

# DIZZINESS IN THE MALTESE COMMUNITY SETTING: THE IMPLICATIONS OF GOOD HISTORY-TAKING

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## ABSTRACT

This paper presents a retrospective analysis of 100 consecutive patients presenting with dizziness to a community-based otolaryngologist. The aim of this study was to analyze the main causes of dizziness in the community, and to correlate the symptoms with the final diagnosis.

The commonest causes of dizziness in this group were benign paroxysmal positional vertigo (BPPV), labyrinthine diseases (such as Meniere's disease and acute labyrinthitis) and brainstem vascular insufficiency. The mean age of 100 patients was 55.6 (SD  $\pm$  19.1) years. Sixty six were women and 34 were men.

Clinical assessment of the main presenting symptom was very important in distinguishing between the various categories of dizziness and helped achieve a final diagnosis. Patients with vertigo were significantly more likely to have otological abnormalities compared to those patients with other forms of dizziness ( $p < 0.0001$ ).

## INTRODUCTION

Dizziness is an important, non-specific symptom affecting up to 40% of the general population and is commoner in elderly women.<sup>1,2</sup> In a recent Swiss study which sampled 5300 individuals aged over 68 years, 7.7% of men and 12.2% of women suffered from chronic dizziness.<sup>3</sup> It is not surprising that this symptom may lead to recurrent falls in the elderly causing morbidity and disability.<sup>4</sup>

A thorough history is key to enable the medical practitioner to properly diagnose the cause of dizziness. The diversity of the aetiology of this condition renders it extremely challenging to manage and many cases in the community remain untreated.<sup>5</sup>

Causes of dizziness include lesions in the external, middle and internal ear, lesions in the vestibular

nerve and nucleus, brainstem vascular or space-occupying lesions, other vascular or degenerative disorders of the central nervous system, metabolic disorders, ocular disorders, effects of drugs and psychological disorders.

In a postal questionnaire completed by 2064 patients attending general practices in London in 1998, approximately 23% of registered patients had previously experienced dizziness. Typically these were elderly patients, half of whom also experienced anxiety disorders. Elderly patients were more likely to have cardiovascular and neurological co-morbidities and were also more likely to be taking several different medications. Dizziness in younger people tended to be related to vestibular disorders, such as BPPV or psychiatric disorders such as depression or anxiety.<sup>5</sup> In a follow-up study on 1820 individuals carried out in 2006, again in London, the same authors confirmed their previous findings. Dizzy patients who consulted their family practitioner tended to be older, unemployed, having several medicines, and suffered from other medical conditions including depression and anxiety.<sup>6</sup> Four percent of all patients registered with these general practices suffered from persistent dizziness (of at least six months' duration), and were severely incapacitated by their symptoms.<sup>6,7</sup>

Dizziness can be divided into four main categories.<sup>6</sup>

- Vertigo is defined as a sensation of unreal movement and is usually caused by a disorder of the vestibular system. Vertigo of vestibular origin is not associated with loss of consciousness and is exacerbated by movement. In the absence of a labyrinthine disorder, the doctor must look for symptoms such as dysphagia, or paraesthesiae of the face that may signify disease or injury of the central nervous system.



The other categories of dizziness describe other sensations that do not involve unreal movement. These include:

- Unsteadiness (or disequilibrium) where real movement occurs, with either a tendency to fall or instability.
- Light headedness (or presyncope) is a sensation of feeling faint and it can arise spontaneously or while the patient is changing position from lying to sitting or standing.
- Giddiness, on the other hand, usually refers to bizarre sensations which the patient finds difficult to describe, or a combination of the above. Each of these sensations may be produced by an underlying organic disease.<sup>6,8</sup>

It is important to accurately describe and distinguish the presenting symptoms as gleaned from the patient history for reasons which shall be discussed below.

Available data on dizzy patients often reflect findings in individuals assessed at tertiary institutions.<sup>4,9</sup> Such patient samples may not represent the spectrum of conditions that present in the community to the family doctor.

The aim of this study was to analyze the main causes of dizziness and to relate symptoms to the final diagnosis after assessment by a community-based otolaryngologist. These findings would be of practical benefit to the family practitioner as the study concentrates more on history-taking rather than investigations.

## PATIENTS AND METHODS

A retrospective review of 100 patients presenting with dizziness in a community-based otolaryngology practice was conducted. Since patient data were entered on the basis of an identity number, the first 100 consecutive entries were analysed. Standardized electronic medical notes were recorded on Microsoft Access. The age of population studied ranged from

Cause of Dizziness	Number of patients
Labyrinthine causes (acute labyrinthitis, Meniere's disease, vestibular neuritis, seasickness)	20
Vascular causes (vascular insufficiency, carotid atherosclerosis, anaemia, hypotension, hypertension)	20
*BPPV	18
Cervical causes (spondylosis or whiplash injury)	11
Other unidentified non-otologic cause	10
Central nervous system causes (vestibular migraine, head injury, epilepsy, multiple sclerosis, jugular bulb tumour, tension type headache)	9
Sinusitis	3
Metabolic (hypoxia, metabolic)	3
Other (wax impaction, visual problems)	4
Psychological (anxiety, depression)	2
<b>Total</b>	<b>100</b>

**Table 1.** Main causes of dizziness. \*Although BPPV is a labyrinthine cause of vertigo it is a clear cut single entity which warrants classification in its own right.

