

Original Research Article

## Clinical Profile of Patients with Peripheral Vertigo in RIMS, Adilabad

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**Abstract:** Dizziness is a general term used by the patients to describe the presence of a feeling of spinning around and being unable to balance. It is a condition commonly encountered in clinical practice. Most of the causes of dizziness are benign but some types can be dangerous. We in the present study tried to evaluate the clinical presentation and causes of vertigo in different groups of patients. The study included both males as well as female patients of different age groups. 72 cases of vertigo of peripheral origin were selected based on History, Otoneurological examination, and other relevant audio vestibular studies. Vestibular rests included balance tests, examination of spontaneous nystagmus, positional tests and depending on the index of dizziness Dix-Hall pike maneuver was performed. The common symptom was fatigue 18 (25%) out of 72 followed by pain in the ears in 15 (20.84%). The other symptoms were Nausea 12 (16.67%), Dizziness 46 (63.89%), pressure sensation in ears 4 (5.5%) hearing loss in 23 (31.94%). The maximum numbers of cases were from the inner ear pathology accounting to 51.38% of the total numbers. The major cause of Inner ear pathology was diagnosed as Benign Paroxysmal Postural Vertigo [BPPV] 25 (34.72%) cases out of total 72 patients it was found to be significant, the other diagnosed conditions of inner ear were Meniere's disease 9 (12.5%) of the cases and labyrinthitis 2 (4.1%) of the cases. Middle ear Chronic Suppurative Otitis Media [CSOM] was found to be present in 22.23% of cases. Diagnosis of peripheral vertigo is important which should be based on detailed history and thorough clinical examination. Benign Paroxysmal Postural Vertigo was found to be present commonly in this group. Although BPPV tends to recur in some cases after the first episode however it is unlikely to persist beyond few days. If persistent vertigo is present then a thorough examination of underlying problems of the brain, the spinal cord is necessary.

**Keywords:** Peripheral Vertigo, Clinical profile

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### INTRODUCTION

The vestibular system includes the parts of the inner ear and brain that process the sensory information involved with control of balance and eye movements. Vertigo is the perception of movement either of the self or of the surrounding objects. It is a common clinical symptom and is usually described as a rotational, spinning movement. It is estimated that about 30% of people will need medical care once in their life due to this symptom [1] Vertigo, anxiety and stress tend to be concomitant, and attacks of vertigo seem to produce increased levels of stress related hormones [2]. Vertigo results from lesions in diverse locations such as inner ear, the deep stretch receptors of the neck, and the visual or vestibular interaction centers in the brainstem [3]. There are two broad categories of vestibular disorders that include the central a vestibular disease and the peripheral vestibular disease. The peripheral

vestibular symptom consists of vestibular end organs, including 3 semicircular canals and 2 otolith organs in each ear and vestibular portion of VIII cranial nerve. Peripheral vertigo is of sudden onset and characterized by episodic attacks. Cochlear symptoms like nausea and vomiting are a common characteristic of peripheral vertigo. The site of the lesions in vertigo is identified by history and associated symptoms. Vertigo with abnormal caloric response together with hearing loss signifies a peripheral pathology [4]. In addition to vertigo the lesions of VIII cranial nerve produces auditory symptoms like hearing loss, tinnitus, and sensations of fullness in the ear or pain in the ear [4]. The incidences of peripheral vertigo are very high as compared to central vertigo which occurs only in 10% of the individuals [5]. Because of the high frequency of illness it has been proposed that the cause is not congenital but acquired. The exposure of neurotropic

viruses [herpes family] was found to be high in population studies [6]. With this background we in the present study tried to evaluate the clinical profile of the patients with peripheral vertigo.

**MATERIALS AND METHODS**

This study was conducted in Rajiv Gandhi Institute of Medical Sciences [RIMS] Adilabad for a period of two years. Ethical permission for the study was obtained from Institutional Ethical committee. 72 cases of vertigo of peripheral origin were selected based on History, Otoneurological examination, and other relevant audiovestibular studies. Audiological tests done were pure tone audiometry with tone decay, speech discrimination, and short increment sensitivity index tests. Patients with moderate or severe hearing loss were excluded from the study because of impact stress of hearing loss on patients. Patients with neurological disorders and any inflammatory disease could alter the results were excluded from the study. Vestibular rests included balance tests, examination of spontaneous nystagmus, positional tests and depending on the index of dizziness Dix-Hallpike maneuver [6] was performed the patients are directed from the sitting position to the supine with head rotated at 45 degrees and positioned 10 degree below the end of the examination table, and it is observed whether vertigo and nystagmus can be provoked. An up beating and transient vertical nystagmus with rotation component to the down lying ear are mostly suggestive of canalolithiasis of the posterior semicircular canal allows the diagnosis of benign paroxysmal positional vertigo [BPPV] Radiological tests like x-rays of mastoid, cervical areas, internal auditory meatus were done.

**RESULTS**

The study included both males as well as female’s patients of different age groups. The total numbers of male patients were 34 and the total numbers of female patients were 38. There was no significant difference in the incidence between two sexes. The most common age group involved appearing to be the 31 to 40 years age group 23 (31.95%) out of total 72 patients belonged to this group. The next commonly involved group was the 41-50 years of age group having 17 (23.62%) out of 72 patients. The rest were equally divided among 21-30 and 51-60 years of age group having 16 patients each see the table 1.

