulletin and leading article to be greatly misleading in implying an overperformance of surgery since it starts from the premise that grommet insertion is performed predominantly for hearing loss, which represents only one debilitating symptom of the many that glue ear may produce.

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1 De Melker RA. Treating persistent glue ear in children. *BMJ* 1993;306:5-6. (2 January.)

EDITOR,—Otitis media with effusion is a controversial issue, as pointed out by Ruut A De Melker,¹ but the complications of grommet insertion may have been overstated—no paper published in English suggests that grommets may cause cholesteatoma.^{2,3} A review of grommet insertion into 1568 ears (2266 intubations in total) found permanent perforations in only 28 ears.⁴ A 15 year follow up of a controlled trial of grommets versus myringotomy showed no long term impairment of hearing in the grommetted ear.⁵

More recent data are available from a long term follow up trial in New Zealand. The Dunedin study (quoted by De Melker as confirming that children with persistent effusions at a young age have problems with learning, language, and

development until at least the age of 7-9 years) has now produced follow up data (reported at the international symposium on otitis media with effusion, Fort Lauderdale, 1991) to age 16 which show that these educational and developmental problems continued, and that reading age in untreated patients remained two years behind their treated controls.

There is further evidence that untreated middle ear disease in childhood may have permanent effects. Moore *et al* showed that a history of otitis media in children was associated with abnormalities of binaural processing of sounds even when their thresholds for pure tones were normal.⁶ Additionally, animal studies have shown that monaural occlusion early in development can influence the development of auditory receptive fields in the central nervous system.⁷

In Britain, waiting times for being seen in an outpatient clinic, followed by those for surgery, ensure that most children have waited a considerable time before grommet insertion, adenoidectomy, or a combination can be performed. This waiting time will in most cases select out those children whose effusions are short lived. If doubt persists many otolaryngologists will arrange a further period of review.⁷ Most otolaryngology departments repeat audiometry and tympanometry immediately before surgery to exclude patients whose effusions are resolving. If Dr De Melker feels that a watch and wait policy is warranted, how long should that period be?

It is surprising, and possibly inappropriate, that a leading article on a middle ear condition should be written by someone who specialises in general practice, rather than by an otologist, and by someone who may be less well acquainted with the problems of long waiting times in Britain than a British specialist.

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- 1 De Melker RA. Treating persistent glue ear in children. *BMJ* 1993;306:5-6. (2 January.)
- 2 Skinner DW, Lesser TH, Richards SH. A fifteen year follow up of a controlled trial of the use of grommets in glue ear. *Clin Otolaryngol* 1988;13:341-6.
- 3 Luxford WM, Sheehy JL. Myringotomy and ventilation tubes: a report of 1,568 ears. *Laryngoscope* 1982;92:1293-7.
- 4 Chalmers DC, Stewart I, Silva P, Mulvena A. *Otitis media with effusion in children—the Dunedin study*. London: MacKeith Press, 1989.
- 5 Moore DR, Hutchings ME, Meyer SE. Binaural masking level differences in children with a history of otitis media. *Audiology* 1991;30:91-101.
- 6 King AJ, Hutchings ME, Moore DR, Blakemore C. Developmental plasticity in the visual and auditory representations in the mammalian superior colliculus. *Nature* 1988;332:73-6.
- 7 Smith M, Maw AR. Secretory otitis media: a review of management by consultant otolaryngologists. *Clin Otolaryngol* 1991; 16:266-70.

EDITOR,—In the editorial on treating persistent glue ear in children Ruut A De Melker might also have mentioned the high rate of repeat operations to insert grommets for glue ear.¹ In Grampian Health Board since 1986 repeat operations have accounted for 38-40% of all such operations (data obtained from Scottish morbidity records (SMR 1), Grampian Health Board). In 1975-90 in Scotland 25% of children had grommets reinserted within four years of their first operation, and children have had grommets inserted up to 14 times (data obtained from Scottish morbidity