



**Chronic Daily Headache and
Chronic Migraine**

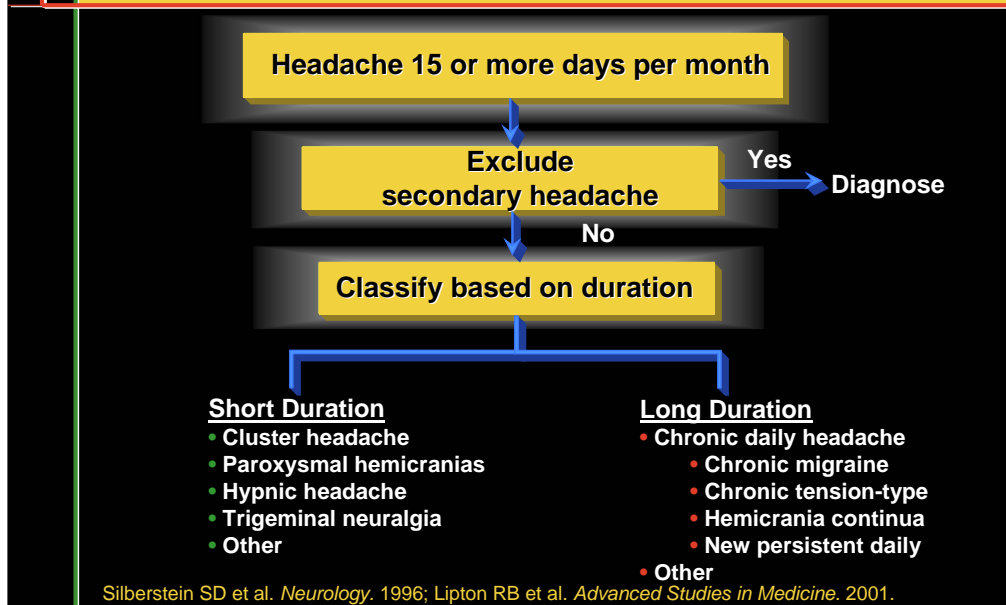
New York
Ambassador
Program

CHRONIC DAILY HEADACHE

Objectives

- Define chronic daily headache
- Distinguish chronic migraine
- Review new IHS classification
- Review suspected mechanisms
- Review range of treatment

CHRONIC DAILY HEADACHE: PATHWAY TO DIAGNOSIS



Like the concept of chronic daily headache, many of the entities presenting with daily or almost daily pain are themselves controversial, both in terms of phenomenology and terminology. Many authorities reject the term *transformed migraine* and prefer terms such as *chronic migraine*, *chronic daily migraine*, *progressive migraine*, and *pernicious migraine*. For the purpose of this discussion, the terms *chronic migraine* (CM) and *transformed migraine* (TM) will be used interchangeably.

Chronic tension-type headache (CTTH) is tension headache attacks that occur more than 15 days per month. Its relationship to migraine is controversial.

Hemicrania continua (HC) is a distinct clinical entity characterized by constant, unilateral pain that waxes and wanes in severity but never remits completely. During painful exacerbations there are often autonomic features ipsilateral to the pain, including ptosis, lacrimation, and nasal stuffiness. The disorder responds dramatically to indomethacin.

New daily persistent headache (NDPH) is characterized by the onset of persistent headache. It is likely to be a heterogeneous disorder.

As has already been noted, organic causes need to be ruled out before chronic daily headache can be considered a primary headache syndrome.

When a patient presents with headaches that last 4 or more hours per day and recur on 15 or more days per month, the first task is to exclude secondary headache and rule out daily headaches of short duration (ie, cluster headache paroxysmal hemicranias, hypnic headache, trigeminal neuralgia).

This presentation will focus on the chronic daily headaches of long duration, including, transformed migraine, chronic tension-type headache, hemicrania continua, chronic daily headache, and new persistent daily headache.

Newman LC, Lipton RB, Solomon S. Hemicrania continua: ten cases and a review of the literature. *Neurology*. 1994;44(11):2111-2114.

Silberstein SD, Lipton RB, Sliwinski M. Classification of daily and near-daily headaches: field trial of revised IHS criteria. *Neurology*. 1996;47(4) :871-875.

