

Management of the Dizzy Patient at King Fahd Hospital of the University: An Internal Audit

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ABSTRACT

The quality of service provided to the dizzy patient who attend the ENT clinic at King Fahd Hospital of the University, Al-Khobar, is reviewed and the medical records critically analysed. Out of a clinic population of 16,000 patients (ENT clinic attendance for two years, 1988-1989), 110 complained of dizziness (0.7%).

This Internal Audit suggests that the best way to deal with patients complaining of dizziness is to establish a multidisciplinary clinic with well structured procedural protocol.

Dizziness is a common complaint among patients attending the Ear, Nose and throat (ENT) clinics. At times, the syndrome of vertigo and dizziness may even be life threatening. The symptoms affect a disturbance of orientation of the body in space; the resultant feeling is of subjective nature, and is usually controlled by a complicated stato-kinetic and proprioceptive system¹. While the problem may lie in any single component of the systems to produce clinical symptoms of dizziness, a true vertigo is an exclusive manifestation of disturbed stato-kinetic system².

Because the controlling system is complex, it is not surprising that dizziness as a symptom may be very confusing. However, once the function of this system is understood, it is possible to classify dizziness according to recognisable aetiological entities, that is otological, neurosurgical, medical and others³. To accomplish localisation, a certain scheme of guidelines needs to be

followed. This appears to be the most practical pathway towards rational investigative and therapeutic regimen.

In an ideal situation a multi-disciplinary (ENT, Neurosurgery and Medical) clinic for the dizzy patient with a well structured procedural and investigative protocol should be available and functioning.

Before taking such a decision we thought that it would be advisable first to review the charts of our dizzy patients in the previous 2 years, having in mind the following objectives:

1. To know roughly the number of dizzy patients attending the ENT - Clinic.
2. To have some insight of quality of service provided to the patient (history, clinical examination, investigations, treatment and follow up).
3. To analyse all patient's data with critical appraisal of the quality of services (internal audit).

And accordingly draw conclusions to improve the quality of services to the dizzy patient.

METHODS

For the years 1988 and 1989, the medical records of patients, with dizziness as their main complaint, attending the ENT - OPD at King Fahd Hospital of the university Al-Khobar, were reviewed. In order to determine the magnitude of the problem in the current practice, we

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thought it is advisable to re-examine the charts of all these patients. Besides the general information on age, sex and source of referral, the following areas were checked on using the specified guidelines:

1. The History

The history of dizziness, in particular the onset of symptoms, duration, frequency, precipitating, aggravating and relieving factors, associated generalised symptoms pertaining to otological complaints, and central nervous system are looked into.

An ENT, central nervous system and general clinical examination including blood pressure recording were checked.

2. The otoneurological examination

3. The investigations with special emphasis on:

i. Haematological investigation

Complete blood count (CBC), fasting blood sugar (FBS), ESR, Sickle cell test and serological test for syphilis.

ii. Radiological investigation

X-rays of mastoid, with special emphasis on the Internal Auditory Meatus, temporal bone, cervical spine (A.P and lateral views), CT scan, MRI or others related invasive radiological tests.

iii. Audio-vestibular investigations looked into included:

1. Pure tone audiogram
2. Tympanometry and stapedial reflexes
3. Caloric test
4. Electronystagmography
5. Brainstem evoked response audiometry
6. Balance and positional tests

RESULTS

A total of 110 consecutive patients, with dizziness as the main complaint were seen in the ENT clinics. Their

Table 1
Source of referral of patients with dizziness

Source of referral	No	%
Medical department	14	12.73
Emergency room	32	29.1
Other hospitals	28	25.45
Neurology	5	4.54
Psychiatry	1	0.9
Cardiology	1	0.9
Unknown	29	26.4
Total	110	100.00

ages ranged from 20 to 80 years with a mean of 50 years. Sixty eight were males and 42 females, a sex ratio of 1.5:1. The duration of their complaint ranged from a few weeks to a number of years, with a mean of 20 years. The source of referral was known in 81 patients only (Table 1). A group of 58 patients showed associated symptoms of which half (33) were relevant to the main complaint.

As to the otological complaints, 56 patients were asymptomatic while the remaining presented with hearing loss, tinnitus, discharging ears, fullness or earache (Table 2).

