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Research Article

Aetiology of Vertigo as Seen at the Federal Medical Center Lokoja, North Central Nigeria

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Abstract

Background: Human beings are able to maintain their balance from a combination of proprioceptive, graviceptive, visual and the vestibular inputs integrated by the central nervous system. Hence, symptoms of imbalance can arise whenever there is a defect either in these peripheral sensors or the modulating central nervous system. The prevalence of vertigo is 20-30% and it is a major health issue all over the world.

Objectives: To determine the prevalence and causes of vertigo in Federal Medical Center Lokoja, North Central Nigeria.

Materials and Methods: This is a 3-year retrospective hospital based study undertaken in the ENT Unit of the Department of Surgery Federal Medical Centre, Lokoja. From the hospital Medical Records, patients' files were retrieved. Data about their age, sex, occupation, presentation, treatment modality and outcome were extracted, studied and analyzed.

Results: Three thousand two hundred and fourteen patients were seen and 65 of them had vertigo with a prevalence of 2.0%. Fifteen files had incomplete information and were not include in the study. The remaining 50 patients' files that were reviewed, consisted of 32 males (64%) and 18 females (36%). Male to female ratio was 1.8:1 and a mean age of 24.8 years. Bengin Paroxysmal Positional Vertigo (BPPV) 22(44%) was the commonest aetiology found followed by Meniere's disease 8(16%), trauma 7(14%) and Vestibular Neuronitis 5(10%) respectively.

Keywords: Aetiology, vertigo, BPPV, Meniere's disease

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الملخص

الخلفية: البشر قادرون على الحفاظ على توازنهم من مزيج من تكامل مستقبلات الوضعية الحسية، الجاذبية الحسية والمدخلات البصرية والدهليزية من قبل الجهاز العصبي المركزي. وبالتالي، يمكن أن تنشأ أعراض عدم التوازن كلما كان هناك خلل إما في أجهزة الإستشعار الطرفية أو الجهاز العصبي المركزي. إنتشار الدوار هو ٢٠-٣٠٪ وهي قضية صحية شائعة في جميع أنحاء العالم.

الأهداف: لتحديد إنتشار وأسباب الدوار في المركز الطبي الاتحادي لوكوجا، شمال وسط نيجيريا.

المواد والطرق: هى دراسة إستطلاعية بأثر رجعي لثلاث سنوات أجريت في وحدة الأنف والأذن والحنجرة من قسم الجراحة بالمركز الطبي الإتحادي، لوكوجا. تم إسترجاع ملفات المرضى قيد الدراسة من السجلات الطبية بالمستشفى. تم إستخراج ودراسة وتحليل البيانات المتعلقة بعمرهم وجنسهم ومهنهم وعرضهم وطريقة علاجهم ونتائجه.

النتائج: من مجموع ثلاثة آلاف ومائتان وأربعة عشر مريضاً كان ٦٥ منهم لديهم دوار بنسبة إنتشار ٢,٠٪. وكان خمسة عشر ملفاً غير مكتملة المعلومات ولم تدرج في الدراسة. أما ملفات المرضى الخمسين المتبقية التي تمت مراجعتها، فتتألف من ٣٢ ذكر (٦٤٪) و ١٨ أنثى (٣٦٪). وكانت نسبة الذكور إلى الإناث ١,٨: ١ ومتوسط عمر ٢٤,٨ سنة. كان الدوار النوبي الموضعى الحميد المسبب الأكثر شيوعاً فى ٢٢ (٤٤٪) من الحالات ثم مرض منير ٨ (١٦٪)، والصدمة ٧ (١٤٪) وإلتهاب العصب الدهليزي ٥ (١٠٪) على التوالي.

1. Introduction

Vertigo is an illusion of rotatory movement of either the patient or his/her environment [1]. The causes can be summarized using the word 'VERTIGO' itself as a mnemonic, where 'V' stands for vestibular diseases like vestibular neuronitis, 'E' stands for endocrine diseases like hypergycaemia in diabetes. 'R' stands for receiving drugs, such as ototoxic drugs like the aminoglycosides, antimalarias like quinine and chloroquinine, anticancers like cisplatin etc. 'T' stands for trauma of any kind affecting the vital areas. 'I' stands for infections like labyrinthinitis, vestibular neuronitis, petrositis and otitis media. 'G' stands for growth (neoplasm) such as acoustic neuromas, glomus tumours and 'O' stands for ocular diseases, other diseases like demyelinating diseases like multiple sclerosis and the non-specific cochleovestibulopathies. At clinic presentation, other symptoms may be necessary in making the diagnosis of the aetiology [2]. For example, cochlear symptoms like tinnitus and hearing loss may suggest that