Lipton RB, Scher A, Stewart WF, et al. Frequent headache: a far too common problem. *Advanced Studies in Medicine: Proc Am Soc Intern Med*. 2001;1(1)8-15.

Silberstein SD, Lipton R, Solomon S, Mathew N. Classification of daily and near daily headaches: proposed revisions to the IHS classification. *Headache*. 1994;34(1):1-7.

TYPES OF CHRONIC DAILY HEADACHES

- **Chronic (transformed) migraine (CM):** Headache fulfilling criteria C and D for *Migraine without aura* on ≥ 15 days/month for >3 months
- **Chronic tension-type headache (CTTH):** Low-grade daily or almost-daily chronic headache *without* migrainous features
- **New daily persistent headache (NDPH):** Abrupt onset of unremitting new CDH, may be complicated by drug overuse; no history of evolutive migraine or ETTH
- **Hemicrania continua (HC):** rare, indomethacin-responsive headache disorder; continuous, unilateral, fluctuating, moderate-severe pain; can alternate sides; Intermittent or continuous subtypes

Headache Classification Subcommittee of the International Headache Society. *Cephalalgia*. 2004.

Currently there are four different types of long-duration headaches that are all considered to be under the general classification of chronic daily headache. These include:

- Chronic (transformed) migraine (CM): Headache fulfilling criteria C and D for *Migraine without aura* on ≥ 15 days/month for >3 months
- Chronic tension-type headache (CTTH): Low-grade daily or almost-daily chronic headache *without* migrainous features
- New daily persistent headache (NDPH): Abrupt onset of unremitting new CDH, may be complicated by drug overuse; no history of evolutive migraine or ETTH
- Hemicrania continua (HC): Rare, indomethacin-responsive headache disorder; continuous, unilateral, fluctuating, moderate-severe pain; Can alternate sides; Intermittent or continuous subtypes

Headache Classification Subcommittee of the International Headache Society. *Cephalalgia* 2004;24(suppl 1):1:160.

CDH PREVALENCE



4.1% of 13,000
General Public
(~50% chronic migraine)



30%–80%
Headache Clinic
Population

Sanin LC et al. *Cephalalgia*. 1994; Scher AI et al. *Headache*. 1998;
Silberstein SD et al. *Neurology*. 1996.

Determining the incidence of chronic daily headache of long duration is difficult because there is an absence of a universal definition. Study populations show that 30% to 80% of patients report daily pain, but in practice, this actually is closer to 80% to 90%. Within those previously considered to have chronic daily headache, approximately 50% likely meet “chronic migraine” criteria.

Sanin LC, Mathew NT, Bellmeyer L, Ali S. The International Headache Society (IHS) headache classification as applied to a headache clinic population. *Cephalalgia*. 1994;14(6):443-446.

Scher AI, Stewart WF, Liberman J, Lipton RB. Prevalence of frequent headache in a population sample. *Headache*. 1998;38:497-506.

Silberstein SD, Lipton RB, Sliwinski M. Classification of daily and near-daily headaches: field trial of revised IHS criteria. *Neurology*. 1996;47(4):871-875.

Pascual J, Colas R, Castillo J. Epidemiology of chronic daily headache. *Curr Pain Headache Rep*. 2001;5(6):529-536.

IMPACT OF CDH

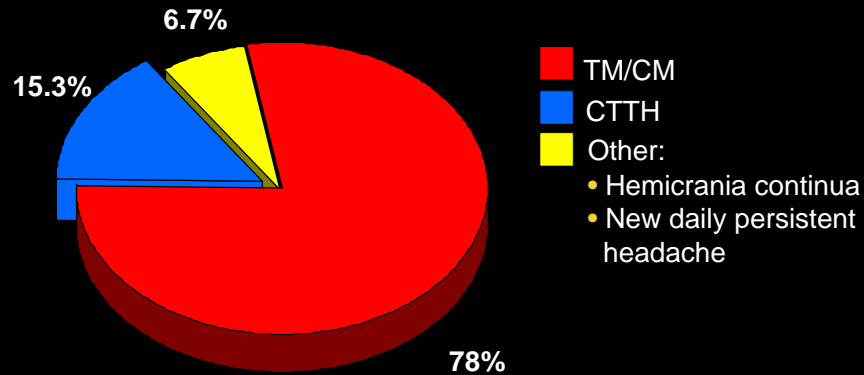
- Highly prevalent (CDH: 4%–5% of the population)
- Considerable burden for patients and families
- Medically challenging to manage
- Leading problem in headache specialists offices
- Significant scientific, clinical and public health opportunities

