■ REVIEW

Peripheral Vertigo Classification. Consensus Document. Otoneurology Committee of the Spanish Otorhinolaryngology Society (2003-2006)

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There are many different vertigo classifications and different denominations are frequently used for the same clinical processes. The Otoneurology Committee of the Spanish Society for Otorhinolaryngology and Head and Neck Pathology proposes an eminently practical classification of peripheral vertigo to facilitate a common terminology that can be easily used by general ENT practitioners. The methodology used has been by consensus within our society and especially among the most outstanding work groups in the area of otoneurology in Spain.
Initially vertigo is divided into single-episode vertigo and recurring attacks of vertigo, and these are then sub-divided into 2 groups, depending on whether or not hearing loss is present. Acute vertigo without hearing loss corresponds to vestibular neuritis and if it is associated with hearing loss, it is due to labyrinthitis of different aetiologies and cochleovestibular neuritis.
Recurrent vertigos without hearing loss are classified as induced, either by posture (BPPV) or pressure (perilymphatic fistula), or as spontaneous, including migraine-associated vertigo, metabolic vertigo, childhood paroxysmal vertigo, and vertigo of vascular causes (TIAs, vertebrobasilar insufficiency). Finally, recurrent vertigo with hearing loss includes Ménière's disease and others such as vertigo-migraine (with hearing loss), autoimmune pathology of the inner ear, syphilitic infection, and perilymphatic fistula (with hearing loss).

Key words: Peripheral vertigo. Classification. Terminology.

Clasificación de los vértigos periféricos. Documento de Consenso de la Comisión de Otoneurología de la Sociedad Española de Otorrinolaringología (2003-2006)

El vértigo puede ser clasificado de muchas formas y es frecuente que existan diferentes denominaciones para los mismos cuadros clínicos. Por este motivo la Comisión de Otoneurología de la Sociedad Española de Otorrinolaringología y Patología Cérvico-Facial ha propuesto una clasificación clínica de los vértigos periféricos eminentemente práctica y al alcance del otorrinolaringólogo general, que facilite el uso de un lenguaje común. La metodología utilizada ha sido procurar el consenso en el ámbito de nuestra sociedad y especialmente de los grupos de trabajo más destacados en el ámbito de la otoneurología en España.
La clasificación inicial divide la patología en vértigos de crisis única y vértigos recidivantes, y a su vez se subdividen en dos grupos con y sin hipoacusia. Los vértigos agudos sin hipoacusia están representados por la neuritis vestibular y los que se asocian a hipoacusia incluyen las laberintitis de diferente etiología y la neuritis cocleovestibular.
Los vértigos recurrentes sin hipoacusia se subclasifican en provocados, por la postura (vértigo postural paroxístico benigno) o por la presión (fístulas perilinfáticas) y espontáneos, que incluyen el vértigo asociado a migraña, el metabólico, el paroxístico de la infancia y el de origen vascular (AIT, insuficiencia vertebrobasilar). Finalmente el vértigo recurrente con hipocusia incluye la enfermedad de Ménière y otros como el vértigo-migraña (con hipoacusia), la enfermedad autoinmunitaria del oído interno, neurosífilisotosífilis y la fístula perilinfática.

Palabras clave: Vértigos periféricos. Clasificación. Terminología.

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INTRODUCTION

It is essential for different pathologies to be organized since interchanging information requires the use of a common nomenclature. The branch of science dealing with classifying diseases is known as "nosotaxis" (nosos, disease and taxis, categorization) and its purpose is to facilitate communication, with similar denominations, in the field of medicine.[1]

Modern nosotaxis has 2 main lines, the descriptive, clinical or symptomatic line, and the essentialistic line, which seeks to establish the cause of the disease. Sydenham, in the 17th century, laid down the methodological bases of modern disease by introducing the concept of "morbid species" and creating a well-structured nosological classification of illness based on clinical symptomatology.[2]

The essentialistic currents of thought, based on the determination of objective, quantifiable aspects of disease, emerged in the 18th and 19th centuries with the development of modern medicine. It follows 3 major lines: the anatomic or clinical mentality bases disease on the anatomic, pathological lesion and its leading advocates were Laënec, inventor of the stethoscope, and Wirchow, father of "cell pathology;" the physiopathological mindset considers disease as a physical or chemical process and is represented, basically, by Wunderlich, creator of the clinical thermometry, and von Frederichs, the initiator of metabolic physiopathology; the aetiopathological mentality is articulated around the microbial origin of disease, and it main proponents are Louis Pasteur and Robert Koch.[1,2] Today's classifications of disease tend to be less clear-cut, since they are based on clinical, aetiopathogenic, physiopathological, anatomic, and clinical criteria.