Clinical symptoms were recorded in both the groups of patients to find the commonest presentation in the present study. The common symptom was fatigue 18 (25%) out of 72 followed by pain in the ears in 15 (20.84%). The other symptoms were Nausea 12 (16.67%), Dizziness 46 (63.89%), pressure sensation in ears 4 (5.5%) hearing loss in 23 (31.94%) Most of the patients reported abrupt onset of the symptoms 35 (48.61%) and only 3 (4.1%) reported as gradual onset of symptoms see table 2.

Several disorders can cause peripheral vertigo they were divided according to the area affected. The maximum numbers of cases were from the inner ear pathology accounting to 51.38% of the total numbers. The major cause of Inner ear pathology was diagnosed as Benign Paroxysmal Postural Vertigo [BPPV] 25 (34.72%) cases out of total 72 patients it was found to be significant, the other diagnosed conditions of inner ear were Meniere’s disease 9 (12.5%) of the cases and labyrinthitis 2 (4.1%) of the cases. Middle ear Chronic Suppurative Otitis Media [CSOM] was found to be present in 22.23% of cases. Vestibular neuritis was found to be present in 8 (11.12%) of the cases see table 3.

**Table-1: Demographic profile of the patients included in this study.**

Sl. No.	Age Group in years	Male	Female	Total
1	21-30	5	11	16
2	31-40	13	10	23
3	41-50	9	8	17
4	51-60	7	9	16
Total		34	38	72

**Table-2: Frequency of clinical symptoms in the patients**

Sl. No	Clinical symptom	Male	Female	Total	p value
1	Nausea	5	7	12	>0.1
2	Vomiting	3	4	7	>0.1
3	Dizziness	22	25	46	>0.1
4	Syncope	1	2	3	>0.1
5	Pain in ears	5	10	15	<0.05*
6	Hearing loss	12	11	23	>0.1
7	Tinnitus	3	10	13	<0.05*
8	Pressure sensation in ear	2	2	4	>0.1
9	Fatigue	5	13	18	<0.05*
10	Gradual onset	1	2	3	>0.1
11	Abrupt onset	15	20	35	>0.1

\* Significant

**Table-3: Diagnosis of various conditions in patients**

Site of the lesion		Male	Female	Total	Percentage	P value
Middle ear	CSOM	7	9	16	22.23	>0.1
	BPPV	10	15	25	51.38	<0.05*
	Meniere's disease	4	5	9		>0.1
Inner Ear	Labyrinthitis	2	1	3	11.12	>0.1
Vestibular Nerve	Vestibular neuritis	3	5	8	11.12	>0.1

\* Significant

## DISCUSSION

In the present study, we found that the peripheral vestibular disease was more prevalent in the 3<sup>rd</sup> and 4<sup>th</sup> decade of life, and the prevalence of disease above 50 was lesser as other studies in these areas have similar findings and they agree with our results [4, 7]. In the study we found the male to female ratio was 0.89:1 that is slightly higher incidence in female patients however our findings were in contrary to Gopal GS *et al* [8] found prevalence of 4:1 with male preponderance and Deka *et al* [7] found prevalence ratio of 3:2. It could be due to small sample size in our group. We also found that the most common peripheral vertigo was of Benign Paroxysmal Positional Vertigo [BPPV] 25 (34.72%) cases out of total 72 patients. One study by Montandon *et al* [9] showing the relevance of two pathological findings in the treatment of dizzy patients has found the prevalence of BPPV to be about 28%. Similarly Deka *et al*; has found the prevalence of BPPV to be about 17% [7]. The next common diagnosis in our cases was Chronic Suppurative Otitis Media [CSOM] 23.23% in a study by Gianoli Gerard J *et al*; 44% of patients with CSOM presented with symptoms of vertigo [10]. Therefore careful consideration and exclusion of this common disease is a must before other investigations are taken up. In some cases a fistula sign may be positive, but even if it is negative it may be necessary to proceed to operative inspection and finally

excluding middle ear disease as a cause of labyrinthine erosion. The next common finding our cases were the Meniere's disease in 12.55% of the patients. Mawson and Ludman [11] have shown that the disease is one of the most prevalent types of disease of the peripheral vestibular apparatus, however in our cases we found to be present in 12.55% of cases, a similar finding was reported by [4] The diagnosis of was made in our study by the symptoms most of the patients exhibit both vestibular and auditory symptoms. The hearing loss and vertigo are characteristic. There is a low tone hearing loss in early stages is fluctuating threshold of hearing in later stage and it is basically a sensorineural type of hearing loss. Labyrinthitis was found in 4.1% of cases all the 3 cases were due to chronic ear disease. Labyrinthitis is thought to be of viral origin [6, 12]. The typical clinical presentation is the onset of vertigo, nausea, and vomiting gradually over hours to minutes, the patients experience loss of balance and difficulty in focusing the eye because of spontaneous nystagmus.

## CONCLUSION

Diagnosis of peripheral vertigo is important which should be based on detailed history and thorough clinical examination. Benign Paroxysmal Postural Vertigo was found to be present commonly in this group. Although BPPV tends to recur in some cases after the first episode however it is unlikely to persist

beyond few days. If persistent vertigo is present then a thorough examination of underlying problems of the brain, the spinal cord is necessary.

**Conflict of Interest:** None

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