Although episodic migraine is highly prevalent in the headache population, chronic daily headache, especially that of long duration, can pose an even more significant burden on individuals, their families, and society. Chronic daily headache sufferers approach nearly 5% of the population. Addressing the disability caused by the condition represents an important public health challenge because these individuals demonstrate an even lower quality of life on standard HRQL measures than migraine patients. As the leading problem in headache practice, chronic daily headache is a great challenge to physicians. Successful treatment offers enormous scientific, clinical, and public health opportunities.

Meletiche DM, Lofland JH, Young WB. Quality-of-life differences between patients with episodic and transformed migraine. *Headache*. 2001;41(6):573-578.

CDH DIAGNOSTIC BREAKDOWN

150 patients with chronic daily headache



Silberstein SD et al. *Neurology*. 1996.

The current IHS classification system does not comprehensively address the classification of very frequent headache. As currently defined, many patients with frequent headache cannot be classified, or when they can be classified, they are often placed in the CTTH group.

Silberstein and colleagues have recommended a revision or modification of the IHS criteria for frequent primary headache disorders and proposed adding several new headache types to the current IHS criteria. These changes would include a subdivision of daily headache into TM/CM, CTTH, NDPH, and HC.

In their study of 150 consecutive outpatients with CDH, Silberstein and colleagues applied the current IHS criteria for frequent headache as well as their proposed revisions. Diagnosis of chronic daily headache or near-daily headache was based on the presence of pain lasting more than 4 hours a day for at least 15 days per month.

Under the current IHS criteria, 43% or close to half of the patients could not be classified. Using newly proposed criteria, all patients in the study were classified, with 78% as TM/CM, 15% as CTTH, and 7% as NDPH or hemicrania continua.

Silberstein SD, Lipton RB, Sliwinski M. Classification of daily and near-daily headaches: field trial of revised IHS criteria. *Neurology*. 1996;47(4):871-875.

IHS-DIAGNOSTIC CRITERIA FOR CHRONIC MIGRAINE

- A. Headache fulfilling criteria C and D for 1.1 *Migraine without aura* on ≥ 15 days/month for >3 months
- B. Not attributed to another disorder (including medication overuse)

It is being argued that some patients do not fit the above criteria, and consider them rigid. Additional discussions are underway for clarification regarding classification of chronic migraine.

Headache Classification Subcommittee of the International Headache Society. *Cephalalgia*. 2004.

New criteria have been recommended by the Headache Classification Subcommittee of the IHS, which are published as follows:

1.5.1 Chronic migraine

Description: Migraine headache occurring on 15 or more days per month for more than 3 months in the absence of medication overuse.

Diagnostic criteria:

- A. Headache fulfilling criteria C and D for 1.1 *Migraine without aura* on ≥ 15 days/month for >3 months
- B. Not attributed to another disorder

Note:

1. History and physical and neurological examinations do not suggest any of the disorders listed in groups 5-12, or history and/or physical and/or neurological examinations do suggest such disorder but it is ruled out by appropriate investigations, or such disorder is present but headache does not occur for the first time in close temporal relation to the disorder.
2. When medication overuse is present and fulfills criterion B for any of the subforms of 8.2 *Medication-overuse headache*, it is uncertain whether this criterion B is fulfilled until 2 months after medication has been withdrawn without improvement (see *Comments*).

Comments:

Most cases of chronic migraine start as 1.1 *Migraine without aura*. Therefore, chronicity may be regarded as a complication of episodic migraine.

As chronicity develops, headache tends to lose its attack-wise (episodic) presentation although it has not been clearly demonstrated that this is always so.

When medication overuse is present (*i.e.*, fulfilling criterion B for any of the subforms of 8.2 *Medication-overuse headache*), this is the most likely cause of chronic symptoms. Therefore, the default rule is to code such patients according to the antecedent migraine subtype (usually 1.1 *Migraine without aura*) plus 1.6.5 *Probable chronic migraine* plus 8.2.7 *Probable medication-overuse headache*. When these criteria are still fulfilled 2 months after medication overuse has ceased, 1.5.1 *Chronic migraine* plus the antecedent migraine subtype should be diagnosed, and 8.2.7 *Probable medication-overuse headache* discarded. If at any time sooner they are no longer fulfilled, because improvement has occurred, code for 8.2 *Medication-overuse headache* plus the antecedent migraine subtype and discard 1.6.5 *Probable chronic migraine*.

