J Headache Pain (2004) 5:S92–S95
DOI 10.1007/s10194-004-0118-1

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Treatment of chronic daily headache

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Abstract Patients with chronic daily headache (CDH) are difficult to treat. A combination of general measures and specific pharmacological treatments is necessary. When possible, pharmacological management should be planned on an outpatient basis. The general protocol should include abrupt discontinuation of the offending symptomatic medications, specific treatment for detoxification, daily nonsteroidal anti-inflammatory drugs (NSAIDs) for about 1 month, triptans only for moderate-severe headache, and prophylactic treatment. Either amitriptyline plus propranolol or valproic acid have been classically recommended for transformed migraine prophylaxis. Refractory patients can respond to a combination of a beta-blocker and valproic acid, possibly due to their complementary mechanisms of action. Recently, the new antiepileptic topiramate has been shown to be especially useful in this indication. At least one-third of patients, however, do not improve. Therefore, the best treatment of this incapacitating entity continues to be its prevention. Preventive measures should include: (1) public information concerning the risk of frequent self-treatment for headaches; (2) inform headache patients of the risk of analgesic overuse/rebound headache; (3) recommend NSAIDs and triptans as symptomatic medications; and (4) active use of preventive medications when headaches begin to increase in frequency.

Key words Chronic daily headache • Chronic migraine • Chronic tension-type headache • Treatment of chronic daily headache

Introduction

Daily or near-daily headache is a widespread problem in clinical practice. When a patient presents with frequent headaches the physician faces a substantial diagnostic and therapeutic challenge. In the majority of these patients, headaches are not related to systemic or structural diseases. Under the general term of chronic daily headache (CDH), Silberstein et al. classified these headaches into transformed migraine (TM), chronic tension-type headache (CTTH), new daily persistent headache (NDPH), and hemicrania continua (HC) [1]. This CDH classification has become very popular, especially in daily clinical practice. Because of its necessarily subjective criteria, however, several points in this classification are still under debate.

As stated above, CDH is a frequent problem in clinical practice [2]. Forty percent of patients attending a specialized headache clinic meet CDH general diagnostic criteria, of whom 80% are women. In these clinics, around 60% of

patients suffer from TM, 20% from CTTH and 20% meet NDPH criteria. Most, some 80%, overuse symptomatic medications. Our data taken from a big (almost 5,000 subjects) sample of the general population indicate that 1.4% meet diagnostic criteria for CDH with analgesic overuse [3, 4].

Therefore, CDH is a very frequent reason for consultation in headache clinics, which reflects its prevalence of almost 5% in the general population, the proportion of CTTH and TM cases being quite similar. From epidemiological data it can be concluded that analgesic overuse is not the cause of CDH in most patients, even though analgesic overuse is both a precipitating and an aggravating factor for CDH in patients with primary headache prone to this phenomenon [3, 4].

In a clinic-based study of 630 patients with CDH, including patients with TM, CTTH and NDPH, the Minnesota Multiphasic Personality Inventory was abnormal in 61% of subjects compared with 12.2% of patients with episodic migraine. In several subspecialty center-based studies, depression occurred in about 80% of TM subjects. Psychiatric comorbidity is a predictor of headache intractability. The Minnesota Multiphasic Personality Inventory was abnormal in 100% of patients with CDH who failed to respond to aggressive management, compared with 48% of the responders [5].

In the general population, one-third of CDH subjects meet depression criteria, and almost two-thirds show personality abnormalities, either neuroticism, psychoticism or both. Personality abnormalities are more frequent in abusers (82%) than in non-abusers (55%) [6].

Pathophysiology

Although the pathophysiology of CDH is unknown, recent work suggests that several mechanisms could contribute to the process. CDH may be due to: (1) abnormal excitation of peripheral nociceptive afferent fibers, perhaps due to chronic neurogenic inflammation; (2) enhanced responsiveness of the nucleus caudalis neurons, i.e., central sensitization; (3) decreased pain modulation; (4) spontaneous central pain; or (5) a combination of these. These mechanisms need an individual genetic predisposition to develop into CDH.