The clinical findings were not recorded in 3 patients. Of the remaining 107 patients, 81 were normal, 10 had positional nystagmus, 10 had tympanic membrane perforation with discharge (some with infected cavities) and 6 had unrelated illnesses.

The results of different hearing test batteries showed missing data in 10 cases. In the remaining 100 patients 51 had normal hearing, 42 bilateral or unilateral sensorineural hearing loss and 7 bilateral or unilateral conductive hearing loss.

Table 2
Other otological complaints

Type of complaints	No	%
Hearing loss & Tinnitus	31	28.2
Discharge & hearing loss	10	9.0
Earache	8	7.3
Free of complaints	56	51
Missing data	5	4.5
Total	110	100.0

Table 3
Diagnosis/specific causes

<i>Pathology</i>	<i>No</i>	<i>%</i>
Cholesteatoma	10	9.2
Menieres	13	11.82
Cervical spondylosis	11	13.63
Cardio/vascular	12	13.63
BPPV*	12	10.9
Vestibular neuronitis	3	2.72
Ototoxicity	2	10
Post concussion	11	10
Stroke	1	0.9
Migraine	1	0.9
Menopause	1	0.9
CPA* Tumour	1	0.9
Unknown/idiopathic	29	26.37
Total	110	100.0

* BPPV = Benign Paroxysmal positional vertigo

CPA = Cerebello - pontine angle

As to the radiological examination, only in 34 patients x-ray procedures had been requested: of these 14 were for the Internal Auditory Meatus, 13 for cervical spine and 7 for the mastoid bone. Special studies included 30 computed tomograms and 2 magnetic resonance imaging. Out of 110 patients only 27 had a caloric test done of which 7 were abnormal. Out of these 7 only 4 had ENG as confirmatory test.

Based on the history, clinical findings and investigations, a definite diagnosis was made in only 81 patients; in the remaining 29 patients the diagnostic label was either missing, or inconclusive (Table 3).

DISCUSSION

This study shows that the number of patients with dizziness attending the ENT-OPD are relatively small, amounting to 0.7% of a total of 16000 patients attending the clinics. However, considering the seriousness of the complaint, proposing a detailed protocol of management is appropriate. The results of the pilot study shows documentation of these patients was generally inadequate, the history taken was often superficial in content and possibly irrelevant, considering that a good history may be

a keystone to further study and diagnosis; the central nervous system and general examination including the blood pressure record were either incomplete or missing; the data on associated symptoms was also inadequate having been recorded in only 15.5%.

Of the haematological data only basic investigations as CBC were available; specific tests were only rarely ordered. However, the data on otological complaints and ENT-clinical examination showed considerable fidelity having been recorded in 96%. This is perhaps, because some clinicians mistakably consider the symptoms of dizziness as a vestibulo-otological manifestation, whereas our analysed figures showed that in only 26.5% dizziness was considered relevant to otological or vestibular pathology. This conclusion is in accord with published data, that only 20-30% of dizziness is related to otological or vestibular abnormality³⁻⁵. A Similar pattern was seen in the aetiological spectrum of dizziness⁴⁻⁸.

There was little objectively or concern shown in ordering specific radiological examinations. Plain x-rays were ordered in 31%, and a quarter (27%) were subjected to CT scanning. Still fewer CT scans were ordered as confirmative tests for suspicious pathology seen on plain x-rays; perhaps an under-utilisation of imaging techniques⁵. Likewise ENG was performed to confirm abnormal caloric test in only 57% of patients, which is less than adequate. Although a tedious and critical analysis of various variables did produce a high diagnostic rate, the overall management has been deficient. This leads us to believe that, given the resources and awareness, the management of these patients can be substantially improved. Moreover, the strategy of a structured clinic with predetermined protocol would form a learning situation for the practicing as well as training physician.

A review of the recent literature on the subject shows that a number of ENT centres in the world run a combined session or clinic jointly with neurosurgery, medicine, neurology^{2,5,6}. This concept, not only, streamlines the specialised management of these patients, but is integral to a standard teaching and training curriculum. Moreover, it is a method par excellence for gathering data for research.

In a relatively young department as ours, we do not, as yet have such an establishment (multi-disciplinary clinic). We feel that there is an urgent need for a clear policy in order not only to safeguard the interest of the patients but also to provide a clear protocol for the treating physician and in particular the trainee resident.

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