Headache Classification Subcommittee of the International Headache Society. *Cephalalgia* 2004;24(suppl 1):1:160.

ADDITIONAL CONSIDERATIONS FOR CLASSIFICATION

- A. Daily or almost daily (≥ 15 days/mo) head pain for ≥ 1 mo
- B. Average headache duration of >4 hr/day (untreated)
- C. At least one of the following
 - 1) History of episodic migraine meeting IHS criteria
 - 2) History of increasing headache frequency
- D. Current headache meets IHS migraine (wo aura) criteria other than duration
- E. Does not meet criteria for NDPH or HC
- F. Not attributed to another disorder

Silberstein SD et al. *Neurology*. 1996.

Silberstein and Lipton have also published suggested classification criteria for chronic migraine which is similar to those more recently published by the IHS. These criteria differ by specifying a 1-month time period in which the patient has migraine without aura on more than 15 days/month. Additionally, patients must either have migraine meeting IHS classification criteria or have migrainous features. This would include patients with increasing headache frequency but may also have decreasing migraine features (e.g., photophobia, nausea, vomiting). Patients meeting either one of these criteria for a 3-month period should be considered as possibly having chronic migraine. Importantly, these patients do not meet the diagnostic criteria for new persistent daily headache or hemicrania continua.

Silberstein SD, Lipton RB, Sliwinski M. Classification of daily and near-daily headaches: field trial of revised IHS criteria. *Neurology*. 1996;47(4):871-875.

CHRONIC MIGRAINE CHARACTERISTICS

- Intermittent migraine onset usually by age 20–30^{1,2}
- Usually by age 25–40, gradual increase in headache frequency^{1,2}
- Usually daily or almost daily mild-to-moderate head, neck, or face pain^{1,2}
- Acute attacks resemble episodic migraine³
- Day-to-day pain may resemble tension-type headache or hemicrania continua³

¹Saper JR *Headache Disorders*. 1983.

²Saper JR et al. *Handbook of Headache Management*. 2nd ed. 1999.

³Sanin LC et al. *Cephalalgia*. 1994.

The clinical features of CDH and TM/CM include a history of intermittent migraine that increases in frequency until it becomes almost daily pain. Periodic, acute attacks of migraine occur, while the day-to-day pain is characterized by features resembling TTH or HC.

The question to ask is whether this individual is suffering two distinct headache entities or whether the headaches are really variations of the same pathologic process with varied manifestation.

For the purposes of this presentation, we will merge the concepts of TM and CM, because many believe most cases of CDH reflect migraine forms that have become daily or almost daily.

TM, as currently defined, reflects a progressive disorder in which periodic headache evolves into a daily or almost daily pattern of pain with superimposed migraine attacks. Drug-induced progression may or may not be present.

Saper, JR. The mixed headache syndrome: a new perspective. *Headache Disorders: Current Concepts in Treatment Strategies*. Littleton, MA: Wright-PSG Publishers, 1983; 22:284-286.

Saper, JR, Silberstein SD, Godeon CD, Hamel RL.. *Handbook of Headache Management: A Practical Guide to Diagnosis and Treatment of Head, Neck, and Facial Pain*. 2nd ed. Baltimore: Lippincott Williams & Wilkins; 1999.

Sanin LC, Mathew NT, Bellmeyer L, Ali S. The International Headache Society (IHS) headache classification as applied to a headache clinic population. *Cephalalgia*. 1994;14(6):443-446.

CHRONIC MIGRAINE TYPICAL FEATURES

Family history of headache

- Depression
- Anxiety
- Alcoholism

Medication overuse in approximately 30% of the population and 80% of the patients in subspecialty clinics

Decreased quality of life

Saper JR. *Headache Disorders*. 1983.

Most CDH patients have the following:

- Previous history of a primary headache disorder, particularly migraine
- Family history of depression, anxiety, or alcoholism
- Medication overuse.

Progression from intermittent to daily pain may well occur spontaneously, with excessive drug use being a *consequence* rather than a provoking factor.

