YOGESH NEUPANE[1]
SAHARA ADHIKARI[2]
SARITA KC[3]
HEEMPALI DUTTA[1]

Department of ENT- Head Neck Surgery
TU Teaching Hospital, Maharajgunj
Medical Campus Institute of Medicine
Kathmandu Nepal[1]

Department of ENT- Head Neck Surgery
ENT Care Centre Nepal Pvt Ltd
Kathmandu, Nepal[2]

Department of ENT Head Neck Surgery
Nepalese Army Institute of Health Sciences
Shree Birendra Hospital
Kathmandu, Nepal[3]

Corresponding Author
Dr Heempali Dutta
Ganeshman Singh Bhawan
Department of ENT- Head Neck Surgery
TU Teaching Hospital, Maharajgunj
Medical Campus Institute of Medicine
Kathmandu Nepal

Email: heempalidutta@gmail.com

PROFILE OF PATIENT PRESENTING WITH VERTIGO AT TERTIARY VERTIGO REFERRAL CENTER IN NEPAL

ABSTRACT

Objectives:

Vertigo / dizziness are one of common reasons for medical consultation with lifetime prevalence between 20% -30%. In this study we tried to analyse the clinical profile of patients with vertigo/ dizziness to observe its relationship with age, sex , disease, history , clinical examination to establish various aetiological factors for vertigo

Materials and methods:

Cross-sectional observational study was conducted in the Department of ENT and head Neck Surgery, Tribhuvan University Teaching Hospital, and ENT Care Centre Nepal, Pvt Ltd Kathmandu, Nepal over a period of 12 months from January 2017 to December 2017.

Results:

Vestibular migraine and benign paroxysmal postural vertigo were most common cause of vertigo. Majority of patients had symptoms for less than a month. Duration of each attack of vertigo was less than minute in 29 cases and less than hour in another 29 cases. Vertigo was intermittent in 78 cases. Family history of vertigo was present in 12 cases.

Conclusion:

Treatment should be trailered for individual patients according to aetiology of vertigo. Aetiology/diagnosis must be established in each and every patient by proper history, meticulous clinical examination and investigations when required .

Keywords: BPPV, Dizziness, Vertigo, Vestibular Migraine

INTRODUCTION

Vertigo / dizziness is one of common reasons for medical consultation. 2-3% of patients visiting emergency departments are due to vertigo/ dizziness.[1, 2] Vertigo is one of the ten main reasons for patients to seek medical attention in emergency department. Its lifetime prevalence is between 20% and 30% .[3,4] Study have shown male to female prevalence ratio of 1:2.7 and three times more frequent in the elderly compared to young.[5] Vertigo results from lesions in diverse locations such as inner ear, eye, deep stretch receptors of the neck and trunk , visual or vestibular interaction centre in the brainstem. Dizziness may be the cause of falls and of prolonged sick leave, with a major impact on morbidity and quality of life. History taking is very important to diagnosis cause of vertigo. 80-90% of causes of vertigo are diagnosed by detailed history. Vertigo/ dizziness is still undefined symptoms and description of patients feel of vertigo is different from patient to patient. It is important for clinician to know what is the actual feeling of patient vertigo. Dilemma during history taking makes diagnosis often difficult when patient without medical knowledge label all feeling like, true rotatory vertigo, unsteadiness, light headedness, giddiness, presyncope as vertigo, which makes proper diagnosis is often challenging. In this study our we tried to analyse the clinical profile of patients with vertigo/dizziness to observe its relationship with age, sex, disease, history, clinical examination to establish various aetiological factors of vertigo.

MATERIALS AND METHODS

This cross-sectional observational study was conducted in the Department of ENT and Head Neck Surgery, Tribhuvan University Teaching

