EFFICACY OF SEMONT MANOEUVRE VERSUS EPLEY MANOEUVRE IN BENIGN PAROXYSMAL POSITIONAL VERTIGO

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ABSTRACT

Objective: To compare the efficacy of Semont manoeuvre versus Epley manoeuvre in the management of benign paroxysmal positional vertigo.

Study design: Interventional Quasi experimental study

Place and duration of study: ENT OPD Combined Military Hospital Rawalpindi from 1st January 2007 till 30th June 2007.

Results: Of the 30 cases managed by Semont manoeuvre, 25 showed complete relief of symptoms after 01 month. Out of 30 cases managed by Epley manoeuvre, 28 cases showed complete recovery after 01 month. The results were compared by Chi square test, as the data was mainly qualitative in nature. The results of both the groups were compared on day 3, day 7 and day 30, which revealed that both the Semont and Epley manoeuvre are equally effective in treatment of BPPV.

Conclusion: Both Epley and Semont manoeuvre are equally effective for treating the patients of benign paroxysmal positional vertigo.

Keywords: Benign Paroxysmal Positional Vertigo, Dix-Hallpike Test, Epley Manoeuvre, Semont Manoeuvre.

INTRODUCTION

Vertigo and dizziness are common symptoms in the general population[1]. Benign paroxysmal positional vertigo (BPPV) is characterized by brief but violent attacks of paroxysmal vertigo provoked by certain positions of the head. BPPV is the most common cause of vertigo, resulting from migration of otoconia into the semicircular canals[2]. The age of onset is most commonly between the 5th and 7th decade of life. About half of the patients with severe traumatic brain injury who complain about positional vertigo suffer from BPPV.[3]

It is the change in head position which provokes an episode of BPPV. The episode occurs when the patient rolls over onto the affected side or tilts the head back while looking in upward direction. It may be accompanied by episodes of severe nausea and vomiting. The Dix-Hallpike test is positive when an anticlockwise rotatory nystagmus occurs towards the under most ear.

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Received: 04 Mar 2009; Accepted: 13 July 2010

Treatment of Benign Paroxysmal positional vertigo is based on Semont manoeuvre and Epley manoeuvre. Most cases of Benign Paroxysmal positional vertigo are self-limiting[4]. Studies have shown that canal repositioning procedures remain an efficient and long lasting noninvasive treatment of Benign Paroxysmal Positional Vertigo[5]. However still some controversy exists as to whether these manoeuvres actually have an effect other than central habituation. Moreover resistant cases and variants of the disease remain a significant problem.[6]

PATIENTS AND METHODS

This study was conducted in ENT OPD Combined Military Hospital Rawalpindi from 1st January 2007 till 30th June 2007. All cases of benign paroxysmal positional vertigo diagnosed by Dix Hallpike test. The age range was 20- 75 years patients having recent head or neck injury and diagnosed case of cervical spondylosis were excluded.

Contributions

Al first history of the patients was taken about duration of vertigo, its severity, associated hearing loss and tinnitus. Detailed examination of ear was done. Dix Hallpike test was done to confirm the diagnosis. After

obtaining informed consent patients were allocated into two groups by using random number tables. Group A were treated with Semont manoeuvre. The manoeuvre began in the sitting position and the head turned away from the affected side. The patient was then quickly put into a position lying on his or her side, towards the affected side with his or her head extended upwards. After about five minutes, the patient was quickly moved back through the sitting position on to the opposite position lying on his or her side with his or her head now facing downwards. The patient remained in this second position for five to ten minutes before slowly being brought back to the sitting position to complete the manoeuvre.

Group B was treated with Epley manoeuvre which started with the patient in head upright position. Then the Dix Hallpike provoking position was assumed. The eyes were observed for nystagmus until it stopped. Then after thirty seconds the head was turned towards the opposite side while keeping the head extended for three seconds and then patient rolled into lateral position. In this position the head position was in 180 degrees opposite to initial Dix Hallpike position. After the disappearance of nystagmus for 30 seconds maintaining the head position the patient was rapidly brought to sitting position with head rotated forwards. The patient was kept in this position for one minute to complete the Epley manoeuvre.

The patients were examined on 3rd day, 7th day, 30th day and efficacy of treatment was recorded.

Statistical Analysis

All the collected data was transferred on SPSS Version 15 for analysis. Mean and standard deviation were calculated for quantitative data. Frequency and percentage were used for qualitative data. Chi-square test was used to compare qualitative variable while independent sample t-test was used for comparison at qualitative variables between the groups. P-value <0.05 was considered as significant.

