COMPARISON BETWEEN EPLEYS MANOEUVRE AND PROCHLORPERAZINE MALEATE IN TREATMENT OF BENIGN PAROXYSMAL POSITIONAL VERTIGO
Shadzad Nayyar**
Combined Military Hospital Khuzdar, *Combined Military Hospital Zhob, **Combined Military Hospital Rawalpindi

ABSTRACT

Objective: The objective is to compare the efficacy of Epley’s maneuver and vestibular sedative, prochlorperazine maleate in the management of benign paroxysmal positional vertigo (BPPV).

Study Design: Randomized Control Trial.

Place and Duration of Study: ENT department, Combined Military Hospital, Rawalpindi from 1st May 2011 to 1st November 2011.

Patients and Methods: After consent, 60 patients of BPPV fulfilling the inclusion criteria were randomly allotted two groups. Group A was treated with Epley’s maneuver (n=30) while group B with prochlorperazine maleate (n=30). Outcomes were analyzed on disappearance of vertigo at follow-up examination.

Results: 24 (80%) cases managed by Epley’s maneuver showed relief of symptoms while only 14 (47%) treated by prochlorperazine maleate showed recovery after 15 days.

Conclusion: Epley’s maneuver was more effective than vestibular sedatives like prochlorperazine maleate in treating patients of BPPV.

Keywords: Benign Paroxysmal Positional Vertigo, Dix-Hallpike, Epley’s Maneuver, Prochlorperazine Maleate.

INTRODUCTION

Benign paroxysmal positional vertigo (BPPV) is characterized by transient episodes of vertigo associated with nystagmus, precipitated by changes in head position with respect to gravity. It is the most common vestibular disease effecting women more frequently than the men. It can affect any age group, with the peak incidence occurring in the sixties and seventies. The two main hypothesis; which explain the development of BPPV are the cupulolithiasis and canalithiasis theory, which is based on the presence of free-floating debris in the lumen of the canal which is the cause of vertigo. It can be “idiopathic” or “secondary” due to head trauma, ‘vestibular neuronitis’ meniere’s disease and Cogan’s syndrome.

Although mostly BPPV is self-limiting the management has changed dramatically in the past. Dix-Hallpike test is done to induce vertigo and diagnose the disease. Traditionally, patients are instructed to avoid positions which induce their symptoms. Vestibular sedatives like prochlorperazine maleate (PCPM) are also prescribed for symptomatic relief which may have central side effects. Several noninvasive techniques are advocated to correct the pathology directly, which include maneuver by Semont and Epley, both aim at dislodging inorganic fragments located on the cupula of the posterior canal or floating in the canal.

Although, Epley’s maneuver (EM) is now widely practiced and considered very effective but a trend has been noticed to treat the disease with medication and moreover, advise vestibular sedatives following the maneuver. The purpose of this study was to compare the efficacy of EM and PCPM in the management of BPPV so that better treatment modality is opted and unnecessary medications are avoided which generally patients observed using for months.

PATIENTS AND METHODS

These randomized controlled trials were conducted at Combined Military Hospital Rawalpindi from 1st May 2011 to 1st November 2011 after prior permission from hospital ethical committee. Sixty patients with BPPV...
were included using WHO sample size calculator 2.2a, keeping P1 92%, P2 65%, power 80% and level of significance 5%. Informed written consent was taken from all the patients. The cases were selected after detailed history and examination. Both males and females between 25 to 70 years of age having no hearing loss on pure tone audiometry were included after being diagnosed as a case of BPPV by Dix-Hallpike test on 1st visit. However, patients with tinnitus, aural fullness, recent head or neck injury, cervical spondylosis or associated medical illnesses including Diabetes Mellitus, Anemia and cardiovascular disorders like Ischemic Heart Disease, Hypertension, Carotid artery stenosis and Postural hypotension were excluded from the study.

**Dix-Hallpike**

Patient was made to sit on a couch. Examiner held the patient's head turned to 450 towards right side and then placed the patient in a supine position so that his head hanged 300 below horizontal. Nystagmus or vertigo was noticed in the patient. Procedure was repeated for the left side. Patients were randomly divided into 2 groups of 30 each using random number table. Group A was treated with EM. **Epley’s maneuver**

The examiner waited till the symptoms of vertigo and nystagmus which appeared on Dix-Hallpike test, e.g., for right side, subsided. Then head was turned so that affected ear was up. The whole body and head were rotated away from the affected ear to a lateral recumbent position in a face-down position. Finally the patient was made to sit in upright position with head still turned to the unaffected side by 450. The head was now turned forward and chin was brought down 200.

While group B was treated with PCPM (5 mg) 1 tablet thrice daily.