Hospital, and ENT Care Centre Nepal, Pvt Ltd Kathmandu , Nepal over a period of 12 months from January 2017 to December 2017 after ethical clearance. Data was recorded after obtaining informed consent. First 100 cases were included in this study. All patients presenting with complain of vertigo to the vertigo clinic of Department of ENT and Head Neck Surgery with at least one episode of vertigo in preceding three months with age more than 15 were included in study. A detailed history was obtained in dedicated vertigo clinic. Patients feel of vertigo, onset, duration, frequency, trigger factor, accompanying symptoms, associated symptoms, aura, any head injuries in past, family history, comorbidities and medication history, treatment history in past for vertigo was recorded . Complete Neuro-Otological evaluation was done in all cases. Clinical tests like test for smooth pursuit, test for saccadic eye movement, cover test , test for nystagmus, head impulse test, stepping test, Romberg test, walking test, positional test (Dix Hallpike, Roll Test, Deep Head Hanging) were done. Beside this complete neurological evaluation were done. Laboratory tests like pure tone audiometry, videonystagmography, video head impulse test, random blood glucose levels, thyroid function test, autoimmune panel test were done as per requirement. Opinion from neurologist, psychiatrist, orthopaedic and cardiologist were taken when required. Data was recorded in MS Excel and analysed using SPSS Version 20.00. Descriptive analysis was done to determine means, frequencies and proportions of the various variables and findings were presented by means of tables and charts where appropriate.

RESULTS

The study included first 100 patients presenting to dedicated vertigo clinic of tertiary referral centre. The total numbers of male patients were 42 and female patients were 58 , with male female ratio of 1:1.38. Mean age of patients was 43.5 years. Most common age group involved was 41 to 50 years (27%) followed by 31-40 years (24%), 51 to 60 years (21%) , more than 60 years (16%), 21to 30 years (8%) and less than 20 years (4%) respectively as shown in table. 1.

Out of 100 patients presented with vertigo, vestibular migraine was diagnosed in 36 cases , benign paroxysmal postural vertigo in 35 cases, Meniere's disease in 8 cases, phobic vertigo in 5 cases, vestibular neuritis in 2 cases and vestibular seizure in 2 cases. 4 cases had central organic pathology and in 8 cases diagnosis could not be reached as shown in Fig. I

Out of 100 patients, 26 had symptoms for less than one week, 27 had symptoms for more than week to less than one month, 16 had symptoms

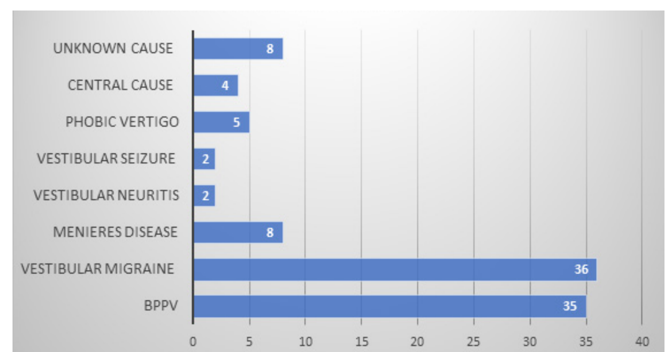

Figure I: Aetiological causes of vertigo

for more than one month to less than six months, 20 had symptoms for more than six months to less than one year and 11 had symptoms for more than one year. Duration of each attack was less than one minute in 29 patients, it was for minutes to hour in 29 patients, for hours to days in 25 patients and for days to month in 17 patients. Vertigo attack was persistent in 22 patients and intermittent or episodic in 78 patients. Accompanying features like nausea was present in 36 patients and vomiting in 23 patients. Aural symptoms was present in 40 patients. Family history of vertigo was present in 12 patients as shown in table.2

18 patients had coexisting diabetes mellitus, 28 had hypertension, 6 had abnormal lipid profile, one had stroke, 5 had psychiatric illness, 15 had endocrine disorder and 3 patients had neurological disorder, table 3

Table 1. Demographic profile of patient with vertigo

Variables	BPPV	Vestibular migraine	Meniere's disease	Vestibular neuritis/ Labyrinthitis	Vestibular seizure	Phobic vertigo	Central organic cause	Unknown diagnosis	Total
Mean Age (Years)	52	43	45	35	42	55	39	37	43.5
Age groups (years)									
< 20	0	2	0	0	0	0	0	2	4
21-30	2	4	1	0	0	0	1	0	8
31-40	7	9	1	2	0	1	1	3	24
41-50	8	11	2	0	2	1	1	2	27
51-60	9	5	2	0	0	3	1	1	21
>60	9	5	2	0	0	0	0	0	16
Sex									
Male	14	16	3	2	1	2	2	2	42
Female	21	20	5	0	1	3	2	6	58

