Causes of Vertigo in Saudi Patients Seen at Tertiary Teaching Hospital

Ibrahim Shami M. D and Abdulrahman Al Sanosi M.D

Department of Otolaryngology and Head and Neck Surgery
King Abdulaziz University Hospital, King Saud University, Riyadh, Kingdom of Saudi Arabia

Abstract

Objectives
To investigate the clinical characteristics of vertigo in Saudi patients seen in otology and neurotology clinic.

Methods
A retrospective chart review was performed of all patients presented with vertigo from January 2008-December 2010 at otology/neurotology clinic at King Abdulaziz University Hospital Riyadh. The data reviewed was age, sex, characteristic of vertigo symptoms, duration of vertigo, provisional diagnosis and categories of vertigo. Patients with incomplete files were excluded. The data were analyzed using Microsoft excel.

Results
A total of 124 patients; 90(72.6) women and 34(27.4) men were incorporated in this study. Majority of the patients suffered from benign paroxysmal positional vertigo (39.5%) followed by Meniere's disease (27.4%) and Migraine associated vertigo (8.1%). Peripheral causes were found in 73.4% of our cases while central etiology was seen only in 15.3% and 9.7% of unknown etiology.

Conclusion
Peripheral vestibular disorders remain the main diagnostic category in our study group, the two most common etiologies were benign paroxysmal positional vertigo and Meniere's disease. Information obtained from this study may serve as a reference guideline for otolaryngologists in Saudi Arabia when dealing with dizzy patients.

Key Words: Benign Meniere's disease, Paroxysmal positional vertigo, Vertigo

Correspondence to:
Dr. Abdulrahman Al Sanosi
Associated professor, Department of Otolaryngology, Head and Neck Surgery
King Abdulaziz University Hospital
King Saud University, 245, Riyadh 11411
Kingdom of Saudi Arabia
☎+966 1 477 5735
✉ +966 1 4775748
✉ sanosi@hotmail.com

Journal of Taibah University Medical Sciences 2011; 6(1): 26-32
Introduction

The diagnosis of vertigo is primarily based on patient's history and neurotologic examinations. However, in some patients, further investigations such as audiologic evaluations, vestibular function tests, radiological studies, blood tests, or other diagnostic tools may be necessary and confirmatory. Major categories of vertigo include peripheral vertigo, central vertigo, psychogenic, and undiagnosed causes. Pathological sites of peripheral vertigo are in the vestibular labyrinth and vestibular nerve, patients usually report abrupt, severe onset of vertigo, nausea, vomiting and ear symptoms, such as hearing loss, tinnitus, or aural pressure. Pathological sites of central vertigo are at the brain stem, cerebellum, and cerebral hemisphere. Symptoms of central nervous system disorders, such as headache, diplopia, dysarthria, dysphagia, hemiplegia, paresis, or loss of consciousness are common. Inpatients whose signs and symptoms of peripheral or central pathology are unclear psychological disorders or systemic diseases should be considered. In a survey of the general population, 4.9-21% of people in UK and Germany reported experiencing symptoms of vertigo at some point. Published reports as to the epidemiology of vertigo have primarily come from Europe and America, or developed countries where advanced diagnostic investigations and experienced clinicians are more readily available. Up to our knowledge, no study has been done to look at the pattern of vertigo in Saudi Arabia before.

Materials and Methods

Dizzy clinic is tertiary service that was launched 4- years ago at King Abdulaziz University Hospital and is supervised by otologist/neurotologists. Our approach for dizzy patients include detailed history and medical examinations that are particularly neurotological. Further audiological, vestibular and radiological tests are done if required. Our diagnostic criterion was based on the American Academy of Otolaryngology Head and Neck surgery (AAO-HNS) guidelines. If the condition does not fit any peripheral causes of vertigo, or a central cause is suspected; a referral is made to neurology department. The Charts of all patients diagnosed with vertigo between April 2008 and December 2010 at otology /neurotology clinic were retrospectively reviewed by the authors. The information recorded included age, gender, the characteristics of vertigo symptoms, the duration of vertigo and the final diagnosis. Patients with incomplete files were excluded. The Medical records of 169 cases were found and only 124 cases with complete data were analyzed.