The patients were examined on 15th day. The results of the study were decided on the basis of reduction / absence of vertigo on repeating Dix-Hallpike test on 15th day of the start of treatment using visual analogue scale (1-10) which was as follows:

- No vertigo: 0
- Mild vertigo: 1-4
- Moderate vertigo: 5-7
- Severe vertigo: 8-10

The method with absence / reduced subjective symptom of vertigo was termed as more effective.

Data analysis was done using SPSS version 10. The quantitative variables were described as mean and standard deviation (SD). Qualitative variables like gender, VAS scale of vertigo at baseline i.e. 1st day & 15th day and efficacy of a technique were presented as frequency and percentage. Chi square test was used to compare the efficacy between both groups. A p-value < 0.05 was considered significant.

**RESULTS**

The mean age in group A was 41.67 ± 7.92 years having minimum age of 28 and maximum age of 55 years. In group B, mean age was 42.38 ± 9.897 years, ranging from 26 to 64 years. There were 23 (77%) females and 7 (23%) males in group A and 21 (70%) females and 9 (30%) males in group B. Both the groups are comparable with respect to age (p = 0.760) and gender (p = 0.770).

Majority of the patients presented with moderate vertigo initially i.e. 53% in group A and 47% in group B while 37% patients in group A and 40% in group B had severe vertigo. Only 10% patients in group A and 13% in group B presented with mild vertigo on 1st day as shown in Fig-I. (p = 0.852)

There was significant difference between cure rate of treatment groups after 15 days of treatment. In group A, the complete cure rate was significantly higher as compared with group B i.e. 80% vs. 47% (p = 0.028)

In group A, only 6% patients remained with severe vertigo and in group B 13% remained with severe vertigo as shown in figure 2. The proportion of patients with moderate vertigo was also very high in group B (23% vs 3%) in comparison with patients in group A (p = 0.036)
**DISCUSSION**

The symptoms of BPPV are very disturbing and can be disabling. Patients affected can become so alarmed by the symptoms that they do not get out of bed or carry out their daily activities and may confuse it with stroke. Some present with these symptoms to their primary care physician.

Different studies revealed that disease was more common in 41 to 60 years of age. In another study it was found that idiopathic BPPV is prevalent in the sixth decade while post viral are common in the fourth and fifth decades. In Brandt’s series, BPPV was considered as very common in elderly patients, especially around age 70 years; at this age, 30% of cases had presented this disease at least once.

In our study it was found that the mean age of patients was 41.67 with a SD of 8.879. The minimum age was 26 while maximum was 64 years. The results show that majority of patients were in the age interval of 40 to 52 years.

Treatment of vertigo is 60–80% effective with EM. Chronic drug administration has no role in the management of BPPV. Watchful waiting or vestibulosuppressant medication is being used as the first line treatment measure in most of the cases. Although the condition resolves without treatment, watchful waiting involves weeks or months of discomfort and vertigo with the danger of falls and other mishaps.

Although EM requires a little bit of time to be spent with the patient but it is cost-effective and rids the patient immediately of the troublesome vertigo after a single therapy. It addresses the underlying cause of positional vertigo by repositioning of the offending particles back to the utricle. EM doesn’t bear any major complications or side effects and can be repeated if required.

Our results suggest EM to be a highly effective single treatment approach towards BPPV as 80% of our patients were found to be totally symptom free at the end of two weeks, who were treated by the maneuver.

These results are very much in compliance with other studies conducted in different settings. A study conducted in USA showed a higher rate of success for the treatment of BPPV. According to this study the efficacy was 93.4%. All these patients completely recovered from vertigo after Epley’s maneuver.

A randomized clinical trial conducted in Royal United Hospital, UK proved that patients who received the EM were more likely to have complete resolution of their symptoms (odds ratio 4.92) and more likely to convert from a positive to negative Dix-Hallpike test with odds ratio of 5.67.

Vestibulosuppressant medication on the other hand does not address the underlying cause although it may provide temporary relief for some patients by masking the
symptoms. These medicines are not free of side effects and may itself cause dizziness and sleepiness. From the literature some studies have shown effectiveness against the vertigo. The efficacy of PCPM in a clinical trial was noted to be 64.5% along with head exercise, but in 11% patients adverse effects were noted.

In the present study out of 30 patients treated with PCPM only 47% patients become completely free of symptoms of vertigo which is significantly less efficient than EM.

**CONCLUSION**

EM is a non invasive and very effective procedure for the management of BPPV which can be performed in the office and gives immediate results without any fear of complications. Moreover, it is highlighted that the custom of advising vestibular sedatives to patients of BPPV should be curbed.

**CONFLICT OF INTEREST**

The authors of this study reported no conflict of interest.

**REFERENCES**