

ORIGINAL

The Management of Secretory Otitis Media With Effusion: An Audit

Mohamed El-Fatih Baraka, FRCS*

ABSTRACT

This study represents a five-year (1984-1988) audit of complications following the use of ventilation tubes (VT) in 402 children suffering from secretory otitis media (SOM) with effusion. Two hundred and fifty one of these patients had myringotomy and VT placement, and 151 had myringotomy alone for SOM refractory to conservative measures.

The medical records of 251 children at King Fahd Hospital were subjected to departmental audit, but only 132 were complete enough to be analysed for the complications of VT insertion. The complications recorded were: otorrhoea in 19, recurrence of SOM in 9, tympanosclerosis in 5, and persistent perforation in 3 children. An overall rate of 27% was considered to be high, and the question arose whether patients and parents should, in developing countries, be informed of the side-effects of tube-insertion and prospective outcome before surgery? The paper discusses the outcome of the procedure and, by using this as an audit model, considers the necessity of effectively communicating with the patient about prospective surgical procedures.

It is an established practice that when secretory otitis media (SOM) with effusion becomes refractory to conservative measures, surgical intervention such as myringotomy and/or ventilation tube (VT) placement may be necessary to achieve reasonable Eustachian tube function. It is also known that the frequency of complications after these procedures may be considerable, and there is an ongoing debate on finding a satisfactory alternative to the use of VT tubes. However, as yet, little new is known and VT remains the only option in improving symptoms in the majority of patients.

Despite considerable morbidity both from the disease and its treatment there has been little attempt, at least in developing countries, to educate patients and parents in the efficacy of treatment. A review of our hospital records does not indicate the extent of communication made by physicians to the patient or parents. By analysing our records retrospectively the study briefly considers the pros and cons of surgical management of SOM with effusion. We also wish to emphasise the necessity of appropriate communication with the patient in the future, for not only this condition but ENT problems in general. We do, however, realise that detailed patient information at the time of obtaining

* Associate Professor &
Consultant ENT Surgeon
King Fahd Hospital of the University
Al-Khobar
Saudi Arabia

Informed Consent is a double-edged sword. On the one hand, the information may have a positive effect "in reassuring the anxious patient" and in strengthening "the doctor-patient bond", whilst a complicated communication may produce a "negative effect of frightening the patient" away from what may prove to be effective treatment¹.

METHODS

The material for this study was extracted from the data gathered by the ENT department Quality Assurance/Audit Officer at King Fahd Hospital of the University (KFHU), Al-Khobar, Saudi Arabia. It includes the period 1984-88 inclusive. The medical records were reviewed for pre- and post-operative status of the disease, post-operative complications, re-operation, and the length of follow-up. A length of two years follow-up with five sequential visits was considered a reasonable criterion for inclusion and analysis. Excluded were those patients who needed the placement of the long-term VT, re-operation or both.

The complications from the procedure were defined as follows:

1. Otorrhoea
 - a. Simple – when a single episode of discharge subsided with topical therapy
 - b. Chronic – when the discharge was persistent and did not respond to topical or systemic antibiotics
2. Post-extrusion perforation: that did not close spontaneously and required myringoplasty.
3. Tympanosclerosis: when a plaque of chalk had developed in the tympanic membrane, the middle ear, or both.
4. Recurrence: when the SOM became symptomatic after obstruction or early extrusion of the VT.

RESULTS

Out of a total of 1,515 paediatric ENT elective surgical procedures, 402 children were treated for SOM with effusion.

Table 1
Myringotomies with / without VT*
(KFHU 1984/88)

Year	With	Without	Total
1984	27	20	47
1985	26	19	45
1986	51	44	95
1987	82	35	117
1988	65	33	98
Total	251	151	402

*VT = Ventilation Tube

The ages ranged from 6 months to 12 years. All 402 children had been previously treated conservatively, with no improvement. Subsequently, 251 of these had VT placed, and 151 underwent myringotomy alone (Table 1). A total of 36 out of 132 (27%) patients developed complications. The most frequent complication was simple otorrhoea in 14%. Five children developed tympanosclerosis (Table 2). The disease was categorised as recurrent in nine patients within the two-year follow-up period. The reason for recurrence was VT occlusion in two, and early extrusion in three. In the remaining four no definite mode of recurrence could be determined.

Table 2
Complications of VT placement
(KFHU 1984/88)

Year	No. of cases	Simple Otorr.	Ch. Otorr.	Perforation	Tympanosclerosis
1984	13	2	1	1	1
1985	15	2	–	–	1
1986	30	3	–	–	–
1987	43	4	1	1	2
1988	31	4	2	1	1
Total	132	15	4	3	5

VT = Ventilation tube

Ch. = Chronic

Otorr. = Otorrhoea

DISCUSSION

Although Politzer was the first to ventilate the middle ear by using indwelling tube², the method was popularised much later by Armstrong in 1954³. He used tubes made

of polyethylene and obtained reasonably good results in the management of SOM with effusion. Since then the procedure has become standard treatment in patients who are refractory to conservative measures. A favourable opinion from the United Kingdom is that short-term use of VT retards the progress of retraction pocket to cholesteatoma⁴. Likewise, in the assessment of overall outcome of treatment, Gates, Wachtendorf and Hearne⁵ have reported that children treated by VT fared substantially better than those without. And in the USA the most common reason for admission to the paediatric surgical ward is for elective myringotomy with or without the placement of VT⁶, clearly an indication of acceptability for the procedure. Its chief value is that of a substitute for a malfunctioning Eustachian tube; a well-aerated middle ear cleft produces considerable improvement in hearing.

In spite of the satisfactory results reporting minimal morbidity from the use of VT, the management of SOM with effusion has not been without controversy. Slack et al⁷ reported an inordinately high (40%) frequency of tympanosclerosis 12 months after the use of Shepards' grommets. Black⁸ has severely criticised the surgical management of SOM with effusion by considering it as merely an "epidemic prevalent in the higher socio-economic group". Skinner⁹ too, represented an opinion on the insertion of grommets as "conferring no long-term benefits to hearing or protection against attic retraction". Despite these divergent opinions and results, the use of VT is likely to remain in vogue until a better alternative becomes available. Nevertheless their use is not without morbidity. We feel that a degree of discretion is necessary in their use, and only after every available and recognised medical therapy has been tried and has failed. And in developing countries, periodic and objective controlled studies should continue to evaluate each therapy.

The Quality Assurance Programme at KFHU, Al-Khobar, Saudi Arabia became active in 1987. The exercise (methodology not yet fully understood and operational) shows promise in terms of practice and research. The department of ENT has a full-time audit officer who among his other achievements has produced some revealing reports on the practice so far. There are several shortcomings in the documentation of medical events. However, there seems to be a lack of effective communication with the patients. Our patients are also becoming more aware of the expected standard of medical care which, if not met, could result in court litigations¹⁰.

In general, the frequency and type of complications in our patients are comparable to other reports. The frequency of tympanosclerosis, however, may represent under-recording and requires closer scrutiny in the future. Based on the results of this study our department has taken steps towards a general structured audit programme which would ensure complete data collection for most patients in the case of SOM with effusion, as a model for long-term follow-up in which the patient's participation will be central.

CONCLUSION

This retrospective audit on the complication of VT at KFHU in Saudi Arabia, showed that: (1) the captured complications of VT compare favourably with the reported ones elsewhere. (2) Even in the developing countries, patients are entitled to know about the possible outcome of projected treatment. (3) The departmental audit should play an important role in emphasising the need for better communications with patients and guardians.

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