Medication overuse occurs in 30% of the population of chronic daily headache sufferers but in 80% of the population of sufferers encountered in headache subspecialty clinics.

Saper, JR. The mixed headache syndrome: a new perspective. *Headache Disorders: Current Concepts in Treatment Strategies*. Littleton, MA: Wright-PSG Publishers, 1983; 22:284-286.

Pascual J, Colas R, Castillo J. Epidemiology of chronic daily headache. *Curr Pain Headache Rep*. 2001;5(6):529-536.

CHRONIC MIGRAINE COEXISTING CONDITIONS

Comorbidities^{1,2}

- Depression, anxiety, panic
- Sleep disturbance
- Irritable bowel syndrome, fibromyalgia, personality disorders

Potential secondary illnesses³

- Gastritis
- Renal insufficiency
- Ergotism
- Fibrosis
- Other

¹Saper JR. *Headache Disorders*. 1983; ²Saper JR et al. *Handbook of Headache Management: A Practical Guide to Diagnosis and Treatment of Head, Neck, and Facial Pain*. Baltimore: Lippincott-Williams & Wilkins; 1999; ³Silberstein SD et al. *Wolff's Headache and Other Head Pain*. 2001.

It is important to remember that this population of patients has a strong likelihood of migraine-type comorbidities, including:

- Depression
- Anxiety
- Panic disorders
- Other neuropsychiatric phenomena
- Sleep disturbance.

These disorders may require treatment independent of the primary headache condition. Comorbidities often interfere with treatment for the headache and increase costs associated with headache care.

Secondary illnesses in these patients include complications related to analgesic overuse, including gastritis and renal insufficiency. Other illnesses may include esophageal reflux and vasculopathy from ergots.

Saper, JR. The mixed headache syndrome: a new perspective. *Headache Disorders: Current Concepts in Treatment Strategies*. Littleton, MA: Wright-PSG Publishers, 1983; 22:284-286.

Saper, JR, Silberstein SD, Godeon CD, Hamel RL. *Handbook of Headache Management: A Practical Guide to Diagnosis and Treatment of Head, Neck, and Facial Pain*. Baltimore: Lippincott-Williams & Wilkins; 1999.

Silberstein SD, Lipton RB. Chronic daily headache, including transformed migraine, chronic tension-type headache, and medication overuse. In: Silberstein SD, Lipton RB, Dalessio DJ, eds. *Wolff's Headache and Other Head Pain*. 7th ed. New York: Oxford University Press; 2001:247-282.

RISK FACTORS FOR CHRONIC MIGRAINE

Modifiable

- Stressful life events
- Obesity
- Snoring
- Medication overuse

Nonmodifiable

- Frequent headache
- Duration of illness

Granella F et al. *Cephalalgia*. 1998

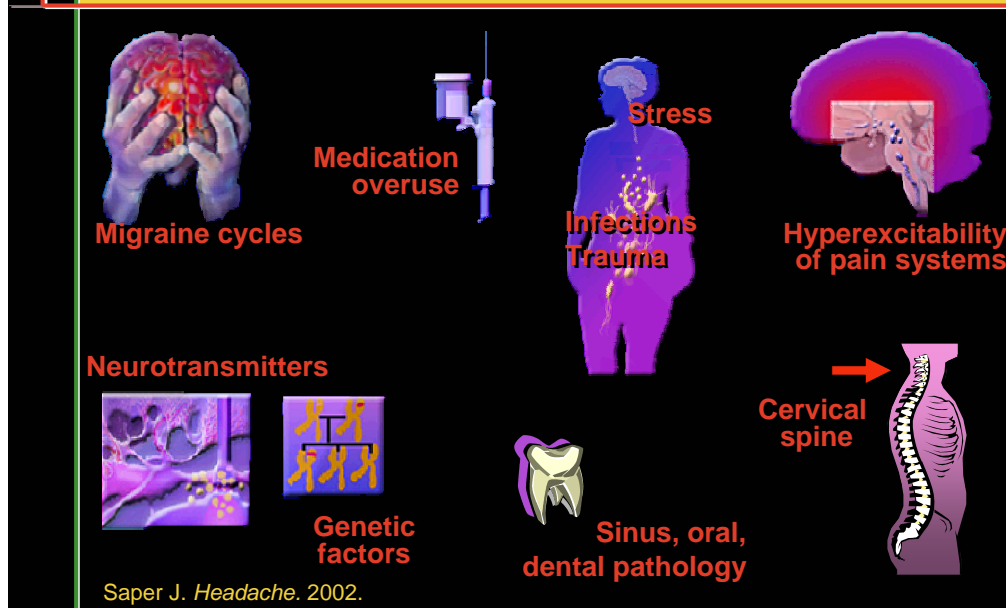
Scher AI et al. *Curr Pain Headache Rep*. 2002

