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Hearing aids—a case for review

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Abstract

An analysis of a series of 100 patients aged 60 years or over, referred by their General Practitioner to the Department of Otolaryngology, Addenbrooke's Hospital, specifically for the provision of a hearing aid, is presented.

Forty-six per cent of patients failed to satisfy the criteria suggested by the Technicians, Therapists and Scientists in Audiology as a screening for treatable pathology.

This study has shown that the existing referral pattern of general practitioner to consultant otolaryngologist for the provision of a hearing aid reflects the highest quality of care for the patient.

Direct referral or open access of patients for hearing aid fitting may risk failure to diagnose early and treatable conditions.

Introduction

The acute shortage of Audiology Technicians in the UK has led to several calls for the system of hearing aid provision to be modified. Several alternative schemes have been suggested.

a) That Audiology Departments accept direct referrals from General Practitioners for hearing aids. It has been estimated that 20 per cent of audiology centres are already providing this service. (Grover and Johnson, 1986)

b) That hearing aid provision be based at the level of the General Practitioner surgery or Health Centre, and performed by community dispensers. (Royal National Institute for the Deaf, 1988).

c) That the system of NHS hearing aid provision be abolished and the private sector be prepared to undertake this work. This would allow the patient 'open access' to the hearing aid service i.e. no prior GP consultation would be required.

Each of these strategies resolves to decrease the waiting time for a hearing aid by removing the consultation with a qualified Otologist in a hospital ENT department. It has been stated that a minimal amount of pathology is present in patients in need of hearing aids (RNID, 1988), and an estimate as low as 3 per cent of elderly patients having treatable pathology has been determined. (Narula, 1986) This is in contrast to an analysis by Lim and Stephens (1985) which found an undiagnosed medical condition in 50 per cent of elderly patients referred for hearing aids.

In an attempt to define which patients are suitable for direct referral to a hearing aid centre, the liaison group for Technicians, Therapists and Scientists in Audiology (TTSA) have produced guidelines for these professionals (Bamford, 1988).

These suggested criteria are detailed in Table 1, and represent an attempt to screen for serious disease. It has been estimated that these criteria would allow 60-70 per cent of GP referrals to proceed directly to hearing aid provision (Bamford, 1988).

This paper describes the application of these criteria to a target population of patients referred specifically to our department for a hearing aid.

Method

A series of 100 patients aged 60 years or over, were referred to the Department of Otolaryngology, Addenbrooke's Hospital, Cambridge by their General Practitioner specifically for the provision of a hearing aid.

Each patient underwent a full ENT examination by a member of the medical staff of the department. The criteria suggested by the TTSA were applied to each patient, and the presence or absence of each factor was noted.

Pure tone audiometry (air and bone conduction) was performed one each patient.

Analysis of the findings was performed using

TABLE I

Excessive wax in either ear?
Perforated ear drum either ear?
Active or history of discharge either ear?
Otalgia either ear?
True vertigo?
Hearing loss of sudden onset?
Sudden deterioration in existing loss?
Fluctuating hearing loss?
Air-bone gap >30 dB either ear?
Asymmetrical loss >25 dB 500 Hz–2 kHz?

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TABLE II

Positive findings of:	%
Excessive wax	19
Asymmetric hearing loss	16
Air-bone gap >25 dB	9
History of discharge	7
Perforation of tympanic membrane	5
Sudden hearing loss	5
Otalgia	4
Deterioration of existing loss	3
Fluctuating hearing loss	2
True vertigo	1

DBaseIV software and an IBM compatible Personal Computer.

Results

Of the series of 100 patients, 51 per cent were male and 49 per cent were female. The mean age of these patients was 74 years (range 60–98 years).

Forty-six per cent of patients had one or more of the symptoms or signs listed in Table II and were therefore unsuitable for direct referral/open access.

Nineteen per cent had excessive cerumen, that is sufficient wax to totally occlude the external canal, making diagnostic otoscopy impossible, and also significantly affect the hearing threshold, impair the ability to take an accurate mould and risk impaction.

Excluding excessive cerumen as a factor in the analysis, 34 per cent of patients failed to satisfy the TTSA criteria.

Hearing aid fitting was deemed appropriate in 86 per cent of patients. Of the other 14 per cent, seven patients required medical management, two patients required surgical management, and five patients required no management at all and were discharged.

The seven patients requiring medical management consisted of one large central unilateral perforation, one otitis externa, one cerebral infarct, one viral labyrinthitis, one iatrogenic following a neurosurgical procedure and two further cases investigated for the presence of an acoustic neuroma.

The two surgical patients consisted of one deep retraction pocket, containing cholesteatoma and requiring mastoid exploration, and one large aural polyp which was removed to expose a normal tympanic membrane.

The five patients that were discharged all had normal hearing and belonged to the 'auditory inferiority complex' group (Byrne and Kerr, 1987).

Discussion

It is well documented that in some parts of Great Britain, the length of time that patients have to wait to be fitted with a hearing aid under the National Health Service is unsatisfactory (Jackson, 1988).

This has prompted a call for a change in the existing system of referral of general practitioner to consultant otologist to one of 'direct referral' or 'open success'. The central question is whether the benefits of an expeditious hearing aid fitting outweigh the advantage of an expert otological opinion prior to hearing aid provision. Should increased efficiency be sought within the existing system or should a lower standard of clinical care be accepted for expediency?

In an attempt to answer this question, this analysis of 100 patients referred specifically for hearing aid provision was carried out. It has shown that a large proportion (46 per cent) of patients failed the TTSA criteria and were therefore unsuitable for direct referral/open access. This means that almost half of the patients would be referred back from the audiologist to an otologist, thus making the referral pathway more tortuous and lengthy than at present.

Direct referral is dependent on the General Practitioner carrying out otological assessment and therefore in some cases removing excessive cerumen.

It is reasonable to assume that excessive wax could be removed by the GP, though an operating microscope and suction may have to be employed. Nineteen per cent of patients presented with excessive wax and it is unlikely that an accumulation of such quantity would have occurred between GP referral and otological evaluation (average consultation Outpatient Department waiting list at this department is three months). It should be noted that in one case, excessive wax was obscuring a sizeable perforation, and syringing would have been advisable. Even when excessive wax is excluded from the diagnosis, 34 per cent of patients failed to satisfy the TTSA criteria—this includes patients who following removal of wax were found to have further pathology.

Significant disease was found in nine per cent of patients; seven per cent were treated medically or required further investigation and two per cent required surgical treatment.

The ready provision of a hearing aid should not be compared with the provision of spectacles/lenses for the correction of a visual defect since it may require considerable expertise to clear debris from the external auditory canal to allow adequate visualization of the tympanic membrane whereas the eye is readily accessible for examination.

Direct referral and open access can lead not only to incorrect treatment but also allows early treatable disease to progress with minimal or absent symptoms, thus reaching a stage when curative treatment carries a significantly greater morbidity or even mortality. This paper demonstrates that the existing pattern of referral of patients to an Otologist prior to hearing aid provision offers the highest quality of safe medical care. Efficiency must not be sacrificed for expediency in this issue, but should rather be improved with advances in technique. The application of computerized audiometry, group fitting of hearing aids, and the use of video as a teaching medium for patients all provide opportunities of reducing unacceptable waiting times for hearing aid fitting.

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