

# 頭痛

# 飲食治療



活水神經內科診所

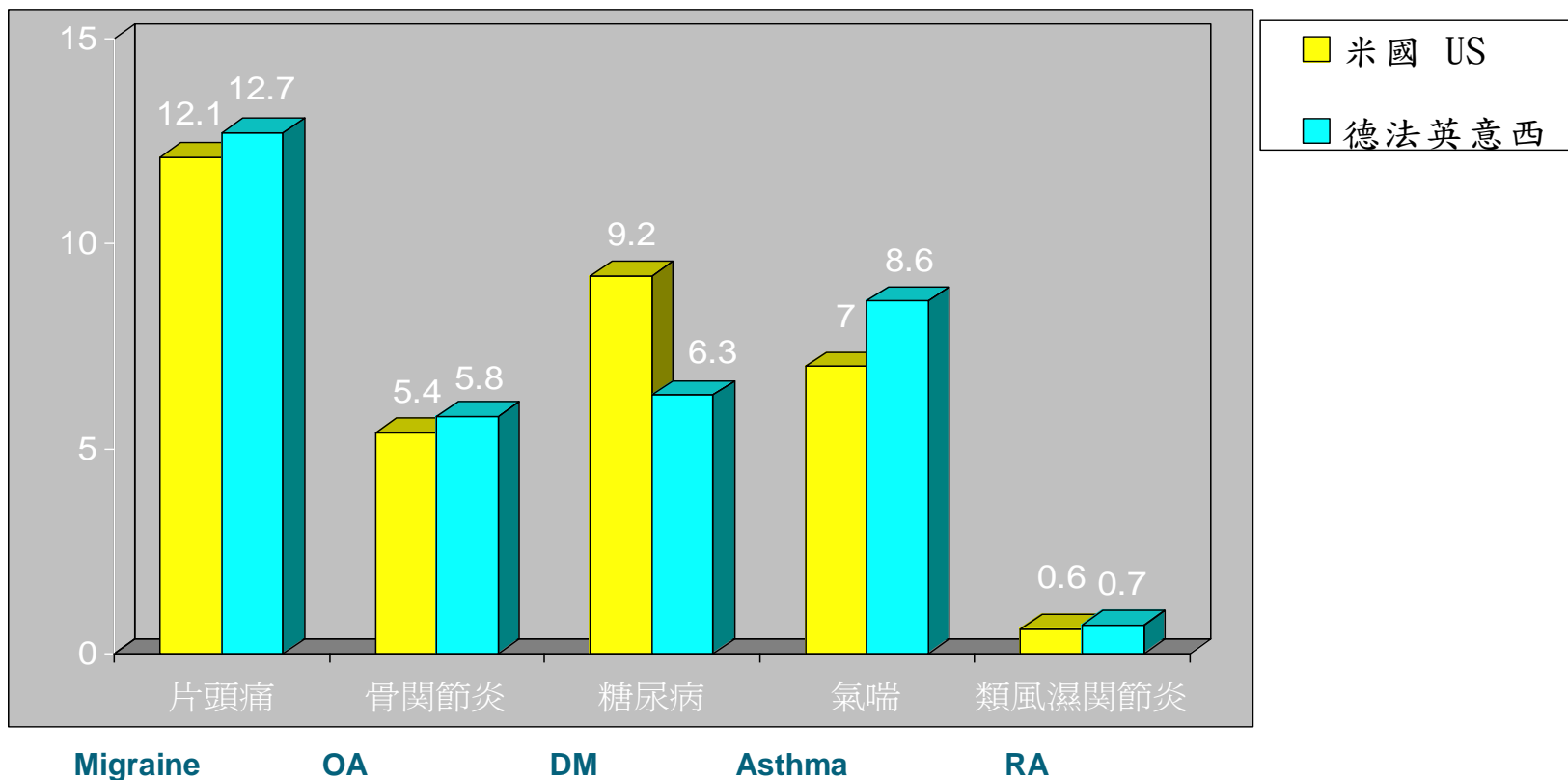
陳淑娟

營養師

# 偏頭痛之流行病學

## Epidemiology of migraine

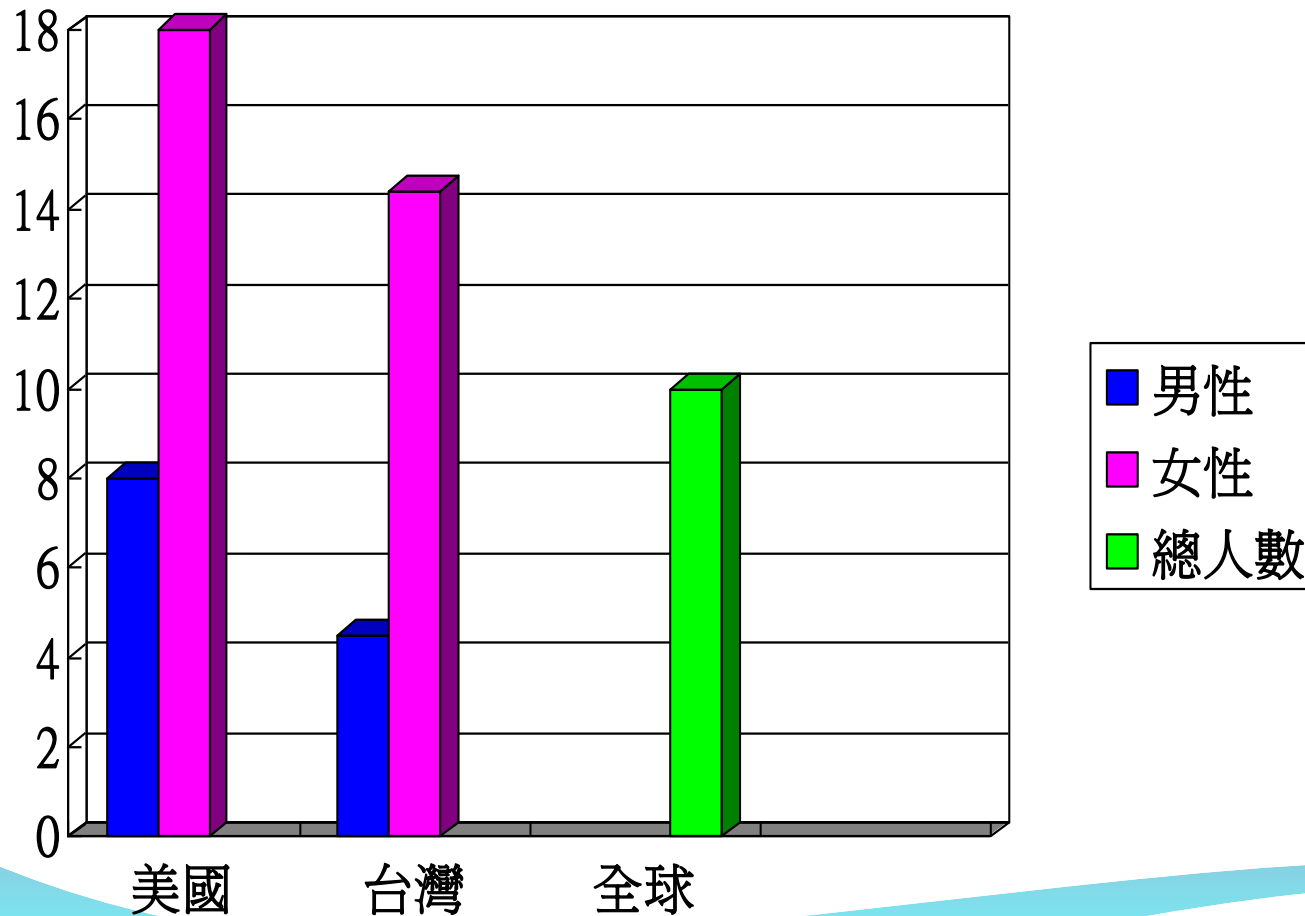
盛行率(%)  
Prevalence



Sources: CDC, NHANES III, NHIS, Office for National Statistics, Literature.

偏頭痛是常見且又常常造成困擾的一個疾病，

盛行率：



# 偏頭痛的治療策略

1. 消除誘發因素: 飲食、生活、藥物
2. 症狀治療 (ABORTIVE)
3. 預防治療 (PROPHYLACTIC)

# 在此探討食物與營養食品對偏頭痛預防之功效

- 尋找自己的食物誘因
- 補充其他食物及營養品

# 找尋食物誘因

透過頭痛與飲食日誌使患者學習自我疾病管控，減少頭痛發作頻率。

- 並非一成不變
- 複合式的原因誘發
- 鼓勵患者做好頭痛及飲食日誌

# 常見食物誘因

- 酒精(29%-35%)
- 巧克力(19%-22%)
- 起司(9%-18%)
- 咖啡因(14%)
- 味精(12%)

# 酒精

- 飲酒數分鐘~3小時內引發頭痛
- 宿醉頭痛
- 以紅酒較易誘發宿醉頭痛
- 確實的致痛因素不明：
  - 可能是直接導致顱內血管擴張
  - 睡眠型態的改變
  - 酒精導致鎂離子流失