the pathology is in the labyrinthine or VIII cranial nerve [3]. Symptoms like diplopia, dysarthria and facial weakness may suggest brain stem causes. Drug history, duration, co-morbidities and previous surgeries are also very important in making the diagnosis [3]. In Benign Paroxysmal Positional Vertigo, there is usually a latent phase and the vertigo only last for a few seconds (5-10secs), in the migraine type, it usually can last from some minutes to a few hours. Whereas in Meniere's disease, it may last for hours and in vestibular neuronitis it usually lasts for days [4]. The prevalence of vertigo ranges from 20-30% in the USA [5], 4.9-21% in UK [6], 5% in Germany [7], 18.6% and 24.6% in two separate studies involving elderly patients in South Western Nigeria [8, 9].

2. Materials and Methods

This is a 3-year retrospective hospital based study undertaken in the ENT Unit of the Department of Surgery Federal Medical Centre, Lokoja. From the hospital Medical Records, patients' files were retrieved. Data about their age, sex, occupation, presentation, period of illness treatment modality and outcome were extracted, studied and analyzed.

3. Results

Three thousand two hundred and fourteen patients were seen and 65 of them had vertigo with a prevalence of 2.0%. Fifteen files had incomplete information and were not include in the study. The remaining 50 patients' files that were reviewed, consisted of 32 males (64%) and 18 females (36%). Male to female ratio was 1.8:1 and a mean of 24.8 years.

Twenty five patients had their vertigo occurring within seconds consisting 50% of the study population, 12(24%) were in minutes, 10(20%) occurring in hours and 3(6%) in days (Table 2). Majority of the patients (44%) suffered from BPPV followed by Meniere's disease (16%), trauma (14%), Vestibular neuronitis (10%) and (8%) of unknown etiology. Migraine, Ototoxicity, Diabetes and vertebrobasillar insufficiency were the least aetiologies found in this study (Table 3).

4. Discussion

Vertigo is a symptom associated with so many ear diseases but usually subsides when the causative disease is given the proper treatment. One should not be surprised to find it in association with diseases as simple as impacted wax, otitis media, otitis externa et cetera [10]. Male preponderance was notice in this study which is probably due to the increase trauma cases in our hospital located along Okene/Abuja high way. Vertigo was noticed to be more common in males in their fifth decade of life although a study

Age Group	Male	Female	Total (%)
0-10	0(0.0%)	0(0.0%)	0(0.0%)
11-20	2(4.0%)	1(2.0%)	3(6.0%)
21-30	5(10.0%)	3(6.0%)	8(16.0%)
31-40	3(6.0%)	2(4.0%)	5(10.0%)
41-50	11(22.0%)	6(12.0%)	17(34.0%)
51-60	6(12.0%)	3(6.0%)	9(18.0%)
61-70	3(6.0%)	2(4.0%)	5(10.0%)
71-80	2(4.0%)	1(2.0%)	3(6.0%)
Total	32(64.0%)	18(36.0%)	50(100%)

Table 1: Age and Gender distribution of patient with vertigo.

Duration of vertigo	Number of Patients	%
Seconds	25	50.0
Minutes	12	24.0
Hours	10	20.0
Days	3	6.0
Total	50	100.0

Table 2: Duration of the vertigo.

by Adegbiji et al [9] who found it more in females with a bimodal age distribution. However, the lower modal age is similar to that found in this study. Vertigo prevalence found in this study is 2.0% and this is low when compared to other studies done in time past [11–13]. This low prevalence may be due to lack of awareness by the communities where the hospital is located or patients perhaps deciding to use alternative traditional medication due to the level of growing poverty amongst our people. The duration of most vertigo lasted for a few seconds and only few of them lasted for some days which further support the diagnosis of BPPV. These findings are in agreement with what has been reported by other researchers [13–15].

Aetiology of vertigo	Number	%
BPPV	22	44.0
Meniere's disease	8	16.0
Trauma	7	14.0
Vestibular Neuronitis	5	10.0
Unknown causes	4	8.0
Migraine	1	2.0
Diabetes	1	2.0
Ototoxicity	1	2.0
Cervical vertigo	1	2.0
Total	50	100.0

Table 3: Aetiologies of the vertigo.

5. Conclusions

Benign Paroxysmal Positional Vertigo was found to be the commonest aetiology of vertigo in this study and that early referral of patients to the ENT specialist is advised for cost effective treatment.

6. Ethical Consideration

I confirm that I have read the Journal's position on ethical issues concerning this publication and I wish to declare that this manuscript is consistent with those guidelines.

7. Conflict of Interest

None to be declare.

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