Treatment

Patients suffering from CDH are difficult to treat. A combination of general measures and specific pharmacological treatments is necessary. General measures include: (1) promoting good communication between patient and physician; (2) reassurance, excluding secondary headaches; (3) identifying comorbid medical/psychiatric conditions; (4) recognizing the subtype of CDH; and (5) concomitant behavioral intervention.

Table 1 Outpatient withdrawal from acute drugs and acute treatment of CDH attacks

Abrupt discontinuation of the offending medications
NSAIDs:
Long-acting NSAIDs: nabumetone, 1 g/12 h for 1 week, then 1 g/24 h for 1 week
Cox2 inhibitors: e.g., Rofecoxib, 25 mg/12 h for 15 days, then 25 mg/24 h for 15 days
Short-acting NSAIDs (sodium naproxen or ibuprofen) for slight-moderate headache
Triptans for moderate-severe headache
Treatment of the detoxification:
Opioids: clonidine (2 weeks)
Butalbital: phenobarbital

When possible, pharmacological management should be planned on an outpatient basis (Table 1). The general protocol should include: (1) abrupt discontinuation of the offending symptomatic medications (if there is overuse); (2) specific treatment for detoxification; (3) daily nonsteroidal anti-inflammatory drugs (NSAIDs) for about 1 month; (4) triptans only for moderate-severe headache; and (5) preventive treatment. We recommend low doses of amitriptyline (10–25 mg daily) for CTTH patients, valproic acid (around 500 mg daily) usually being the second option if amitriptyline fails. For TM patients, either amitriptyline plus propranolol or valproic acid have been classically recommended. Refractory patients can respond to a combination of a beta-blocker and valproic acid, possibly due to their complementary mechanisms of action [6] (Fig. 1). Recently, the new antiepileptic topiramate (ideal dose around 100 mg daily) has been shown to be especially useful in at least 50% of CDH patients, even in those refractory to the above-mentioned therapies. About 15–20% of patients experience cognitive adverse events with this drug, which completely disappear once the drug is stopped. Three advantages of topiramate in this indication are: (1) there is no need for blood tests, (2) efficacy appears earlier than with the other drugs, and (3) it is the only drug that does not lead to weight gain, in fact patients taking topiramate usually lose between 1 and 5 kg [7] (Fig. 2). The potential value of other emerging drugs, such as botulinum toxin type A, remains to be shown in placebo-controlled studies.

Inpatient management is indicated when the outpatient protocol has failed, in the presence of high depression scores, or if the patient takes significant doses of tranquilizers, codeine, or barbiturates. The specific protocol for these complicated patients in our center usually includes: (1) i.v. dihydroergotamine (+metoclopramide) 0.5–1 mg/8 h for 3–8 days; (2) i.v. methylprednisolone 80 mg/24 h,

