

PERIPHERAL VERTIGO – A STUDY OF 100 CASES: OUR EXPERIENCEAsha Annie Abraham¹, Anil Markose P²**HOW TO CITE THIS ARTICLE:**

Asha Annie Abraham, Anil Markose P. "Peripheral Vertigo – A Study of 100 Cases: Our Experience". Journal of Evolution of Medical and Dental Sciences 2014; Vol. 3, Issue 27, July 07; Page: 7421-7425, DOI: 10.14260/jemds/2014/2913

ABSTRACT: Vertigo is one of the most common symptoms forcing patients to visit their physician and for referral to an Otolaryngologist. The aim of this study was to analyze the causes of peripheral vertigo, age: sex ratio and the management protocols. 100 patients with peripheral vertigo during the period from January 2013 to April 2014 were evaluated and the results were tabulated.

KEYWORDS: Vertigo, Vestibular system, BPPV.

INTRODUCTION: The vestibular system is broadly categorized into peripheral and central components. The vestibular organs are in a state of symmetrically tonic activity, that when excited stimulate the central vestibular system. This information along with proprioceptive and ocular input is processed by the central vestibular pathways (e.g. vestibular nuclei) and maintains our sense of balance and position.¹

The common peripheral vestibular disorders include Benign Paroxysmal Positional Vertigo (BPPV), Meniere's disease, Vestibular Neuronitis, Acoustic neuroma, Labyrinthitis, Ototoxicity, Post trauma and Perilymph fistula.² Proper evaluation of patients, taking a proper history, clinical examination, audiological and radiological investigations help to come to an accurate diagnosis. The treatment modalities of each of these vary and include labyrinthine sedatives, vestibular exercises, steroids, antibiotics and surgical methods, either alone or in combination.

MATERIALS & METHODS: 100 patients with peripheral vertigo who attended the ENT department during the period from January 2013 to April 2014 were studied. This included patients of age group from 8 years to 70 years. Both males and females were included in the study. A detailed history of all the patients was taken and proper clinical examination was done. Audiological evaluation was done in all the cases. Radiological investigations like CT scan and MRI was done in selected individuals. After reaching an accurate diagnosis, various modalities of treatment for each of these were carried out and the final outcome analyzed.

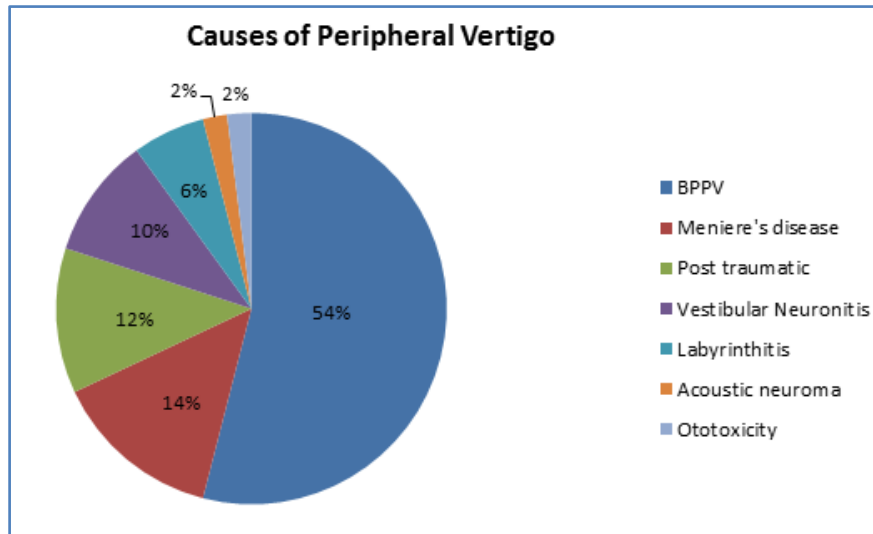
All the patients were followed up after 1 week, 3 weeks, 1 month and 3 months from the start of treatment.

The observations and results were documented, tabulated and assessed.

