



First visit management of Benign Paroxysmal Positional Vertigo in the Royal Medical Services - Jordan Armed Services.

Raed Akayleh¹, Sufian Alnawaiseh^{1*}

¹Department of ENT, Royal Medical Services, Amman, Jordan.

Abstract

Benign paroxysmal positional vertigo (BPPV) is the most frequent vestibular disorder encountered in ENT practice. It occurs spontaneously due to involvement of the posterior semicircular canal by dislodgement of Otolith. Our objective is to study the referral routes of BPPV patients, the utilized time in treatment and the used modalities of treatment. This retrospective study was done in Prince Hashim Military Hospital (Zarqa). A total number of 138 patients with benign paroxysmal positional vertigo treated at ENT clinic over 36 months starting from April 2008 till April 2011. Routes of referral, time utilized since the start of the symptoms and methods of treatments were all evaluated. Out of 138 patients with BPPV, 84 (61%) came from outpatient clinics, 34 (25%) were referred from the Emergency department, 20 (14%) received as consultations from other specialties. Only two patients had been referred with a definite diagnosis of benign paroxysmal positional vertigo, the others were referred with unspecific diagnosis of dizziness. The mean duration of vertigo symptoms before treatment was 2 weeks. This time was the longest for patients coming from the outpatient clinics (4 weeks) comparing with other routes of referral. Canalith repositioning maneuver gave 90% success rate. After the first maneuver 60% of patients (83) responded in the first 7 days. Using vestibular habituation training resulted in 90% success rate in the first month. Providing clear guidelines for the diagnosis and encouraging early referral combined with proper treatment are essential for reducing the needed time to obtain a satisfactory result and quick return of patients to their normal activities leading to improvement of their quality of life.

Key words: Benign paroxysmal positional vertigo, Otolith, Canalith repositioning maneuver. Vestibular habituation training.

*Corresponding Author: Dr Sufian Alnawaiseh, Department of ENT, Royal Medical Services, Amman, Jordan. Email: sufiannawaiseh@hotmail.com

Received: April 24, 2014 Accepted: May 18, 2014. Published: May 20, 2014. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

Introduction

Benign paroxysmal positional vertigo (BPPV) is a common condition of the inner ear and, according to current hypotheses, it appears as a result of otoconia migrating into the semicircular canals or

adhering to the cupola of these canals. Otoconia are inorganic crystalline deposits embedded in the surface of the otolytic membranes of the utricle and the saccule [1]. Bárány was the first who described it as benign paroxysmal positional vertigo (BPPV) in 1921 [2]. The incidence of BPPV is estimated to range between 11 and 64 cases /100000 inhabitants / year [3], which represents up to 40% of the consultations for dizziness/vertigo [4, 5].

Despite the success made in the management of BPPV, it is still encountered in the daily ENT practice and frequently in the neurology and general practices, sometimes easy and other times hard to evaluate. As a result of that, it is the most researched topic in Otoneurology and needed to be further studied and researched. The aim of this study is to gain knowledge of the distinctiveness of time and way of transfer of patients having paroxysmal

positional symptoms, duration of the spell that led them to our clinic, time past since the start of the symptoms and methods of treatment.

Materials and method

This retrospective analysis of 138 patients with BPPV treated at ENT clinic in Prince Hashim Military Hospital over 36 months starting from April 2008 to April 2011, in order to evaluate the routes of referral, the utilized time since the start of symptoms and the methods of treatments (vestibular habituation training and Canalith repositioning maneuver).

A thorough clinical history was taken from the records of medical histories and included: age, gender, duration of symptoms (the duration of present spell that forced them to come to clinic), and path of arrival at the ENT clinic, presence of head trauma, concomitant vestibular disorder and treatments received on that path.

Results

A total number of 138 patients were included in this study with male to female ratio 1:1.75 and mean age 61 years. 84 (61%) patients out of 138 came from outpatient clinic as a routine way, 34 (25%) were referred from the Emergency department, 20 (14%) were received as consultations from other specialties. Out of the total number 2 (1%) patients had been referred with a definite diagnosis of BPPV. 96 (70%) of cases were considered idiopathic. 28 (20%) had vestibular disorders, 12 (9%) with head trauma.

