



ORIGINAL RESEARCH PAPER

ENT

DEMOGRAPHY OF SINGLE CANAL BENIGN PAROXYSMAL POSITIONAL VERTIGO IN ADULTS

KEY WORDS:

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ABSTRACT

Background: Benign paroxysmal positional vertigo (BPPV) is a disorder arising from a problem in the inner ear. Symptoms are repeated, brief periods of vertigo with movement, that is, of a spinning sensation upon changes in the position of the head. This can occur with turning in bed or changing position. Each episode of vertigo typically lasts less than one minute. Nausea is commonly associated. BPPV is one of the most common causes of vertigo. Vertigo is a hallucination of movement and is very disabling and sometimes terrifying for the sufferer

INTRODUCTION:

Benign paroxysmal positional vertigo (BPPV) is one of the most common causes of vertigo — the sudden sensation that you're spinning or that the inside of your head is spinning.

Benign paroxysmal positional vertigo causes brief episodes of mild to intense dizziness. Benign paroxysmal positional vertigo is usually triggered by specific changes in the position of your head. This might occur when you tip your head up or down, when you lie down, or when you turn over or sit up in bed.

Although benign paroxysmal positional vertigo can be a bothersome problem, it's rarely serious except when it increases the chance of falls. You can receive effective treatment for benign paroxysmal positional vertigo during a doctor's office visit.

Symptoms

The signs and symptoms of benign paroxysmal positional vertigo (BPPV) may include:

- Dizziness
- A sense that you or your surroundings are spinning or moving (vertigo)
- A loss of balance or unsteadiness
- Nausea
- Vomiting

The signs and symptoms of BPPV can come and go, with symptoms commonly lasting less than one minute. Episodes of benign paroxysmal positional vertigo can disappear for some time and then recur.

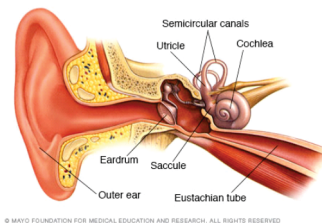
Activities that bring about the signs and symptoms of BPPV can vary from person to person, but are almost always brought on by a change in the position of your head. Some people also feel out of balance when standing or walking.

Abnormal rhythmic eye movements (nystagmus) usually accompany the symptoms of benign paroxysmal positional vertigo.

- A new, different or severe headache
- A fever
- Double vision or loss of vision
- Hearing loss
- Trouble speaking
- Leg or arm weakness
- Loss of consciousness
- Falling or difficulty walking
- Numbness or tingling

The signs and symptoms listed above may signal a more serious problem.

CAUSES



INNER EAR AND BALANCE

Often, there's no known cause for BPPV. This is called idiopathic BPPV.

When a cause can be determined, BPPV is often associated with a minor to severe blow to your head. Less common causes of BPPV include disorders that damage your inner ear or, rarely, damage that occurs during ear surgery or during prolonged positioning on your back, such as in a dentist chair. BPPV also has been associated with migraines.

The ear's role

Inside your ear is a tiny organ called the vestibular labyrinth. It includes three loop-shaped structures (semicircular canals) that contain fluid and fine, hair-like sensors that monitor the rotation of your head.

Other structures (otolith organs) in your ear monitor movements of your head — up and down, right and left, back and forth — and your head's position related to gravity. These otolith organs contain crystals that make you sensitive to gravity.

For a variety of reasons, these crystals can become dislodged. When they become dislodged, they can move into one of the semicircular canals — especially while you're lying down. This causes the semicircular canal to become sensitive to head position changes it would normally not respond to, which is what makes you feel dizzy.

Risk factors

Benign paroxysmal positional vertigo occurs most often in people age 50 and older, but can occur at any age. Benign paroxysmal positional vertigo is also more common in women than in men. A head injury or any other disorder of the balance organs of your ear may make you more susceptible to BPPV.

Complications

Although benign paroxysmal positional vertigo (BPPV) is uncomfortable, it rarely causes complications. The dizziness of BPPV can make you unsteady, which may put you at greater risk of falling.

Necessity of the current study:

The Present study extension of our previous study **Efficacy of**

Particle Repositioning Manoeuvre in Benign Paroxysmal Positional Vertigo published in the journal Int. Journal of Engineering Research and Application. In this study we are covering the Demographical factors **single canal benign paroxysmal positional vertigo in adults.**

AIMS OF THE STUDY

The present study is under taken

- To diagnose exact canal of Benign Paroxysmal Positional Vertigo
- To identify the demography of single canal Benign Paroxysmal Positional Vertigo in adults.

STUDY PLACE: Upgraded Institute of Otorhinolaryngology Madras Medical College Government General Hospital, Chennai - 600 003.

STUDY DESIGN: Prospective

STUDY PERIOD: JULY 2008 TO SEPTEMBER 2009.

INCLUSION CRITERIA :

1. Age group 14yrs to 60 yrs
2. Clinical evidence suggestive of positional vertigo.-BPPV
3. Patients willing for the study

EXCLUSION CRITERIA:

1. Age more than 60 yrs and age less than 14yrs
2. Patients on labyrinthine sedative
3. Bilateral BPPV
4. Multicanal pathology
5. Patients with acute illness like fever, hypoglycaemia
6. Patients with neck problem like cervical spondylosis
7. Patients with other causes of vertigo
8. Patients not willing for the study

RESULTS AND ANALYSIS:

Demographic details:

Fifty patients were included in the study, males were 19 (38%), females 31 (62%).(table2&chart2) female to male ratio is 1.64:1.Their age ranged between 14 and 60 years (37 years) (table1&chart1). All the patients had giddiness and were found to have a positive Dix-Hallpike/supine roll test confirming the clinical diagnosis of BPPV. In five patients (10%), nausea and vomiting were found to be associated.