Vertigo can be classified in different ways, but the most common classification is the clinical-topographic classification that divides it into central and peripheral vertigo, in an attempt to distinguish between neurological and otological problems.[3,4] This work focuses on the various types of peripheral vertigos, since they fall within the usual scope of the work of ENT specialists, although we are aware that there are diseases with possible central and peripheral involvement (infectious, autoimmune, vascular, metabolic disease, etc) where the lesion's topography is not easy to determine.[5,6]

Having achieved a consensus in the area of concern to the Spanish Society of Otorhinolaryngology (SEORL), previous Otoneurology Commissions published a paper on bilateral vestibular syndrome[7] and another one dealing with Ménière's disease (MD).[8] In subsequent, national, multi-centric works we have detected issues regarding the interchange of information among authors, owing to the different denominations used for the same clinical entities. Thus, the aim of this paper was born: to achieve a classification of peripheral vertigos, with the consensus among the SEORL, that is logical and easy to use in clinical practice.

METHOD

The classification has been developed in several phases:

– First phase: preparation of a preliminary classification by the members of the Otoneurology Commission (first proposal)

– Second phase: public discussion of the first proposal during the course of the Otoneurology Meeting held in Valencia (2005), and the preparation of the second proposal

– Third phase: communication of the second proposal to the main working groups in the field of otoneurology (OTN) in Spain, for consideration and proposal of new changes. These were used to draft the third proposal

– Fourth phase: presentation and discussion of the third proposal at the 57th SEORL Congress (Granada, 2006). Drafting of the definitive classification

– Fifth phase: publication of the classification in the SEORL journal

CLASSIFICATION AND DEFINITIONS OF PERIPHERAL VERTIGOS

The proposed classification seeks to be simple and practical; hence, it is based initially on the data taken from the clinical history. More specific diagnoses require more specific testing, albeit generally available to the ENT generalist.

The classification is made following the time course of the vertigo (single-episode/recurring) and the sub-classification, according to the accompanying otological symptoms. Acute vertigos without hearing loss are represented by vestibular neuritis and hearing loss-related vertigos include laberynthitis of various aetiologies and cochleovestibular neuritis.[9] Recurring vertigos, without hearing loss, are further classified on the basis of whether they are induced by position (BPPV: benign positional paroxysmal vertigo) or by pressure (perilymphatic fistulae) and spontaneous vertigos include migraine-associated vertigo, metabolic vertigo, paroxysmal vertigo of childhood, and vertigo of vascular origin (TIA, vertebrobasilar insufficiency). Finally, recurrent vertigo with hearing loss includes MD and others, such as vertigo-migraine (with hearing loss), autoimmune disease of the inner ear, neurosyphilis-otosyphilis, and perilymphatic fistula (Table).

DEFINITIONS

Single-Episode Vertigo

Acute vertigo with hearing loss.[10] Clinical syndrome characterized by hearing loss together with sudden-onset vertigo, symptoms from the vegetative cluster, spontaneous nystagmus, and positional imbalance. In turn, it may present: *a)* with cochlear involvement (labyrinthitis) due to otogenic, vascular, tumoural, and degenerative causes[11]; and *b)* cochleovestibular neuritis: otic herpes zoster (Ramsay-Hunt's syndrome).

Acute vertigo without hearing loss: vestibular neuritis. Clinical syndrome characterized by sudden onset of a protracted episode of vertigo, with nausea and vomiting, spontaneous nystagmus, and postural imbalance, without hearing or neurological symptoms.[12,13]

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ingle-episode vertigo
Acute vertigo with hearing loss
With cochlear involvement (labyrinthitis)
ochleovestibular neuritis (Ramsay-Hunt s syndrome)
Acute vertigo without hearing loss (vestibular neuritis)
Recurrent attac s of vertigo
Recurrent attac s of vertigo with hearing loss
M ni re s disease
Vertigo-migraine
Autoimmune disease of the inner ear
eurosyphilis-otosyphilis
Perilymphatic fistula
Recurrent attac s of vertigo without hearing loss
Induced
Triggered by positional (PPV)
Pressure-induced: perilymphatic fistulae
pontaneous
Migraine-associated vertigo
Metabolic vertigo
Paro ysmal vertigo of childhood
Vertigo of vascular origin (TIA, vertebrobasilar insufficiency)
Vertigo of un nown origin

Recurrent Attacks of Vertigo

Recurrent attacks of vertigo with hearing loss. Ménière's disease.

In order to be included in this group, patients must have had at least 2 typical episodes of vertigo (lasting for at least 20 min, accompanied by imbalance, and commonly with symptoms belonging to the vegetative cluster, obliging patients to rest, and always present horizontal or horizontal-rotational nystagmus).

Perceptive hearing loss must be present, confirmed on audiometric testing at least once (hearing tends to fluctuate, but this is not essential to establish the diagnosis). The ear involved must present tinnitus, a feeling of fullness in the ear or both. This would correspond to what the American Academy of Otolaryngology-Head and Neck Surgery (AAO-HNS) defines as "definitive MD."[14]

It would also encompass other clinical forms such as familial Ménière's vertigo (MV), probably due to a genetic alteration and bilateral MV (synchronous and asynchronous).