The mean duration of symptoms prior to examination in our clinic was 2 weeks. Patients’ arriving through the regular way was longer, average 4 weeks, and average of one day for patients arriving from the emergency room. Patients who were received as consultations from other specialties had an average duration time of three weeks.

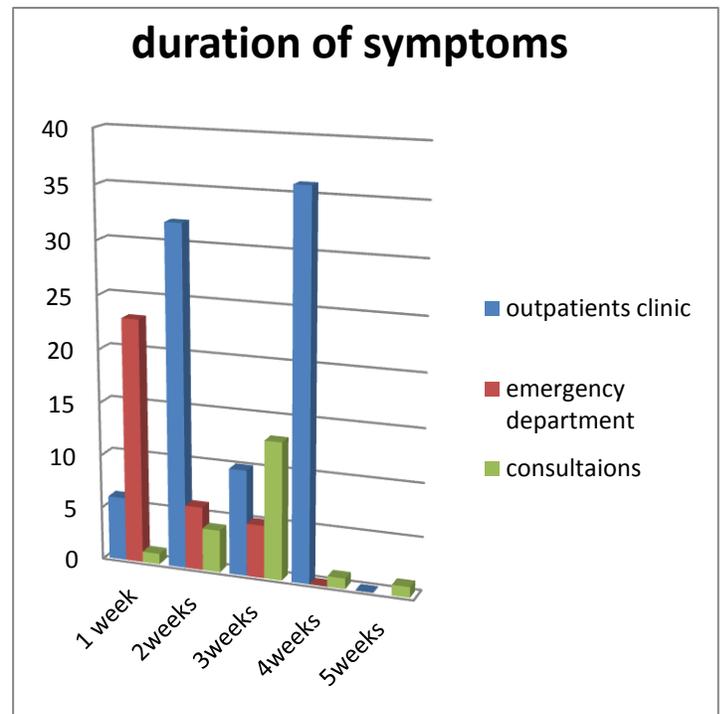
The biggest number of patients was from the routine route, and this gave us the opportunity to analyze them deeply. Among them we could see variable types of causes and also the needed time for referral. Most of the patients, who were referred by conventional way, were treated by first examining doctor by vestibular sedatives (mainly thiethylperazine and/or sulpiriden) in the first visit. After that if no improvement then primary

investigations including cervical spine x-ray were done. Some patients underwent also Brain and cervical CT scan or MRI, a long standing treatment using peripheral vasodilators (mainly betahistine and cinnarizine) were alternatively used to eliminate the symptoms.

Canalith repositioning maneuver gave 90% success rate. After the first maneuver 60% of patients (83) responded in the first 7 days. Using vestibular habituation training resulted in 90% success rate in the first month.

Table 1: Referral routes and diagnosis

Referral route \ Dx	Emergency department	Outpatient clinic	Consultati on referrals	Total
BPPV	0	2 (1.4%)	0	2 (1%)
Vestibular disorders	6 (4.3%)	12(8.7%)	10 (7.2%)	28 (20%)
Head trauma	10 (7.2%)	0	2(1.4%)	12 (9%)
Idiopathic	18 (13%)	70 (50.7%)	8 (5.8%)	96 (69.6%)
TOTAL	34 (24.6%)	84 (60.8%)	20 (14%)	138



Discussion

In this study we gave attention to the time duration of the symptoms and the management done to patients before their specific therapy. In the literature the clinical courses last so longer compared to our study. The study of Nunez et al [6] (168 cases) revealed an average of 30.4 months calibrating between 1 day and 22 years. Steenerson et al [7] studied over 923 cases with average delay 30 months. Fife et al [8] in his article on 20 patients, an average of 98 weeks was founded, while in our study this time duration was 2 weeks, which is significantly shorter, that is may be due to the absence of primary medical care in the Royal Medical Services, patients come directly to the ENT clinic and the majority of patients with dizziness in the internal medicine branches clinics are referred directly to the ENT clinic to rule out possible ENT causes. This duration of time was defined as the time which elapsed since the patient had the first symptom consistent with BPPV, which justifies such long periods, since 60% of BPPV cases occur in crisis episodes, with spontaneous remissions and relapses.

The time duration of 2 weeks is an inappropriately long and our assumption is as others: there is a significant unawareness of the BPPV management (diagnosis and therapy). Von Brevern et al [9] in Germany did a research through telephone surveys and he instituted that, in patients with BPPV, only 27% had been subjected to positional studies and that only 10% had received specific treatment (and these were Brant-Daroff exercises, instead of repositioning maneuvers). It was also established in his research that 8 patients were admitted via the emergency department.

