A study of the aetiology of vertigo in Malaysia

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GOWERS (1893) defined vertigo as any movement or sense of movement either in the individual himself or in the external objects that involves a defect real or seeming in the equilibrium of the body.

Vertigo is a distressing symptom and has been the subject of much investigation as it occurs in both the fields of otology and neurology.

The following is a study of 200 cases of vertigo who were referred to the vertigo clinic of the E.N.T. Unit at the University Hospital, Kuala Lumpur, during the period of two years. The majority of cases were referred from hospitals in the different states of Malaysia, by general practitioners, neurologists and other units of the University Hospital.

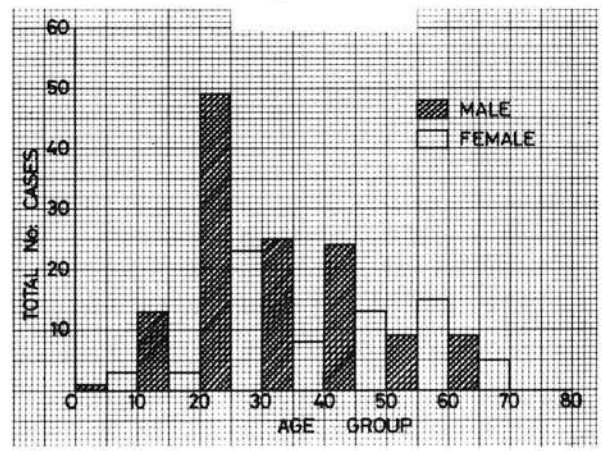
The diagnosis was established in each case on the basis of a comprehensive history which included a detailed questionnaire on vertigo as outlined by Busis (1965), otolaryngological examination, audiogram and other audiological tests when indicated including a neurological examination. In addition radiological examination of the temporal bone, the cranium and the vertebral column in its cervical part was done. Examination of the optic fundi and the fields of vision was carried out when this was indicated. Several cases needed referral to other specialities to exclude non vestibular disorders.

Patients were also submitted to a complete electronystagmographic (E.N.G.) examination, consisting of the recording of the following indices.

1. Spontaneous nystagmus.
2. Positional nystagmus.
3. Eye tracking tests.
4. Optokinetic nystagmus.
5. Caloric tests.
6. A modified Barany's test which consisted of a rotatory movement first to one side and then to the other, with acceleration 0.5°/Sec.^{2} to a constant speed of 90°/Sec. and then rotation with a constant speed for 60 seconds subsequently slowing to a stop within 1 second.

Table I shows the frequency distribution of patients according to age and sex. It can be seen that the majority of patients are in the 20 – 30 age group, a fact also noted by Nsamba (1972) in his study of 100 cases of vertigo in the African.

Table I
Vertigo Causes



Tables II and III give an analysis of the causes of vertigo which have been divided into central and peripheral. The number of cases in each group and the condition of the labyrinth have also been mentioned.

Table II

Central Causes of Vertigo

Central Causes	Number	Labyrinthine Response
1. Epilepsy	3	Normal
2. Functional (Psychogenic)	70	Normal
3. Syringobulbia	2	Normal
4. Cerebro Vascular Accidents	2	Normal
5. Vertebro Basilar Syndrome	15	Normal
6. Intracranial space occupying lesion	2	Normal
7. Migraine	7	Normal
8. Diabetes (Controlled)	3	Normal
9. Heart Block	1	Normal

Table III

Peripheral Causes of Vertigo

Peripheral Causes of Vertigo	Number	Labyrinthine Response
1. Meniére's Disease	17	7 – Unilateral canal paresis
		5 – Bilateral canal paresis
		5 – Unilateral canal paresis
2. Vestibular Neuronitis	36	30 – Unilateral canal paresis
		6 – Bilateral asymmetrical response
3. Ototoxicity (Salicylate)	3	Bilateral asymmetrical labyrinthine responses
4. Benign Positional Vertigo	28	Normal

CENTRAL GROUP

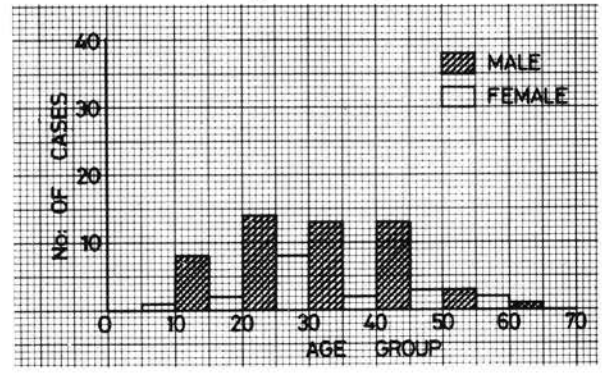
In the central group the commonest cause of vertigo was functional followed by Vertebro Basilar Syndrome.