## 建議

- 適量飲酒
- 飲酒前食用含脂肪食物可以延緩酒精吸收。

適度飲酒是---

男性每日不超過2個酒精當量

女性不超過1個酒精當量

1個酒精當量酒類飲料=

啤酒360cc=紅酒150cc=威士忌45cc。

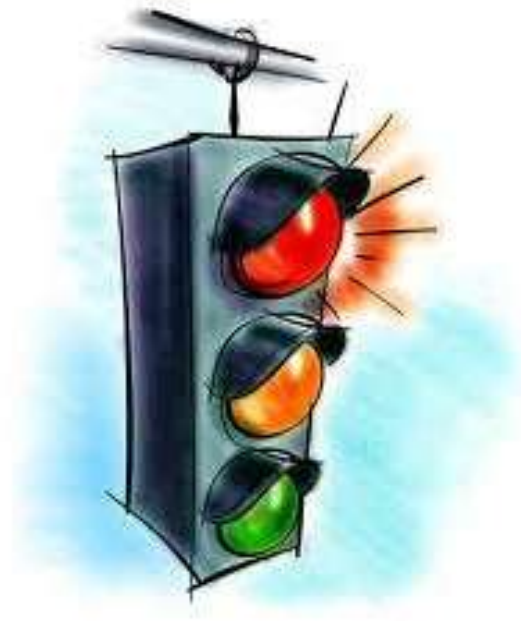


# 咖啡因

- 常見於咖啡、茶、巧克力及處方藥與成藥中。
- 作用於腦內神經路徑，有些路徑與疼痛調控有關，會導致血管收縮及刺激神經傳導物質分泌。
- 輕中劑量(50~300mg)---提高注意力、精神。  
高劑量(>300mg)---造成焦慮、失眠。



- 視使用量和頻率而定，對頭痛影響是雙效的，可能減緩頭痛也可能導致頭痛惡化。
- 咖啡因的戒斷也是一個頭痛的誘因，尤其是 $>200\text{mg/day}$ 的人，更可能造成戒斷頭痛。



# 咖啡紅黃綠

- 紅色咖啡因含量200~300毫克或300毫克以上
- 黃色咖啡因含量100~200毫克
- 綠色咖啡因含量100毫克以下



## 建議

- 持續飲用含咖啡因飲料，限制  $< 200\text{mg/day}$ 。
- 使用含咖啡因的止痛藥，限制  $< 2\text{day/week}$ 。
- 想要戒除咖啡因需緩慢漸進，以數周的時間來戒除。

# 苯基乙胺



- 存在於可可中
- 可能是因它會造成血清素或兒茶酚胺分泌，而導致血管收縮，誘發頭痛。
- 雖然許多病患常常將巧克力列為誘因，但苯基乙胺的誘因角色卻還不能十分確定。



# 酪胺

- 存在於較為熟成的起司、臘肉、啤酒、發酵食物和酵母萃取物等。
- 它會造成正腎上腺素分泌而可能誘發頭痛
- 最早發現在使用單胺氧化酶抑制劑的患者上，患者吃了起司後產生頭痛發作甚至高血壓危象。

# 味精



- 味精是中國菜常用的調味料，也常用於罐頭食物。
- 病理機轉可能是因為高劑量會使血管收縮，或是直接刺激麩胺酸(glutamate)受體誘發頭痛。



# 硝酸鹽或亞硝酸鹽

- 硝酸鹽是食物防腐劑，可用於食物的保色並抑制肉毒桿菌產生，增加煙燻或醃製風味。
- 常用於煙燻魚或是香腸、臘肉，食用後可能會在數分鐘或數小時內產生頭痛。
- 它的原因可能是因為一氧化氮的分泌直接產生血管舒張的效果。



# 預防偏頭痛的維他命和其他食物補充

- 鎂
- 維他命B2
- CoQ10
- 硫辛酸
- 小白菊
- 款冬
- 銀杏
- 多元不飽和脂肪酸

## Foods and Supplements in the Management of Migraine Headaches

Christina Sun-Edelstein, MD\* and Alexander Mauskop, MD\*†

**Objective:** Although a wide range of acute and preventative medications are now available for the treatment of migraine headaches, many patients will not have a significant improvement in the frequency and severity of their headaches unless lifestyle modifications are made. Also, given the myriad side effects of traditional prescription medications, there is an increasing demand for "natural" treatment like vitamins and supplements for common ailments such as headaches. Here, we discuss the role of food triggers in the management of migraines, and review the evidence for supplements in migraine treatment.