Symptoms:

Two (4%) patients had history of trivial head injury. None of the patients had history of preceding viral URTI, or any associated visual, cervical or neurological complaints. Four patients (8%) were diabetic.

The patients were asked to score the negative impact of vertigo on the quality of their life and their daily activity. Pre-PRM, 11 patients (48%) gave a score of 10 (very badly affected), while post- PRM 21 patients (88%) scored 0 (No effect at all on their life). Twenty-two patients (91.7%) admitted a significant improvement post-therapy 12(24%) were presented with very severe form of vertigo and responded very well for PRM and got immediate relief and walked out comfortably from outpatient department.

The follow up period was for a minimum of six months. All the patients claimed a strict compliance with post-PRM manoeuvre's instructions after the procedure. When interviewed at the time of conducting the study, the vast majority of the patients claimed a dramatic improvement reflected in complete cessation of vertigo in 45 patients (90%). In the remaining 5 patients, 4 patients showed improvement at the end of 1 week and one patient claimed no relief at all. Even though literature claims up to 30% of recurrence within one year in our study no patient had recurrence within this six months follow up.

TABLES

TABLE 1:AGE DISTRIBUTION

AGE	14-20	21-30	31-40	41-50	51-60
NUMBER	6	5	15	13	11
PERCENTAGE	0.12	0.1	0.3	0.26	0.22

TABLE 2: SEX DISTRIBUTION

MALE	FEMALE
19	31

TABLE 3: SIDE DISTRIBUTION

RIGHT	LEFT
33	17

CHART:1

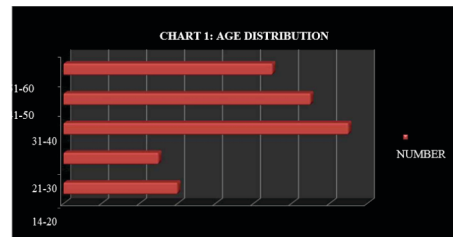


CHART 2: SEX DISTRIBUTION

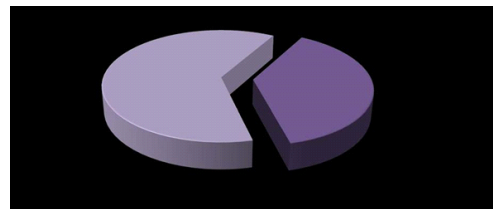


CHART 3: SIDE DISTRIBUTION

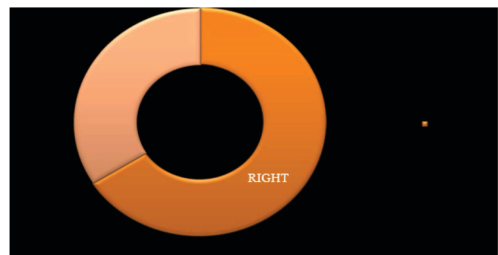


TABLE 4: DURATION DISTRIBUTION

DURATION	NO.OF PATIENTS
< 1 WEEK	8
1-4 WEEK	19
1-6 MONTH	18
7-12 MONTH	3
>1 YEAR	2

TABLE 5:CANAL DISTRIBUTION

POTERIOR SCC	LATERAL SCC	ANTERIOR SCC
45	4	1

TABLE 6: PARTICLE REPOSITIONING MANOUEVERS

EPLEY	FPP	SEMONT	REVERSED EPLEY
43	4	2	1

DISCUSSION

Objective assessment of BPPV patients treated with Epley's manoeuvre in different studies

S.No.	Author	Year	No. of	Type I response	Type II response	Type III response
1.	Epley	1992	30	90%	10%	-
2.	Nunez and Cass	1996	151	91.3%	7.9%	0.8%

3.	Jose et al.	2000	51	83%	9%	-
4.	Verma	2001	30	90%	10%	-
5.	Khatri et al.	2003	34	88.2%	8.8%	2.94%
6.	Present Study	2009	50	90%	10%	2%

Patients presenting with giddiness should be carefully screened by detailed questionnaire regarding onset, duration, predisposing factors and associated other problems. History of treatment with vestibular sedative drugs should be elicited, as it interferes with diagnosis and treatment. Then we should do ENT examination, tuning fork tests, pure tone audiogram and vestibular function tests. Then positional tests like Dix-hallpike and supine roll test done, the nystagmus watched carefully, semicircular canal involvement diagnosed. Posterior semicircular canal most commonly involved and it is prevalent in middle aged female with right sided predominance.

After diagnosing posterior canal BPPV Epley's manoeuvre used primarily, at second visit Epley's or Semont's manoeuvre done. For horizontal canal BPPV, diagnostic manoeuvre is supine roll test and therapeutic manoeuvre forced prolonged position manoeuvre is used. In anterior canal BPPV we had difficulty in diagnosis and treatment.

CONCLUSION

Particle Repositioning Manoeuvres are found to very effective procedures in the management of isolated BPPV affecting a single semicircular canal.

Since history and clinical examination are the only tools in the diagnosis of BPPV, a proper evaluation will help in careful localization of the semicircular canal affected.

- Most commonly occurs in middle aged females. Female male ratio is 1.63 :1.
- Posterior semicircular canal involvement is most common.
- Right side is predominant to left.
- It presents with episodic vertigo, occurs in particular position and lasting for seconds to minutes
- Elicitation of history and positional test is adequate to diagnose
- Particle repositioning manoeuvre is effective way to treat and give
- immediate relief to the patients even though it is a self limiting disease.

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