Vertigo-migraine. In this group we will include patients with recurrent episodes of vertigo who present perceptive hearing loss of unknown cause and who meet the following criteria (they must meet all criteria)[15]:

1. Recurrent vestibular symptoms of at least moderate intensity.

2. Current or prior history of migraine according to the International Headache Society (IHS) criteria.

3. Presentation of at least 1 migraine symptom in at least 2 episodes of vertigo: migrainous headache, photophobia, or visual auras.

4. Symptoms are not attributed to any other cause.

Autoimmune disease of the inner ear. Clinical syndrome characterized by vertigo and abrupt sensorineural hearing loss, rapidly progressive and/or episodic, with good response to steroid and immunosuppressant treatment, in the context of a systemic autoimmune disease and/or disorders in 1 or more of the following laboratory tests: high rate of sedimentation, positive rheumatoid factor, positive antinuclear antibodies, positive antineutrophil cytoplasmic antibodies, elevated circulating immunocomplexes. Positive Western blot and lymphocyte T immunophenotype.[16]

Neurosyphilis-otosyphilis. This would include patients with episodic vertigo with progressive unilateral or bilateral perceptive hearing loss. Patients present unilateral or bilateral vestibular hypofunction, and positive analytic studies for syphilis.[17]

Perilymphatic fistula. This is characterized by vertigos with progressive sensorineural hearing loss following a gradual course and with a history of malformations of the middle-inner ear (seen on computerized tomographic and magnetic resonance imaging), head trauma or surgery with manipulation over the oval or round window, and/or with visualization of the fistula during surgery. The fistula test is positive (although not in all cases). There tends to be hypoexcitability of the labyrinth to heat in many cases.[18]

Recurrent Attacks of Vertigo Without Hearing Loss

Posture-induced. Called benign positional paroxysmal vertigo and defined as a brief episode of vertigo (usually lasting for only seconds), triggered by provocative positional tests (Dix-Hallpike test, lying down on one side, rotational testing, or hyperextension of the neck) which are reproducible and limited.[19]

Pressure-induced: perilymphatic fistulae. Vertigo triggered by mechanical pressure, generated by the patient himself/herself (Valsalva manoeuvre), by the examiner (pressure generated in the external auditory canal), or by sound (Tullio's phenomenon). Usually, perilymphatic fistulae evolve with hearing loss; however, there may not by any hearing loss in the case of dehiscence of the superior semicircular canal.[19,20]

Spontaneous vertigos

Migraine-associated vertigo. Repeated episodes of vertigo, without auditory symptoms, usually in young or middle-aged individuals.[19,21] It must meet the criteria previously referred to in the section on "Vertigo-migraine."

Metabolic vertigo. Alteration of balance (instability and/or episodes of a feeling of movement) in patients with known, decompensated metabolic disease (diabetes, kidney disease, etc). The clinical symptoms should remit by compensating the underlying metabolic syndrome.[22,23]

Paroxysmal vertigo of childhood. Recurrent, brief episodes (less than 15 min) of loss of balance that appear during the first years of life (in general, prior to 6 years of age). They may be accompanied by vegetative symptoms; they usually disappear spontaneously (most often, before the age of 10). It is often associated with migraine.[24,25]

Vertigo of origin vascular (TIA, vertebrobasilar insufficiency). Repeated episodes of vertigo or imbalance in elderly patients and/or individuals with cardiovascular risk factors, sometimes triggered by abrupt movements of the neck. Accompanied by temporary symptoms of ischaemia of the posterior cranial fossa (clouded vision and/or photopsia, occipital headache, loss of strength, and/or paresthesias in upper limbs, etc) with full recovery following the episode.[26,27]

Vertigo of unknown origin. This category refers to vertigos that cannot be included in any of the previous syndromes.

COMMENTS AND DISCUSSION

The proposed classification is highly practical and, since it has been developed with the field of otorhinolaryngology in mind, it focuses exclusively on peripheral vertigos. Its main aim is to provide the ENT specialist with a common nomenclature in the light of what is currently known and with the greatest consensus possible in the field of our professional society.

The proposed classification includes stages that range from large diagnostic groups, based on the clinical history, to more specific diagnoses that require more precise, complementary testing. Thus, the diagnostic flow for Ménière's disease, for instance, first passes through the group of recurrent episodes of vertigo, it moves on to the subgroup of recurrent attacks of vertigo with hearing loss and ends up with the definitive diagnosis by satisfying the criteria of the AAO-HNS.

This classification does not seek to exclude and, as in any attempt to create systematic categories of diseases, it may pose problems with regard to specific issues. Nor does it aim at eternal permanence as it will clearly need to be revised regularly depending on the progress made in otoneurology.

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