Results

124 patients, 90(%72.6) were women and 34(%27.4) were men, ratio 2.6:1. Age at presentation ranged from 8 to 70 years, with means of (45.1) years. Average age of men (43.4 ± 12.8) years; mean ± standard deviation and women (45.7 ± 12 years). Inpatients whose signs and symptoms of peripheral or central pathology are unclear psychological disorders or systemic diseases should be considered. Most of the patients were referred from other physicians 66(53.2%), however 58(46.8%) were new patients. The most common symptom of vertigo reported was the spinning sensation 115(89.5%). Others included floating 5(4%), image moving in a horizontal plane 3(2.4%), drifting 1(0.8%) (Figure 3). Taking into consideration the duration of vertigo, majority of cases (46.8%) were for seconds (Figure 4). The diagnostic categories of 124 cases were peripheral vertigo 91(73.4%), central vertigo 19(15.3%), psychogenic cause 2(1.6%), and unknown 12(9.7%) shown in Figure 5. Twelve diagnoses were made in 90.3% of cases (Figure 6).
Causes of vertigo in Saudi patients seen at tertiary teaching hospital

49 (39.5%), Meniere's disease (MD) 34 (27.4%), migraine associated vertigo (MAV) 10 (8.1%), vestibular neuronitis (VN) 4 (3.2%), cholesteatoma 2 (1.6%), delayed endolymphatic hydrops (DEH) 1 (0.8%), perilymphatic fistula 1 (0.8%), meningioma 1 (0.8%) acoustic neuroma (AN) 4 (3.2%), lateral pontomedullary syndrome (AICA) 3 (2.4%), multiple sclerosis 1 (0.8%) and psychogenic 2 (1.6%). A definitive diagnosis was not ascertained in 12 (9.7%) cases, but they predominately had symptoms and signs compatible with peripheral causes.

Figure 1: Distribution of age and sex by decade is shown.

Figure 2: Primary and referred cases distribution: Benign Paroxysmal Positional Vertigo (BPPV); Meniere's disease (MD), VN; Vestibular neuronitis (VN), Migraine associated vertigo (MAV), Delayed endolymphatic hydrops (DEH) and Perilymphatic fistula (PF).
Figure 3: Main chief complaints Duration of vertigo during attack.

Figure 4: Duration of vertigo during attack.
Figure 5: Categories of vertigo.

Figure 6: Distribution of cases according to sex: BPPV; Benign Paroxysmal Positional Vertigo, MD; Meniere’s Disease, MAV; Migraine, Associated Vertigo, VN; Vestibular Neuronitis, PF; Perilymphatic Fistula, DEH; Delayed Endolymphatic Hydrops, AN; Acoustic Neuroma, AICA; Anterior Inferior Cerebellar Artery, MS; Multiple Sclerosis
Discussion

Vertigo mostly affected patients aged between 40 to 50 years and more often in women (male:female ratio 1.2:6).
The mean age at presentation was (45.1) years, which is less than that reported from North America (50 years) and Europe (57.6 years)1,5,6.
In the otology clinic, peripheral vestibular disorder is the main diagnostic category similar to that reported in North America, Europe and Japan. However, with difference in percentage1,5,7.
The percentage of patients with a definitive diagnosis being ascertained in this study was 90.3% (112 of 124 cases), higher than that reported by Katsarkas (79.4%), Yin M (77.8%) and Isaradisaikul (73.9%)2,7,8. Some studies reported 94.9-99% of cases diagnosed with definitive etiology of vertigo, which included motion sickness, glaucoma, renal insufficiency, diabetes, fibromyalgias, orthostatic syncope, presyncope, unspecified cardiovascular, or Costen’s syndrome6.
The two most common etiologies were BPPV and Meniere’s disease, similar to that reported in china and Nigeria9,10.
The number of patients with psychogenic vertigo in this study was substantially lower (1.6%) than the previously reported (5.1-11.5%)1,5,6. The Psychiatric disorder was reported, either as a primary or a contributing factor in 40% of the cases with persistent dizziness, but was considered primary in only 16%.11.
Patients with normal physical examination and normal vestibular tests are encouraged to undergo a psychiatric evaluation. Clinicians may lack awareness to encourage them to have further evaluation, possibly through explaining the small number of psychogenic etiology.
Central vestibular disorders were diagnosed in 19 cases (15.3%), similar to other studies (7.8-17.2%)1,5,7. Broad varieties of central pathology causing vertigo have been reported. Although this study included a variety of central nervous system disorder, not all disorders causing vertigo were covered. Patients with central vertigo usually had complaints of other significant symptoms and signs of central nervous system pathology.
Taking a complete history of a patient with vertigo is the most important for making a diagnosis.
Most of our patients recorded an average duration of episode of vertiginous attacks in seconds (46.8%) followed by those who had an average duration of minutes (31.5%), oppose the result reported by Somefun. Although, the patients number in this study is smaller compared to other studies but, it is the first study to look at the common pattern of vertigo related to Saudi patients7,10,12.
Since less than half of the total cases had more than one visit, a prospective study with extended follow-up periods will provide more reliable data on remission.

Conclusion

Peripheral vestibular disorder remains the main diagnostic category in our cases and the two most common etiologies were BPPV and Meniere’s disease.
Information obtained from this study may serve as a reference guide in diagnosing vertigo for other ENT clinics in Saudi Arabia.

Acknowledgment

The authors thank Prince Sultan Research Chair for Hearing Disability at King Saud University for it’s support.

References