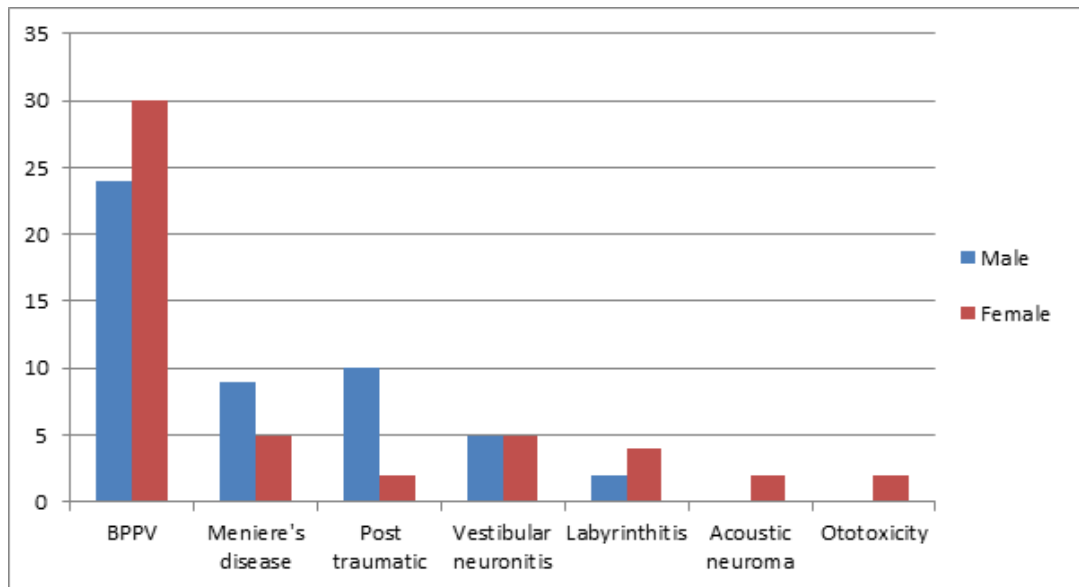
OBSERVATIONS & DISCUSSION: Of the 100 patients, 54 patients were diagnosed to have BPPV, of this 30 patients were female and 24 were male. 22 patients out of 54 were in the age group 40-60 years, 16 were in the age group of 20-40 years, 14 in the age group of > 60 years and only 2 patients below 20years. The patient with the lowest age in our study was an 8years old girl with BPPV. All these patients presented with the typical complaints of vertigo with change in head position, rolling over or getting out of bed and vertigo was often side specific. Vertigo occurred suddenly and lasted for less than a minute. All the attacks were separated by remission. Diagnosis was made primarily

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through history and by eliciting typical physical findings during Dix Hallpike maneuver. Pure Tone Audiometry (PTA) was normal in all the patients except for age related decreased hearing. Treatment was mainly supportive as a large percentage of patients had spontaneous resolution of the symptoms. Canalith Repositioning maneuver (CRP) was the first line of treatment in majority of cases. Patients with symptoms refractory to CRP were put on Cinnarizine and Betahistine for a period of 2 to 4 weeks depending on the severity of symptoms. They were advised vestibular rehabilitation exercises at home.



14 patients out of 100 were diagnosed to have Meniere's disease of which 9 were male and 5 female. 8 of the patients were in the age group of 40 – 60 years, 5 patients in the age group of 20 – 40 years and 1 above 60 years. No case of Meniere's disease was diagnosed below 20 years. Meniere's disease presented with typical symptoms of episodic attacks of tinnitus, aural fullness, fluctuating hearing loss and vertigo superimposed on a gradual declining hearing. Pure Tone Audiometry (PTA) was done in all cases, which showed a low frequency sensory neural hearing loss or a flat curve. Caloric test showed a reduced response on the affected side in 75% cases. Treatment was mainly medical in the form of salt restriction, diuretics, vasodilators, anti-emetics and anti-nausea medication.

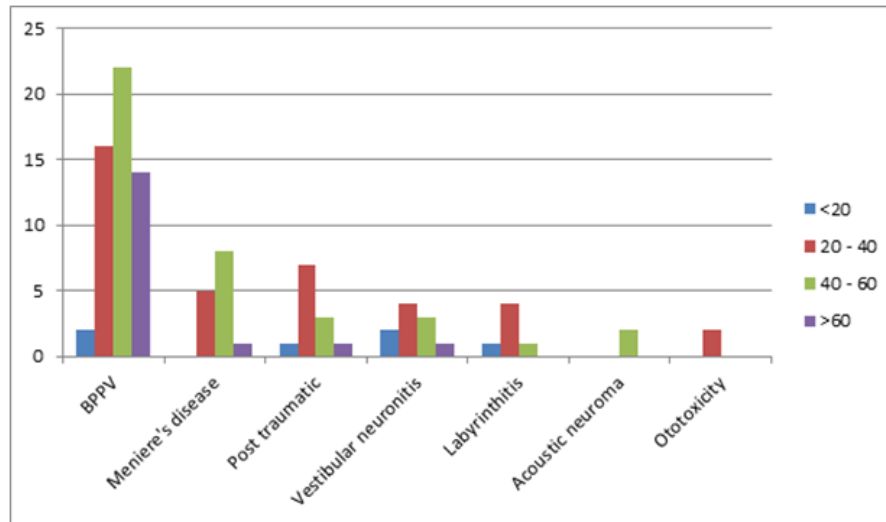
Sex Distribution of patients with peripheral vertigo:

12 patients out of 100 in our study were found to have a post traumatic peripheral vertigo either following Road traffic accident (RTA) or a fall. Majority of the patients in this group were of the age group 20 – 40 years. All the symptoms typically resolved with conservative management, bed rest and head elevation. All these patients were refrained from driving for at least 3 months.

10 patients out of 100 were diagnosed to have Vestibular Neuronitis and 6 with Labyrinthitis. Vestibular Neuronitis presented with complaints of sudden vertigo following a viral infection. The classical presentation was the absence of cochlear symptoms. Vertiginous complaints gradually improved over days to weeks. Treatment was primarily supportive. All the 6 Labyrinthitis patients presented with cochlear and vestibular symptoms. Vertigo presented suddenly and accompanied by hearing loss. All the 6 patients in our study had a labyrinth infection following a viral episode. Management was conservative.

2 of 100 patients were diagnosed to have Acoustic neuroma; both were females of age group 40 – 60 years. They presented with episodic vertigo, inequilibrium, tinnitus and asymmetric hearing loss. None of the patients had cranial nerve palsy or symptoms of brain stem or cerebellar compression. Diagnosis was made by history; audiogram and MRI scan with enhancement. Both these patients were referred to a neuro- otologist at a higher centre and lost follow up.

2 patients presented with vertigo were on anti-tubercular therapy (ATT) with Streptomycin. Both were females of the age group 20 – 40 years. Vertigo manifested after completion of treatment which recovered up to 80% over 3 months with conservative management.

Age Distribution of patients with peripheral vertigo:

Benign Paroxysmal Positional Vertigo (BPPV) is considered to be the most common peripheral vestibular disorder³. Women are more affected than men. In 1980, Dr. John Epley proposed that free floating particles located in the semicircular canals deflect the cupula creating the sensation of vertigo – canalithiasis theory.⁴ Diagnosis is mainly by history and Dix Hallpike maneuver. Treatment is mainly supportive and Canalith repositioning maneuver (CRP) with or without vestibular sedatives. CRP is considered to be 91% effective.⁵

Meniere's disease or endolymphatic hydrops is due to an increase in endolymph pressure resulting in inappropriate nerve excitation which will give rise to the triad of vertigo, fluctuating hearing loss and tinnitus. Diagnosis is established with a thorough history. Audiological and vestibular testing is not fully reliable but may show caloric weakness on Electro Nystagmo Graphy (ENG) and sensory neural hearing loss on audiogram. Treatment is mainly medical – salt restriction, diuretics, vasodilators and anti-emetics.

Vestibular Neuronitis results from viral infection of vestibular nerve, commonly superior vestibular nerve. The reported incidence of an upper respiratory tract infection (URTI) prior to the development of vestibular symptoms varies from 23 to 100%.⁶

Labyrinthitis can be due to viral or bacterial infections, bacterial toxins and systemic diseases. It is an inflammatory disorder of membrane labyrinth affecting both vestibular and cochlear end organs.

Acoustic neuroma and ototoxicity constitute a small percentage of peripheral vertigo. Diagnosis is very important and is made with the help of history, audiogram and imaging techniques. Referral to a neuro otologist is mandatory in acoustic neuroma.

CONCLUSION: This study proves that BPPV is the most common cause of peripheral vertigo accounting for 54% of all patients with vertigo. This study also emphasizes on the importance of a thorough evaluation of patients in terms of history, clinical examination, audiological and radiological evaluation.

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Although relapses and remissions are very common with peripheral vertigo, with an accurate diagnosis, patient can be reassured and can ensure maximum relief from the symptoms and even a complete cure.

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Date of Submission: 21/06/2014.
Date of Peer Review: 23/06/2014.
Date of Acceptance: 30/06/2014.
Date of Publishing: 03/07/2014.