RESULTS

The age of patients in this study was from 20 years to 75 years. The mean age of patients in group A was 41.1 year (SD=8.6) while the mean age of patients in group B was 45.14 years (SD=9.46). Group A 17 (56.7%) were females while 13 (43.3%) were male. Group B, 18 (60%) were females while 12 (40%) were male. In a total of 30 patients in group A, 3 (10%) patients had hearing loss and one (3.3%) patient had tinnitus. Five (16.7%) patients had feeling of nausea when they were undergoing treatment manoeuvres for BPPV. In a total of 30 patients in group B 4 (13.3%) patients had hearing loss and 1 (3.3%) patient had tinnitus. 4 (13.3%) patients had feeling of nausea when they were undergoing treatment manoeuvres for BPPV.

Group A was treated with Semont manoeuvre. Out of the 30 patients 17 patients became free from vertigo on the Dix Hallpike test on day 3 while out of the remaining 13 patients 4 patients further became free from vertigo on the Dix Hallpike test on day 7. After 30 days a total of 25 patients out of 30 were free from vertigo on the Dix Hallpike test.

Group B was treated with Epley manoeuvre and out of these 30 patients, 19 became free from vertigo on the Dix Hallpike test on day 3 while out of the remaining 11 patients, 3 further became free from vertigo on the Dix Hallpike test on day 7. After 30 days a total of 28 patients out of 30 were free from vertigo on the Dix Hallpike test. Difference in results was insignificant between both the groups on day 3 (p value=0.26), day 7 (p value=0.08) and day 30 (p value=0.3). Hence the results revealed that both the Semont and Epley manoeuvre are equally effective in treatment of BPPV. (Table)

DISCUSSION

Vertigo and dizziness are common symptoms in the general population. A minimum of 20% of all patients complaining of

Table: comparison of Freedom from Vertigo on day 30,

Groups	Freedom from vertigo on Dix Hallpike test	
	Yes	No
GROUP A (n=30)	25 (83.3%)	5(16.7%)
GROUP B (n=30)	28(93.3%)	2(6.6%)

P=0.30

vertigo have BPPV. Due to increased incidence and prevalence of BPPV a large number of studies have been conducted internationally about the effectiveness of various treating manoeuvres. Prokopakis et al[5] assessed the long-term efficacy of Epley manoeuvre in the treatment of patients with BPPV. 544 (92%) of 592 patients treated reported no symptoms of vertigo after one month revealing the efficacy of Epley manoeuvre. In our study we were also able to achieve 93.3% cure of BPPV from Epley manoeuvre.

Richard et al[7] assessed the efficacy of the Epley manoeuvre in a study of 81 patients with posterior semicircular canal BPPV. A group of 61 patients underwent the manoeuvre, while a control group of 20 patients received no therapy. All patients were evaluated at 1 and 6 months. The percentage of patients who experienced subjective improvement was significantly higher in the treatment group at both 1 month (89% vs. 10%) and 6 months (92% vs. 50%). Three patients in the treatment group who did not improve after treatment underwent a second manoeuvre, and all achieved a positive result. The results of this study support our study regarding the efficacy of Epley manoeuvre.

Pérez Vázquez P et al.[8] conducted a study that included 37 consecutive cases of BPPV treated with the Epley manoeuvre. 97% of patients improved and the manoeuvre was well tolerated. Ruckenstein[9] showed 74 percent of cure rate in patients that were treated with one or two Epley manoeuvres.

Lynn et al[10] reported a success rate of 89 percent after a single treatment session with Epley manoeuvre, as compared with a success rate of 23 percent in an untreated control group. Ahmed et al reported 79.7% recovery in BPPV patients after single treatment with Epley manoeuvre[11].

Vaz Garcia[12] conducted a study involving 175 patients from both sexes. All suffered from BPPV and were treated with by Semont manoeuvre. The study revealed that one-week after Semont manoeuvre 79% of patients was cured. The success rates of Semont manoeuvre are similar to our study.

Pospeich[13] presented the results of rehabilitation with the use of Semont and Epley manoeuvres in 46 patients. The regression of symptoms in 24 cases treated with the use of Semont manoeuvre was achieved in 62% and in 73% cases treated with the use of Epley manoeuvre. Although this study showed significant success rate of both the manoeuvres but in our study we had even better results. Niamatullah and Yousaf N [14] documented 70% cure rates with Semont manoeuvre and 57% cure rates with Epley manoeuvre. Moreover we observed a predominance of female subjects (58.3%), which is also according to the literature reports[15]. However inspite of the clear female predominance, the studies do not reveal any statistically significant differences between genders.

The mean age of patients in our study was 43.12 and there were associated symptoms of tinnitus and hearing loss in 3.3% and 11.6% of the patients respectively. These associated features of tinnitus and hearing loss in patients were most probably representing the co-morbidities of older age.

CONCLUSION

BPPV is the most common cause of peripheral vertigo and it can be easily diagnosed in outpatient department by Dix Hallpike test. Epley and Semont manoeuvres both are equally effective for majority of patients with BPPV.

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