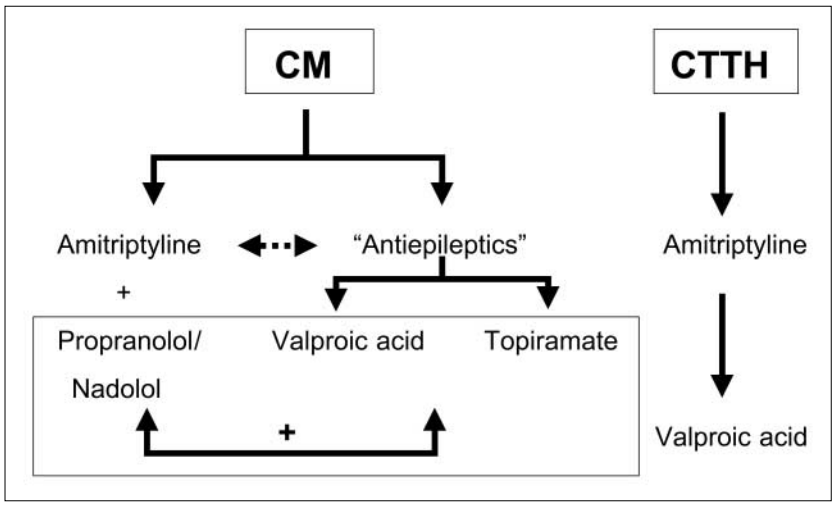

Fig. 1 General preventive treatment of chronic daily headache

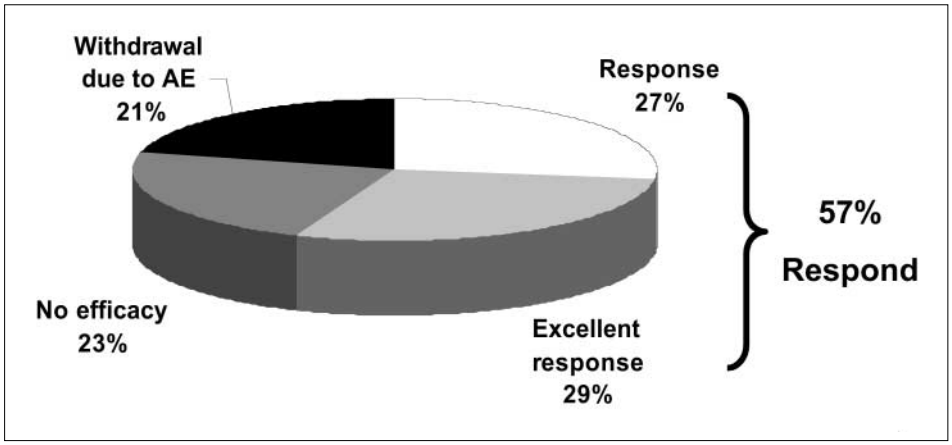

Fig. 2 Results of topiramate treatment for patients with frequent migraine. (From [7], modified)

for 3 days; (3) i.v. valproate 400 mg/12 h, for 3–4 days, then oral prophylaxis with 500–1,000 mg daily; (4) short treatment with benzodiazepines (1–2 weeks); and (5) NSAIDs and triptans as mentioned above.

Prognosis

The natural history of CDH has not been studied in detail. After the treatments we have already commented on, around 60% of patients improve significantly in long-term follow-up and their chronic headache is transformed into an intermittent one. At least one-third, however, do not improve. Therefore, the best treatment of this incapacitating entity continues to be its prevention. Preventive measures should include: (1) public information concerning the risk of frequent self-treatment for headaches; (2) inform headache patients of the risk of analgesic overuse/rebound headache; (3) recommend NSAIDs and triptans as symptomatic medications; and (4) active use of preventive medications when headaches begin to increase in frequency.

References

1. Silberstein SD, Lipton RB (1996) Classification of daily and near-daily headaches: field trial of revised IHS criteria. Neurology 47:871–875
2. Pascual J, Colás R, Castillo J (2001) Epidemiology of chronic daily headache. Current Pain and Headache Reports 5:529–536
3. Colás R, Muñoz P, Temprano R, Gómez C, Pascual J (2004) Chronic daily headache with analgesic overuse: epidemiology and impact on quality of life. Neurology (in press)

4. Castillo J, Muñoz P, Guitera V, Pascual J (1999) Epidemiology of chronic daily headache in the general population. Headache 39:190–196
5. Guitera V, Guitiérrez E, Muñoz P, Castillo J, Pascual J (2001) Alteraciones de la personalidad en la cefalea crónica diaria: un estudio en la población general. Neurología 16:11–16
6. Pascual J, Leira R, Láinez JM (2003) Combined therapy for migraine prevention? Clinical experience with a β-blocker plus sodium valproate in 52 resistant migraine patients. Cephalalgia 23:961–962
7. Pascual J, Sánchez del Río M, Mateos V, Laínez JM, Hernández-Gallego J, Leira R, Jiménez MD (2003) Topiramate for patients with refractory migraine: an observational, multicenter study in Spain. Neurología 18:364–367