**EPLEY'S MANOEUVRE IS A VERY EFFECTIVE, NON-INVASIVE MANOEUVRE USED TO TREAT BPPV. IN ONE STUDY, THE EPLEY MANOEUVRE CURED 90% OF PATIENTS AFTER ONE TREATMENT SESSION**

Symptoms	Diagnosis	
	Otological	Non-Otological
<b>Vertigo (n=59)</b>	34	25
<b>Other (n=41)</b>	4	37

**Table 2.** The relationship between symptoms and diagnosis of dizziness.

18 to 92 years. Their data were anonymised for this study so that individual patients would not be identifiable.

Demographic data such as age and gender were collected. Symptoms and final diagnosis were also recorded. In ten patients, the final diagnosis was not established due to normal clinical findings and investigation results, although otological causes of dizziness were excluded. Three patients had dizziness of multifactorial origin and were classified according to the main cause for the sake of clarity.

Data were retrieved, stored and analyzed using Microsoft access and this data was exported to an excel spreadsheet for mathematical analysis. For comparison between vertigo group and the group with other sensation, a chi squared test was used for statistical analysis.

## RESULTS

The mean age of 100 patients was 55.6 (SD±19.1) years of which 66 were women and 34 were men. Fifty-nine patients presented with true vertigo as their main complaint, that is, with a sense of unreal movement. The rest (41 patients) presented with other symptoms such as unsteadiness, lightheadedness or giddiness as described in the introduction. The main causes of dizziness are categorized and summarized in Table 1. Ten patients had an unknown cause of dizziness where otological pathology had been excluded.

Symptoms were correlated with the final diagnosis paying attention to the presenting complaint, whether 'vertigo' or 'other' sensation (Table 2). Patients with an otologic diagnosis of dizziness included those with BPPV and labyrinthine origin. Four patients with an otologic cause had a dizzy sensation which was not vertigo.

Twenty five patients with vertigo had a non-otologic cause of their symptoms such as vascular or cervical while 37 patients with vascular, cervical, metabolic or other cause of dizziness had a sensation which was not vertigo. Patients presenting with vertigo were significantly more likely to have an otological



diagnosis whereas patients presenting with other types of dizziness were significantly more likely to have a non-otological diagnosis, such as vascular insufficiency or central nervous system disorders ( $p < 0.0001$ ).

## DISCUSSION

Dizziness is a difficult complaint to analyze because it can arise from a large number of causes, or can even occur as a result from combinations of such causes. In the latter case, it may be difficult to assess the proportion that each cause contributes to the patient's symptoms. The elderly, for example, are particularly prone to cervical spondylosis, inadequate carotid and vertebrobasilar arterial blood supply, and metabolic dysfunction such as hypoglycaemia or hypoxia due to airway or chronic lung pathology.

It is important to take a detailed history of the patient's presenting symptoms. In this study, patients presenting with vertigo were significantly more likely to have an otological cause of their symptoms while other types of dizziness were more likely to be due to non-otological causes such as vascular or central nervous disorders.

The commonest single cause of vertigo in this investigation was BPPV which affects all age groups but is more common in the elderly.<sup>10</sup> Concurrent vascular conditions like hypertension and metabolic conditions such as diabetes may prolong recovery time or increase the likelihood of relapse in BPPV patients.<sup>11</sup> Epley's manoeuvre is a very effective, non-invasive manoeuvre used to treat BPPV. In one study, the Epley manoeuvre cured 90% of patients after one treatment session.<sup>12</sup>

Vestibular migraine is a migraine variant characterized by spontaneous episodic vertigo lasting seconds to days and may not always be associated with headaches. It is a common cause of spontaneous episodic vertigo where the pathophysiology is thought to affect the central or peripheral vestibular system.<sup>13</sup> Prophylactic drugs such as beta-blockers or anticonvulsants, besides non-pharmacological treatments such as sleep and avoidance of triggers are most useful in the management of this vestibular migraine.<sup>13</sup>

Vascular insufficiency of the vertebrobasilar vessels, transient ischaemic attacks and migraine may all present as positional vertigo or vertigo without neurological signs. Cerebellar ischaemia, for example, may bring about symptoms of acute vertigo.<sup>14</sup> In a study conducted by Cloutier and Saliba,<sup>15</sup> up to 52% of patients with isolated vertigo of unclear aetiology had posterior circulatory anomalies. This may explain at least a proportion of

the 10 patients in this study who had dizziness of unknown origin.

Epidemiological studies have shown dizziness to be commoner in women and the present study supports this finding.<sup>10</sup>

Dizziness is often associated with anxiety and agoraphobia, the latter being more prevalent in older patients. It is also one of the leading symptoms of panic disorder accompanied by hyperventilation. Yardley et al.<sup>5</sup> found that more than half of the patients with anxiety also experienced dizziness. Patients who reported dizziness when they were not suffering from anxiety were more likely to have true vertigo.<sup>5</sup>

This study studied the key presenting complaint in 100 patients with dizziness and compared this with the end diagnosis. It is not a large study in terms of numbers and was not prospective. However, it examined in a detailed qualitative way the symptoms, examination findings, outcome and final diagnosis in a sizable group of dizzy patients presenting in a community setting in Malta, where such data has previously not been collected.

## CONCLUSION

Dizziness is very common in the community, generally affecting the elderly and is more common in women. The clinical history is important in distinguishing the actual sensation described by patients as this is significantly related to the final diagnosis. Differentiation of true vertigo as a sensation of unreal movement in contrast with other sensations of dizziness is very useful in the clinical setting but requires practice in history-taking and experience. ❖

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