**Methods:** A review of the English language literature on practical and clinical studies of any type on food triggers, vitamins, supplements, and migraine headaches was conducted.

**Results:** A detailed nutritional history is helpful in identifying food triggers. Although the data surrounding the role of certain foods and substances in triggering headaches is controversial, certain subsets of patients may be sensitive to phenylethylamine, tyramine, aspartame, monosodium glutamate, nitrates, nitrites, alcohol, and caffeine. The available evidence for the efficacy of certain vitamins and supplements in preventing migraines supports the use of these agents in the migraine treatment.

**Conclusion:** The identification of food triggers, with the help of food diaries, is an inexpensive way to reduce migraine headaches. We also recommend the use of the following supplements in the preventative treatment of migraines, in decreasing order of preference: magnesium, Pteridine hydrochloride, feverfew, coenzyme Q10, riboflavin, and alpha lipoic acid.

**Key Words:** migraine, food triggers, magnesium, feverfew, butterbur, riboflavin, coenzyme Q10, alpha lipoic acid, alternative treatment

(*Clin J Pain* 2009;25:446-452)

Migraine is a common and disabling disorder that affects over 28 million Americans.<sup>1</sup> Although a wide range of acute and preventative medications are now available for the treatment of headaches, most patients will not have a significant improvement in the frequency and severity of their headaches unless lifestyle modifications are made. These include sleep hygiene, stress management, regular aerobic exercise, and dietary modification. Unfortunately, these lifestyle recommendations are frequently overlooked by physicians. In this review the role of food

and nutrients in the treatment and prevention of migraine headaches will be discussed.

### SEARCH STRATEGY AND SELECTION CRITERIA

References for this review were identified by searches of PubMed from 1966 to February 2008 with the terms "migraine," "food trigger," "alternative treatment," "magnesium," "coenzyme Q10 (CoQ10)," "riboflavin," "feverfew," "alpha lipoic acid," and "butterbur." Articles were also identified through searches of the authors' own files. Only papers published in English were reviewed.

### EPIDEMIOLOGY

Migraine affects 18% of women and 6% of men in the United States,<sup>2</sup> and has an estimated worldwide prevalence of about 10%.<sup>3</sup> For both men and women, the prevalence of migraine rises throughout early adult life and falls after midlife. In girls and women, the rate almost triples between age 10 and 30 years.

Population-based studies have reported that migraine is inherited, with a relative risk of migraine headache in a first-degree family member ranging from 1.4 to 1.9 when the proband has migraine without aura.<sup>4,5</sup> In monozygotic twins the concordance rates for migraine range from 37% to 52%, and 15% to 21% for dizygotic twins.<sup>6,7</sup> These figures indicate that both genetic and environmental factors play a significant role in the migraine.

### PATHOPHYSIOLOGY

Although the understanding of migraine pathophysiology has increased dramatically in recent years, the exact etiology remains to be defined. The current prevailing theory is based on a hyperexcitable "trigeminovascular complex" in patients who are genetically predisposed to migraine. In these people, there is a lowered threshold for migraine attacks and a vulnerability to environmental triggers. In susceptible individuals, the trigeminovascular neurons release neurotransmitters, such as calcitonin gene-related peptide and substance P, when headache triggers are encountered. This leads to vasodilation, mast cell degranulation, increased vascular permeability and meningeal edema, resulting in neurogenic inflammation. This nociceptive information is transmitted from the trigeminal nerve to brainstem nuclei, thalamic nuclei, and the cortex, where migraine pain is ultimately perceived.<sup>8</sup> The locus coeruleus, dorsal raphe, and the periaqueductal gray also play modulatory roles in the transmission of pain.<sup>9</sup>

Mitochondrial dysfunction, which leads to impaired oxygen metabolism, has been speculated to play a role in migraine pathophysiology,<sup>10-12</sup> as migraineurs have been shown to have a reduction in mitochondrial phosphorylation potential in between headaches.<sup>13,14</sup> This is the basis

Received for publication September 8, 2008; revised October 27, 2008; accepted November 1, 2008.  
From the \*The New York Headache Center; and †SUNY Downstate Medical Center, New York, NY.  
Reprints: Christina Sun-Edelstein, MD, The New York Headache Center, New York, NY 10021 (e-mail: drsun@nyheadache.com).  
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# 鎂離子

- 參與粒線體的能量代謝
- 是神經傳導物質NMDA接受體的拮抗物，  
會阻斷鈣進入細胞內，減少過度興奮狀態
- 影響血清素的釋出及血清素對血管調控的能力
- 調控降鈣素基因相關肽(CGRP)

