

# 頭痛電子報第十九期

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## 【本期內容】

### 2005 神經醫學聯合學術研討會頭痛學組演講摘要

Migraine And Vestibular Functions 偏頭痛與前庭功能	許立奇 醫師
Basilar-Type Migraine 基底型偏頭痛	楊怡和 醫師
Vertiginous Migraine 眩暈型偏頭痛	傅中玲 醫師

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台灣頭痛學會已獲內政部核准籌組，近期將召開發起人暨第一次籌備會議，並公告徵求會員，歡迎對頭痛感興趣的醫護人員及心理師參加。

本期內容收錄今年神經醫學聯合學術研討會頭痛學組演講摘要，本次頭痛學組特別邀請台灣眩暈大師耳鼻喉科楊怡和醫師與神經內科對談，並由台北榮總許立奇醫師主講「偏頭痛與前庭功能」及傅中玲醫師談「眩暈型偏頭痛」，提供給大家參考。

## Migraine And Vestibular Functions: An Overview

### 偏頭痛與前庭功能

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Dizziness and vertigo rank among the most common complaint in the general population. They can result from abnormalities of the vestibular apparatus of the inner ear and of those portions of the central nervous system (CNS) that process information from the peripheral vestibular system and other senses, particular vision and somatosensation. Migraine, characterized by periodic headaches, is also very prevalent by many population-based studies. So, it is rather reasonable to predict that a portion of patients would have both migraine and dizziness by pure coincidence. However, there is evidence that migraine and dizziness actually concur much often than by chance alone. The purposes of this presentation were: 1. to introduce briefly the function and composite of the vestibular system, laboratory evaluation of the vestibular/balance system; 2. to briefly describe the interrelationship between migraine and vestibular function.

To maintain balance in the upright position, a complex and not altogether successful series of neurological mechanisms have evolved. These comprise visual, proprioceptive, and vestibular systems. Of these, the vestibular system play a central role because sensory information gathered from the other 2 sensory inputs (vision and proprioceptive) were gathered into the vestibular system before further processing was made. Dysfunction of vestibular system causes a lot of symptoms: imbalance, illusion of rotational motion (vertigo/dizziness) and linear motion, illusion of spatial disorientation, oscillopsia, drop attacks, lateropulsion and autonomic accompaniments such as nausea and vomiting.

The human vestibular system is made up of three components: a peripheral sensory apparatus serving as motion sensors, a central processing mechanism including the vestibular nuclear complex, and the cerebellum, and a mechanism for motor output. serving two important reflexes: the VOR and VSR.

There are a battery of laboratory examinations which are supplementary to detect vestibular dysfunction. The followings are main parts of vestibular function test:

1. Bithermal caloric test –

Bithermal caloric test uses 7degree below and above body temperature water or air irrigation (30 and 44 degree respectively) for cold and warm stimuli. Two parameters can be calculated from the results of irrigation: one is the canal paresis (CP), the other is the directional preponderance (DP).

2. Test of visual-ocular control –

Along with vestibulo-ocular reflexes, two visually controlled ocular stabilizing systems producing versional eye movements- the saccadic and smooth pursuit systems can be evaluated by electronystagmography (ENG). Optokinetic nystagmus is a special form of smooth pursuit system which can also be tested by ENG.

Vestibular symptoms, including dizziness and vertigo, frequently occur in association with migraine, which can be dated back to the late 19<sup>th</sup> century. According to recent epidemiological studies, dizziness occurs in 28-30% and vertigo in 25-26% of patients with a primary complaint of migraine. Conversely, migraine was diagnosed much often (38%) in a dizzy clinic than orthopedic patients (24%).

Several studies have identified vestibular laboratory abnormalities in patients with migraine; most were tested in headache-free periods. Unilateral peripheral vestibular hypofunction as evident by reduced vestibular response by caloric testing and non-localizing signs such as directional preponderance are common findings. These point to possible both peripheral and central involvement in the pathophysiology of migraine-related vestibulopathy. Recently, von Brevern M et al. reported oculographic findings during acute migrainous vertigo attacks in a group of 20 patients. Of these patients, ten have central vestibular syndrome, 3 have peripheral vestibular syndrome and the remaining 7 have vestibular syndrome of uncertain origin, similar to previous results in patients during headache-free period.

The pathophysiology of migraine related dizziness is largely unknown. Several hypotheses have been proposed for migraine related vestibulopathy, all of which are derived from the presumed pathophysiology of migraine. Some have linked the neuroanatomical pathways such as trigeminovascular reflex with the clinical manifestations of migrainous vertigo. Inner ear ischemias related to vasospasm and brainstem circuit activation are other possible mechanisms.