Migraine can progress in some patients, but not all. It is important to understand if there are some patients who might be more susceptible to developing chronic migraine. One way is to identify specific predictors that might contribute to episodic migraine progressing to chronic migraine in some patients. Recently, a study done by Scher and colleagues identified several characteristics that might be considered as risk factors for developing chronic migraine. These included obesity, snoring, medication overuse, increasing headache frequency and long duration of illness, the first four can be classified as modifiable-- meaning that the patient has some control and may be able to avoid progression of migraine.

Granella F, Cavallini A, Sandrini G, Manzoni GC, Nappi G. Long-term outcome of migraine. *Cephalalgia*. 1998;18(suppl 2):30-33.

Scher AI, Lipton RB, Stewart W. Risk factors for chronic daily headache. *Curr Pain Headache Rep*. 2002;6:486-491.

POSSIBLE MECHANISMS AND RISK FACTORS FOR CDH



The source of pain in CDH is unknown: although several theories have been proposed. These include the following:

- Abnormal excitation of peripheral, nociceptive, afferent fibers from repetitive peripheral input
- Enhanced responsiveness of the nucleus caudalis neurons from repetitive, central peripheral stimulation
- Intrinsic dysnociception, perhaps genetically predisposed
- Induction through medication overuse
- Extrinsic factors of physical/psychological stress/infection/trauma that excite the nervous system; stress also can reduce endogenous antinociception
- Changes that can occur within the nervous system as a result of repetitive attacks of migraine.

Particularly intriguing is the genetic predisposition possibility, which would render the individual more vulnerable to extrinsic and intrinsic provocation. Central sensitization and windup, among other neurobiological phenomena, might explain the basis for induction progression in patients with frequent and repetitive migraine attacks.

Other concepts that have been forwarded in the literature regarding the possible mechanism of chronic daily headache, as well as chronic migraine, include central hyperexcitability of pain systems, low serotonin with receptor upregulation, NMDA receptor dysfunction, low beta endorphin levels and viral provocation.

Saper JR. Chronic daily headache: a clinician's perspective. *Headache*. 2002;42(6):538-542.

POSSIBLE MECHANISMS OF CHRONIC DAILY HEADACHE

- Increased iron deposition in PAG of both CDH and migraine patients vs controls
- Positive correlation between duration of illness and a measure of non-heme iron

Welch KM et al. *Headache*. 2001.

Welch and associates have recently demonstrated structural changes in the brain stem of patients with migraine and CDH. The duration of the illness and perhaps frequency of attacks may correlate with these changes. The significance or extent of these changes cannot, at this time, be fully determined, but their findings document changes in an area of the brain that are critical to our current understanding of headache pathophysiology.

Welch KM, Nagesh V, Aurora SK, Gelman N. Periaqueductal gray matter dysfunction in migraine: cause or the burden of illness? *Headache*. 2001;41(7):629-637.

OTHER POSSIBLE MECHANISMS OF CDH

- Stimulation of C2-3 region activates trigeminal complex, suggesting that chronic stimulation could sensitize second- and third-order neurons, activating migraine or other headache mechanisms

- Persistent cutaneous allodynia, a marker for central sensitization, may occur in some patients with CDH

Bartsch T, Goadsby PJ. *Cephalalgia*. 2001. Goadsby PJ, Silberstein SD, eds. *Headache: Bluebooks of Practical Neurology*. 1997. Burstein R et al. *Ann Neurol*. 2004; *Brain* 2000.

This work makes an important contribution to the increasing understanding of the role of the cervical spine's relationship to headache. Based on this work, painful activity in the upper cervical spine could activate and/or lower the threshold for primary headaches by influencing the sensitivity of the second- and third-order neurons in the trigeminal system. It implies the importance of evaluating the cervical spine as part of our assessment of patients with chronic daily headache.