Functional Vertigo

Table III shows the distribution of patients according to age and sex in this section. Majority of these patients gave a history of stress or emotional disturbance just prior to the onset of vertigo. The four university students, in this group stated that attacks of dizziness occurred just before their examinations. One housewife complained that the onset was after her house was burgled and another after her only child was admitted to hospital with febrile convulsions. It is important that in order to obtain a good history more time should be spent with the patient. It must be emphasised, however, that some of the patients with functional vertigo (dizziness) did not relate their condition to any emotional conflict. However, it is a known fact that many psychological conflicts take place at the unconscious level. Wolff (1963) in his discussion on psychosomatic symptoms states that the striking feature with these patients is that at first they all resist to a greater or lesser degree on suggestion that their physical symptoms could be emotional in origin. In all these patients the vestibular and audiological tests were normal.

Table IV

Psychogenic Vertigo



Vertebro Basilar Syndrome

There were 15 cases of vertebro basilar syndrome presenting with vertigo. All the patients were over 50 years and had atherosclerosis with evidence of arterial disease in other parts of the body. The symptoms were characteristically produced by focal neurological abnormalities. They were episodic in nature, lasting a short time and clearing up completely without any residual effect. These patients had blurring of vision, paraesthesia of the extremities and sometimes black outs in addition to their vertigo. Some complained of difficulty in swallowing and articulation. In 5 cases between the ages of 55 years to 65 years, a vertebral angiogram confirmed the diagnosis.

PERIPHERAL GROUP

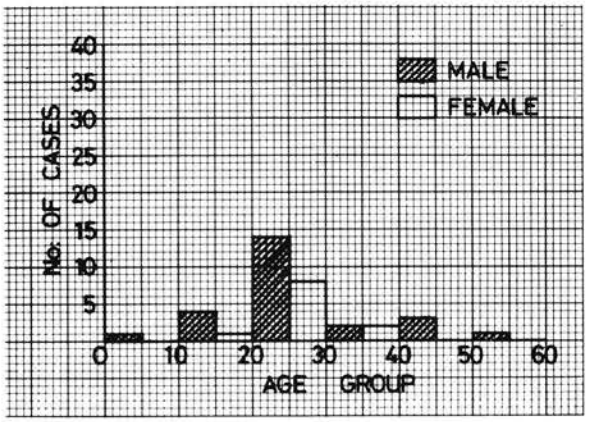
In the peripheral group the commonest cause of vertigo was vestibular neuronitis followed by Meniére's disease.

Vestibular Neuronitis

Table V shows the frequency distribution of the cases in this group according to age and sex.

Table V

Vestibular Neuronitis



It is a disease characterised by sudden and severe vertigo accompanied by nausea and vomitting but without cochlear symptoms such as hearing impairment, a feeling of fullness or pressure in the ear or tinnitus (Dix & Hallpike, 1952).

In this series, the peak incidence was in the age group 20 – 30 years. Harrison (1962) in his series of 108 patients with vertigo found it most common in the fourth decade in the Caucasians.

Of the 36 cases in this series, 25 had a single attack, the rest of them had multiple episodes, each episode lasting a few seconds and occurring in crops over a period of two years. Single attacks of vertigo occurred in the younger age group (20 – 30 years) and multiple attacks in the older age group (30 – 50 years). Coates (1969) in his study of 76 patients who had vestibular deficit only, as compared with a group of normal patients and a group of patients with both vestibular and auditory deficits, found that the single attack subgroup was the youngest, with an age range of 30 – 39 years, while the group that had multiple attacks consisted significantly of older people than those who had a single attack of severe vestibular disturbance.

A common feature noted in our cases was antecedent infection. Sinusitis was commonest among patients who gave a history of multiple episodes of vertigo. One patient volunteered that his vertigo occurred whenever there was an exacerbation of his sinusitis. Many other medical investigators too, have reported a high incidence of sinusitis in patients with vestibular deficit and normal hearing.

Dix & Hallpike (1952) found that antral infection was frequently encountered in his patients. Coates (1969) in his study of the relative incidence of sinusitis in patients with multiple and single attacks of dizziness, showed a much higher incidence of antral injection in patients with multiple attacks of vertigo. Hinchcliff (1967) observed that 30 – 50% of patients with vestibular neuronitis had roentgenographic evidence of sinusitis.

Benign Positional Vertigo

The majority of these patients gave a history of head injury at least six months prior to investigations. The incidence was greater in the males These tended to get better with progress of time.

Meniére's Disease

This disease is not as common in the Asians as in the Caucasians. In the Malaysian, its incidence was only 8% of the total number of cases of vertigo in this series. In the African it is also rare, Nsamba (1972) accounting for only 2% of total patients with vertigo. However, it is the commonest cause of vertigo in the Caucasians. Cawthorne and Hewlett (1954) in their study reported an incidence of 61%.

Though many predisposing factors have been associated with the aetiology of Meniére's disease yet it has been suggested that it may be a fundamental physiologic, disorganisation, probably significantly influenced by personality factors.

Hinchcliff (1967e) noted the increased prevalence of psychosomatic type personality profile in patients with Meniére's disease as compared to a control population and concluded that this was further evidence in favour of the psychosomatic nature of this condition.

SUMMARY

A study of the aetiology of vertigo in 200 Malaysians has been presented. The most common causes of central and peripheral vertigo have been discussed. The differences noticed in the aetiology pattern in the Asians and Africans as compared with the Caucasians are briefly considered.

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