In our study 34 patients were referred from the emergency room to our clinic, with 11 patients admitted from emergency department. BPPV is usually an out-patient state which does not need advanced diagnostic or therapeutic procedures. Having patients suffering of annoying disbalance associated with nystagmus and inability of patients to walk along with unresponsiveness to treatment, taking into consideration the unawareness of first line care and emergency department doctors of its diagnosis, all of that lead to their admission.

The patients who were referred from the ER department got a shorter time for referral, because they got the opportunity to be seen by the specialist,

and as a result of that they had shorter period time of complains. In this study we compared and evaluated the routes of their referral and the time utilized since the start of their symptom. We analyzed the time elapsed until referral in relation with etiology which indirectly tells us what kind of symptoms can lead the patients to seek for referral to ENT clinic, we saw that the existence of a possible cause explaining away the symptoms of the patient produced a degree of “peace of mind.” In other words, it is considered normal for vestibular neuritis, especially if it occurs in an aged patient, to take a long time to recover.

However, the absence of a potential cause to explain the process causes concern and leads to an early referral, as in idiopathic cases and those associated with relapsing vestibulopathy, where the main cause of referral is precisely the repetition of episodes of vertigo, which are not differentiated from paroxysmal positional symptoms. Therefore the cause of referral is precisely the failure to find a justification for the symptoms and not being able to identify or suspect a BPPV.

Conclusions

Benign paroxysmal positional vertigo is a vague and hard diagnosis for non specialist, although it is too much handled in the day practice of first line care and Emergency departments. BPPV is an annoying problem for patients not diagnosed yet. This Diagnosis is easy and not costly in the hands of specialist, and demands no excessive unnecessary tests. Out of these facts it is of great significance providing correct guidelines for easy diagnosing patients with benign paroxysmal positional vertigo and early referral of them in addition to proper treatment, which are essential for reducing time necessary to obtain a satisfactory result and quick return of patients to their normal activities leading to improvement of their quality of life.

References

1. Ross MD, Pote KG, Perini F. Analytical studies of the organic material of otoconial complexes, including its amino acid and carbonate composition. In: Drescher DG, editor. *Auditory biochemistry*. Springfield: Charles C. Thomas; 1985.
2. Bárány R. Diagnose von Krankheitserscheinungen in Bereiche des

Alkayleh R, Alnawaiseh S. (May 2014). First visit management of benign paroxysmal positional vertigo in the Royal Medical Services – Jordan Armed Services. *Jour of Med Sc & Tech*; 3(2); Page No: 75 –78.

- Otolithenapparates. *Acta Otolaryngol* (Stockh). 1921;2:434-437.
3. Suzuki AR, Herdman SJ, Tusa RJ. Diagnóstico y opciones terapéuticas del vertigo posicional paroxístico benigno (VPPB). *Acta Otorrinolaringol Esp*. 1999;50:106-117.
 4. Parnes LS, Agrawal SK, Atlas J. Diagnosis and management of benign paroxysmal positional vertigo (BPPV). *JAMC*. 2003;169:681-693.
 5. Steenerson RL, Cronin GW, Marbach PM. Effectiveness of treatment techniques in 923 cases of benign paroxysmal positional vertigo. *Laryngoscope*. 2005;115:226-231.
 6. Nunez RA, Cass SP, Furman JM. Short- and long-term outcomes of canalith repositioning for benign paroxysmal positional vertigo. *Otolaryngol Head Neck Surg*. 2000;122:647-652.
 7. Steenerson RL, Cronin GW, Marbach PM. Effectiveness of treatment techniques in 923 cases of benign paroxysmal positional vertigo. *Laryngoscope*. 2005;115:226-231.
 8. Fife D, FitzGerald JE. Do patients with benign paroxysmal positional vertigo receive prompt treatment? Analysis of waiting times and human and financial costs associated with current practice. *Int J Audiol* 2005;44:50-57.
 9. von Brevern M, Radtke A, Lezius F, Feldmann M, Ziese T, Lempert T, et al. Epidemiology of benign paroxysmal positional vertigo. Apopulation-based study. *J Neurol Neurosurg Psychiatry*. 2006;78:710-715.