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Letters to the Editor

Appropriate attitudes to tympanometry

Dear Sir,

Stoney and Rogers (1989) document an apparent diversity of current attitudes among otolaryngologists to the oto-admittance (impedance) technique. Unfortunately in their questionnaire design they miss a prime opportunity to analyse the detail and basis of attitudes at present. The main divergences of opinion shown on the questions as posed turn on the meaning of 'often', in 'often altering the treatment', and 'sometimes', in 'sometimes useful'. The obtained divergence may therefore be more verbal than substantive; the alternative conclusion is that professional attitudes are arbitrary, which we believe it would be unhelpful to state if true, but is probably untrue. The remainder of the questionnaire leaves little real scope for expressing rational divergence of opinion that would constitute valid differences of professional emphasis.

Oto-admittance measures have four advantages that were unfortunately not listed as a detailed basis for agreement or divergence: (i) they take much less time than masked bone-conduction measurements and are therefore an important technique for determining whether the overhead of masked bone conduction needs to be faced in individual cases; (ii) they are relatively immune to deficiencies in staff training which might entail mistakes such as incorrect interpretation of masking patterns or failing to ensure appropriate masking levels are used; (iii) they are robust against ambient noise, providing, for example, the prime choice for an on-the-ward test whereby a small proportion of children listed for myringotomy and grommets can be identified as not needing to proceed to surgery; (iv) due to a degree of *de facto* standardization (adequate for the purpose in hand) tympanograms from different departments (e.g. community, GP, ENT, other district ENT) can be compared, which cannot be said of otoscopy, except for the most gross features. It would have been worthwhile to probe otologists' awareness of these four points, but unfortunately the data are insufficiently specific to determine whether some re-education on the points is required.

There is a danger that the unfavourable slant of Stoney and Rogers' added comments will be taken as an excuse by junior otologists not to learn how to make use of informative results from the oto-admittance technique. The article is seriously misleading, due to missing the main clinical point on three issues, which we clarify below.

Redundancy in batteries

We agree with Stoney and Rogers that, like any technique, oto-admittance is no panacea. However, for the patient time and staff costs involved, tympanometry plus ipsilateral and contralateral reflexes provide a very effective consistency check, comprising both positive and negative information related to sensory, neural, and non-organic hearing loss, as well as to middle-ear disorders. Benefits in terms of clinical justification can thus be totalled over several diverse categories of patient. For many of the relevant categories, oto-admittance measurements are indeed not the only diagnostic information available. There is of course little place for mutual redundancy (inter-test correlation) where particular tests are (a) costly and (b) individually definitive. However, Stoney and Rogers seem to be proposing that low redundancy be required also in batteries of tests for problems where neither (a) nor (b) apply, and where slight redundancy can even be advantageous. The partial redundancy from including oto-admittance in a general clinical workup can be tolerated because of its very low overheads in time and hence in cost. The 'work-up' approach allows the accumulation of practical knowledge, whereby the absence of one technique on one occasion is not disastrous (e.g. when it cannot be performed and where the overheads of a re-appointment may not be justifiable). Some redundancy also allows the complementary use of patterns of results across more than one test (e.g. hearing loss in the *absence* of fluid in the ears), and is useful in training.

'Diagnosis' of OME

Insofar as otitis media with effusion (OME) poses any real diagnostic uncertainties, various recommended diagnostic algorithms, e.g. Brostoff and Cantekin (1988), *do* make use of oto-admittance measures. However, establishing the history of OME is of much more practical importance. Progressive pathology aside, the chief factor distinguishing appropriate candidates for treatment from non-candidates is the time that the child spends with the condition; more than a certain percentage of time, say 50% over a period of 6 months or 1 year, might justify treatment. The offerings of the parent on one consultation can be only one small part of the type of history required to document persistence in a sometimes asymptomatic condition. In the cohorts of Tos *et al.* (1988) at 2-3 years and at 5-6 years, 5% and 9.9% respectively had Type B tympanograms on half or more of test occasions, and such cases would form a tractable provisional target for screening and treatment. What objective and practical alternative is there to tympanometry in establishing persistence of OME, and what economical alternative to having community doctors (SCMOs) do this? SCMOs will only have the right equipment and training to accurately document the history of OME if ENT/audiology takes the initiative and helps to establish this required element of the overall service.