In conclusion, migraine related vestibulopathy is very common. However, its pathogenesis is still largely unknown. Further research is needed to elucidate the mechanism of migrainous vertigo.

## 基底型偏頭痛

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## Basilar-Typed Migraine

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**目的** 「Basilar artery migraine」一詞乃 Bickerstaff (1961) 首先提出，意指偏頭痛伴隨一些後顱窩的症狀，諸如眩暈、耳鳴、視力模糊、步態失調、構音不全等。Basser (1964) 再提出「Benign paroxysmal vertigo in childhood」一詞，以為是偏頭痛的同義詞 (Migraine equivalent)。2004 年 ICHD-2 遂正名為「Basilar-typed migraine」，並提出新的診斷基準，包括頭痛及後顱窩的症狀。然而上述診斷基準主觀成分居多，缺乏一些臨床客觀數據佐證，因此有時會造成鑑別診斷上的迷思。由於後顱窩富含許多眼球運動的神經路徑，諸如中腦存在著動眼神經及核上性眼球運動機轉；橋腦有 MLF 與 PPRF 行經；延腦則擁有前庭神經核，且受小腦控制，是以後顱窩病變勢必造成眼球運動多采多姿，而神經耳科學即為一門以分析眼球運動為主的學科。基底型偏頭痛目前咸認其致病機轉為基底動脈及其相關領域發生痙攣或虛血，那麼其所衍生的臨床徵象，如何藉由現代化的神經耳科學檢查來評估，則是本研究的目的。

**方法** 純音聽力檢查、眼振電圖檢查(electronystagmography)、溫差測驗 (caloric test)、重心動搖檢查 (posturography)、及前庭誘發肌性電位 (vestibular evoked myogenic potential) 檢查。

**結果** 自 1995 年至 2004 年十年間，我個人計診治眩暈門診新鮮例 15,808 例。所有病人無一例外，均接受一系列聽力平衡功能檢查。其中診斷為基底型偏頭痛者計 2,417 例，佔全年度眩暈門診新鮮例的 15%，換言之平均一年經驗 240 例。男女比例約為 2:3。純音聽力檢查 98% 正常，眼振電圖檢查 65% 呈現 central signs，溫差測驗 55% 異常，前庭誘發肌性電位 50% 異常；後二者檢查結合起來異常率可達 75%。藥物治療三個月後，89% 患者頭痛與眩暈症狀消失。重心動搖檢查及前庭誘發肌性電位檢查的回復正常，可作為預後的指標。

**結論** 傳統神經學檢查，若能佐以神經耳科學來共同考察，二者相輔相成，相信對於偵測後顱窩病變，今後更能得心應手。

## 眩暈型偏頭痛

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## Vertiginous Migraine

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Vestibular symptoms occur frequently in patients with migraine. The epidemiological link between migraine and vestibular symptoms and signs suggests shared pathogenetic mechanisms. Links between the vestibular nuclei, the trigeminal system, and thalamocortical

processing centers provide the basis for the development of a pathophysiological model of migraine-related vertigo. During the last year, several studies have increased understanding of the relationship between migraine and vestibular symptoms. A study of motion sickness and allodynia in migraine patients supports the importance of central mechanisms of sensitization for migraine-related vestibular symptoms. A study has demonstrated effective treatment of vertigo with migraine therapy. Furman proposed a diagnostic algorithm for definite migrainous vertigo and probable migrainous vertigo in 2003. A diagnosis of definite migrainous vertigo requires patients to meet International Headache Society criteria for migraine, experience episodic or fluctuating symptoms highly suggestive of a vestibular disorder, that is not simply dizziness, giddiness, or light-headedness, have no known causes of vertigo, and experience at least one of a set of migrainous symptoms during at least two vertiginous attacks. A diagnosis of probable migrainous vertigo requires episodic or fluctuating vestibular symptoms suggestive of a vestibular disorder, no known causes of vertigo, and symptoms highly suggestive of migraine. The use of a standardized assessment tool to identify this unique population of patients will help future studies to test both the pathological model and effective treatment options.

本通訊以電子郵件方式寄發，有興趣繼續獲得本通訊者敬請告知電子郵件信箱，若有相關研討會資訊，我們將會通知您；若您不希望繼續收到本通訊，也敬請回覆 Email 告知。本園地公開，竭誠歡迎所有相關醫學著述、病例討論、文獻推介、研討會講座等投稿。感謝您的支持！  
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