- 研究發現偏頭痛患者發作時，腦內的鎂離子濃度變低，甚至有些是全身的鎂離子濃度都變低。
- 由臨床試驗顯示，口服鎂離子的補充是可以預防偏頭痛的。
- 建議劑量：400mg/day。
- 副作用：腹瀉。

# 維他命B2

- 對於細胞膜的穩定和細胞的能量運用非常重要
- 試驗顯示維他命B2對偏頭痛有預防效果：  
400mg/day的維他命B2連續使用三個月，  
有59%的病患至少減少50%的頭痛發生機率。
- 副作用：腹瀉和多尿。

# CoQ10

- 內生性輔酶，增進粒線體電子傳遞鍊的功能。
- 試驗發現：  
150mg/day CoQ10連續使用三個月，  
有61%的病人至少減少50%的頭痛發生天數。
- 另一試驗：使用CoQ10，100mg/TID  
發現發作頻率和頭痛或噁心天數的減少都有效，
- 副作用：胃腸不適或皮膚過敏。

# 硫辛酸

- 就像B2和CoQ10，也可增強粒線體的氧化反應。
- 一個54名病人參與的研究  
顯示使用硫辛酸600mg/day連續三個月，  
可以降低頭痛發生的機率，  
但是相較於安慰劑並沒有統計學上的意義，  
這可能是因為樣本數太少的關係。



# 小白菊製劑(feverfew)



- 由小白菊的葉子乾燥而成
- 西方用於頭痛、發炎性疾病已有幾世紀之久

➤ 葉子裡面的小白菊內脂(parthenolide)

可能會抑制血小板和白血球釋放血清素，

以及抑制血小板的凝集，可能可以

抑制前列腺素，產生抗發炎的效果



- 最新的一個粹取物MIG-99，性質較為穩定，用於147人的試驗，相較於對照組，雖不能明顯看出它對頭痛次數的減低有效果，但是對於嚴重患者是有幫助的。
- 後來一個多中心雙盲的研究，共有170人參加，使用6.25mg/TID的MIG-99，相較於安慰劑，有明顯減少頭痛發作的效果。
- 副作用：胃腸不適，口內瘡和關節痛。



# 款冬



- 款冬是多年生灌木，在古時候也被用於醫療。
- 作用在調節鈣離子通道，抑制白三烯素的合成，這是偏頭痛相關的發炎性物質。

➤ 雖含有肝毒性併致癌物質pyrrolizidine alkaloids，但是目前的上市萃取物製劑已經移除此成分。

- 一個雙盲的隨機測試，使用50mg款冬製劑每天兩次，可以減少頭痛發作次數和天數。
- 另外Lipton et al規劃了兩種劑量75mg和50mg與安慰劑的比較，發現高劑量可以獲得較好的效果。
- 還有一個109人的兒童和青少年研究，77%的受試者在使用款冬製劑後，可以減少至少50%的發作頻率。
- 副作用：輕微的胃腸不適或是打嗝。

# 銀杏



- 曾在中國使用達數世紀，用於止痛消炎和肌肉骨骼的疾病。
- 減少血小板凝集和抑制前列腺素和白三烯素的合成。



# 多元不飽和脂肪酸

➤ 是體內自然存在的omega-3脂肪酸

➤ 臨床試驗顯示：

食物中富含的EPA可減少頭痛的頻率和嚴重度，  
可能是因減少前列腺素的量和血清素的活性。

## 建議

- 雖然美國食品衛生管理局(FDA)並未明訂EPA的每日建議量，但每天600mg分三次服用目前被建議於頭痛預防。
- 富含於深海魚：鱈魚、鮭魚、鯖魚和鮪魚。



# 結論

- 雖然偏頭痛的治療與預防已有許多的藥物建議，但營養飲食建議亦是一個重要的議題。

## 治療建議

- 鎂離子：400mg/day
- 款冬：75mg/BID
- 小白菊：100mg/day
- CoQ10：300mg/day
- vitB2：400mg/day
- 硫辛酸：600mg/day

# 使用補充療法是否會影響

## 藥物的治療？

就目前所知，這些補充療法  
與傳統的藥物並沒有交互作用

➤ 頭痛與飲食日誌可讓病人學會自我管理；

且是最不用花費的方法。

➤ 改變一個人的飲食習慣是相當不易的，

需相當大的決心，但成果將會是最好的報酬。

# 謝謝聆聽



祝大家跟頭痛說  
Bye Bye