Basis of costings

Oto-admittance cannot be regarded as an expensive medical technique. Stoney and Rogers emphasise the high initial cost of some types of oto-admittance equipment, but some cost as little as £1300. In health-economic terms, the initial capital purchase cost of one item of equipment is not a very relevant measure of cost. If the allocation system still makes initial cost the only hurdle, or an insuperable hurdle, then the system is bad. More relevant, one £3000 oto-admittance meter lasting 10 years, plus calibration, stationery and occasional repairs will cost about £1 per calendar day. The salary bill plus staff overheads for ENT an out-patient department plus audiology in a medium-sized health district is about £1000 per calendar day. Parsimony would be better focussed elsewhere.

Yours faithfully,

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References

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Dear Sir,

We thank M. E. Haggard and M. P. Lutman for their detailed and comprehensive comments on our paper on attitudes to tympanometry.

In the design of the questionnaire we felt that the verbal scale was as valid as any other method for a subjective assessment, and more likely to be answered by the ENT Consultants than an analogue or percentage scale.

We do not agree that the result leads to the conclusion that professional attitudes are arbitrary, and simply feel that there is a wide divergence. We admit the basis for this has not been fully explored in the questionnaire, but we thought more questions would reduce the return rate, which in the event was acceptably high at 75 per cent.

The advantages or otherwise of tympanometry over masked bone conduction were not addressed in the paper, as the difficulties of the latter in young children are well known. We believe that otoscopy, preferably with a pneumatic attachment, can give a great deal more information than tympanometry, and is just as 'standardised' as the diverse tympanometers available. Otoscopy cannot always be performed adequately, but this is also true of tympanometry. There is a danger that too great a reliance on tympanometry by junior ENT Doctors, will result in a deterioration in standards of clinical examination.

Most importantly, we believe that the greatest reliance should be placed on the history, as explained in the paper, and any investigation should be secondary to this. Indeed many investigations are employed as an inadequate substitute for the taking of an accurate history.

As far as the cost is concerned, the comparison with the daily total bill of an ENT and Audiology department is misleading, as this money is already committed and not available for reallocation. What should be debated is the best use of the limited additional funds which are available.

Yours faithfully,

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Lipoma and the Liposarcoma: genuine angiogenic lesions

Dear Sir,

I read with interest the article by Blanshard and Veitch (1989) about the ossifying lipoma. A concomitant proliferation of two mesenchymal phenotypes suggests that this tumor originates in a multipotential undifferentiated mesenchymal cell. The question is that, with some exceptions, such cells do not exist in a normal postnatal organism (Beranek and Friedenstein, 1988) and an alternative hypothesis must be formed.

Recently, we proposed an 'angiogenic hypothesis of repair and fibrosis' (Beranek *et al.,* 1986) according to which proliferating capillary endothelial cells acquire undifferentiated potentialities and are able to give rise to other mesenchymal cell phenotypes. At this occasion, we suggested that 'in some composite vascular tumours in which the proliferation of two or three distinct cellular populations simultaneously occurs may also originate from such undifferentiated endothelial cells'. We had in mind the haemangioleiomyoma, the haemangiopericytoma, the angiomyolipoma, *etc.* A separation of angiolipomas as an entity is based on some distinctive features such as a predominance of vessels, infiltrative nature, and frequent recurrence (Hajdu, 1979). In substance, however, all lipomas are of vascular origin. Sarkisov *et al.* (1984*a*) have shown that in normal adipose tissue and lipomas only capillary cells divide, suggesting that adipocytes originate from them.

A phenomenon that only capillary cells contribute to tumoral growth has also been described in the desmoid tumor (Sarkisov *et al.,* 1984*b*), in the benign histiocytofibroma, and Dupuytren's fibromatosis (Pierard *et al., 1985*). Moreover, it has been observed that: 1) pericytes possess Weibel-Palade bodies, a marker of endothelial cells, suggesting that both cell types derive from the same stem cell (Zelickson, 1966) 2) benign mesenchymal nonhaematopoietic tumors often manifest Factor VIII-related antigen, a marker of endothelial cell, in their stromal cells (Morales *et al.,* 1981; Giddens *el al.,* 1985; McWilliam and Harris, 1985; Buley *et al.,* 1988; Hultberg *et al.,* 1988; Smolle *et al.,* 1989), suggesting that these cells derive from undifferentiated vascular endothelial cells, and 3) in the same tumors, mitoses in stromal cells are notoriously and extremely rare. On the basis of the above evidence, it may be concluded with a reasonable certainty that mesenchymal benign tumors originate from vasoformative undifferentiated dividing mesenchymal cells and form their stromal cells by a migration of vascular cells into the extravascular space, and their differentiation and maturation there.