Table 2. Characteristic of symptoms

Variables		BPPV	Vestibular migraine	Meniere's disease	Vestibular Neuritis/ Labyrinthitis	Vestibular seizure	Phobic Vertigo	Central organic cause	Unknown diagnosis	Total
Total duration of symptoms	< 1 week	20	2	2	1	0	0	0	1	26
	1week- 1 month	15	8	0	1	0	0	0	3	27
	1 -6 months	0	8	2	0	0	2	2	2	16
	6-12 months	0	12	2	0	1	3	1	1	20
	>12 months	0	6	2	0	1	0	1	1	11
Duration of each attack	< 1 min	18	7	0	0	2	2	0	0	29
	min- hour	8	14	2	0	0	2	0	3	29
	hours - day	8	8	4	0	0	1	2	2	25
	days - month	1	7	2	2	0	0	2	3	17
Character	Persistent	5	8	0	2	0	4	2	1	22
	Episodic	30	28	8	0	2	1	2	7	78
Accompanying feature	Nausea	10	10	6	2	2	1	2	3	36
	Vomiting	8	8	5	2	0	0	0	0	23
	Aural symptoms	15	15	6	0	0	2	0	2	40
Family history of vertigo	Yes	3	3	2	0	0	2	0	2	12
	No	32	33	6	2	2	3	4	6	88

Table 3. Co -existing medical condition

Variable	BPPV	Vestibular migraine	Meniere's disease	Vestibular Neuritis/ Labyrinthitis	Vestibular seizure	Phobic Vertigo	Central organic cause	Unknown diagnosis	Total
Diabetes mellitus	7	3	1	0	0	0	3	4	18
Hypertension	10	9	1	1	1	2	2	2	28
Lipid disorder	3	1	1	1	0	0	0	0	6
Stroke	0	0	0	0	0	0	1	0	1
Psychiatric illness	1	1	0	0	0	2	0	1	5
Endocrine disorder	7	4	2	0	0	0	0	2	15
Neurological disorder	1	0	0	0	1	0	1	0	3

DISCUSSION

Our study, found that vertigo was more prevalent in 3rd to 5th decade of life, most commonly in 4th decade. Similarly other studies in these areas have finding similar to our study. [6-8]

In our ratio male female ratio was 1:1.38, higher incidence in female population which was in accordance to study by Satyanarayana where male to female ratio was 0.89:1. [6] In contrary to our study Deka[8] and Gopal GS [9] found high prevalence in male in comparison to female in ratio of 3:2 and 4:1 respectively

In our study most common diagnosis was vestibular migraine in 36 % of cases followed by benign paroxysmal positional vertigo (BPPV) in 35 % cases. But most of studies shows BPPV as one of most common/ prevalent cause of vertigo in contrary to our study where vestibular migraine was found to be most prevalent as BPPV would have being managed in other centres and less was referred to our dedicated vertigo clinic.

In our study most of patients has symptoms of vertigo for less than 1 month (53%), as most of our patients were from city, where they have easy access to health care facility including to dedicated vertigo clinic. Only 31 % had symptoms for more than 6 months.

In our study duration of each attack was less than min in 29% and for minutes to hour in another 29 % as majority of our patients aetiology were BPPV (35) and Vestibular migraine (36), where duration of each attack last for seconds to minutes in most of cases. Only 17% of patients had duration of each attack lasting for days to month in which aetiology could be, vestibular neuritis, phobic vertigo and vertigo due to central organic cause.

In our study, attacks of vertigo was episodic in 78 cases as majority of patients were of BPPV, vestibular migraine and Meniere's disease where vertigo attacks occurs in episodes

Accompanying features like nausea were present in 36 patients and vomiting in 23 patients. However aural symptoms was present only in 40 % cases

In our study family of vertigo was present in 12 cases. Disease like vestibular migraine , Meniere's disease have positive family history.

Coexisting medical co-morbidities like diabetes mellitus (18%), hypertension (28%), lipid disorder (6%), stroke (1%), psychiatric illness (5%), endocrine disorder (15%) and neurological disorder(3%) were present in our patients. It is very important to consider coexisting medical condition during history taking as vertigo could get triggered/ aggravated by these condition. Sometimes co-existing medical condition may inhibit or delay the central compensation process. Some medicine used to treat vertigo may be contraindicated in some patients due to coexisting medical condition .

CONCLUSION

Two common aetiological factor of vertigo was found to be vestibular migraine and benign paroxysmal positional vertigo. BPPV could be easily diagnosed with positional tests but vestibular migraine could be easily missed due

to wide range of symptoms. Treatment should be trailered for individual patients according to aetiology of vertigo. Aetiology/diagnosis must be established in each and every patient by proper history, meticulous clinical examination and investigations when required .

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