Bartsch T, Goadsby PJ. Stimulation of the greater occipital nerve (GON) enhances responsiveness of dural responsive convergent neurons in the trigeminocervical complex in the rat. *Cephalalgia*. 2001;21:401-402.

Goadsby PJ, Silberstein SD, eds. *Headache: Bluebooks of Practical Neurology*. Vol. 17. Philadelphia: Butterworth-Heinemann; 1997.

Burstein R, Collins B, Jakubowski M. Defeating migraine pain with triptans: a race against the development of cutaneous allodynia. *Ann Neurol*. 2004;55(1):19-26.

Burstein R, Cutrer MF, Yarnitsky D. The development of cutaneous allodynia during a migraine attack clinical evidence for the sequential recruitment of spinal and supraspinal nociceptive neurons in migraine. *Brain*. 2000;123 (Pt 8):1703-1709.

SYNDROME OF MEDICATION OVERUSE (REBOUND) HEADACHE

Characteristics of *Rebound* Headache

- Occurs in patients with pre-existing headache
- A self-sustaining rhythm of predictable and escalating headache frequency and medication use
- Exceeds 2-3 usage days/week on regular basis
- Refractory to otherwise appropriate symptomatic and preventive treatments
- Medication withdrawal results in escalation of headache

Saper JR, et al. *Handbook of Headache Management*. 1999;
Saper JR. *Headache Disorders*. 1983.

The terms *rebound headache* and *analgesic rebound headache* are equally as controversial as the terms chronic daily headache and transformed migraine. In Europe, the term *medication misuse headache* is preferred because it does not suggest a precise mechanism for the integration of medication overuse and the headache process. Generally, however, the term *rebound headache* is understood to be characterized by a self-sustaining medication process that is rhythmic and predictable, resulting in recurring or persistent headache. Inception of rebound headache is insidious, and drug-induced headache may occur in patients using a wide range of medications, including simple analgesics or NSAIDs, ergots, and certain triptans.

Some patients use abortive medications preventively to avoid an anticipated attack. In others, there may be an increased use of medications to treat an increasing number of headaches until the medications themselves are driving headache frequency and refractoriness.

Many patients with daily headaches overuse symptomatic medications and may develop psychological dependence, tolerance, and abstinence problems. Medication withdrawal results in headache improvement, although benefits may not be seen for 3 to 4 weeks following analgesic washout.

Saper, JR. The mixed headache syndrome: a new perspective. *Headache Disorders. Current Concepts in Treatment Strategies*. Littleton, MA: Wright- PSG Publishers; 1983;22:284-286.

Saper JR, Silberstein SD, Gordon CD, Hamel RL. *Handbook of Headache Management. A Practical Guide to Diagnosis and Treatment of Head, Neck, and Facial Pain*. 2nd ed. Baltimore, MD: Lippincott Williams & Wilkins; 1999.

MEDICATION OVERUSE HEADACHE (IHS)

- A. Headache present on >15 days/month following criteria B and C:
- B. Regular overuse for >3 mo of acute medication
- C. Headache has developed or markedly worsened during overuse
- D. Headache resolves or reverts to its previous pattern within 2 months after discontinuation of overused medication

Headache Classification Subcommittee of the International Headache Society. *Cephalalgia* 2004.

Historically, the medical community has used several different terms including rebound headache, drug-induced headache, medication-misuse headache. Efforts are underway to distinguish these different types of headaches with medication overuse headache receiving its own classification criteria from the IHS. Additionally, there are not specific subclassification specified for the type of medication being overused— such as analgesics, ergotamines, triptans, opiates, or narcotics. Described by the IHS classification criteria, “medication-overuse headache is an interaction between a therapeutic agent used excessively and a susceptible patient. The best example is overuse of symptomatic headache drugs causing headache in the headache-prone patient.”

One of the challenges with medication overuse headache is that the headache pattern may shift, even within the same day, from having migraine-like characteristics to having those of tension-type headache (*ie*, a new type of headache). Withdrawal of medication often results in a change in these headache patterns. Additionally, patients with medication-overuse headache often do not respond to preventive treatments.

Headache Classification Subcommittee of the International Headache Society. *Cephalalgia* 2004;24(suppl 1):1:160.

OVERUSE LIMITATIONS (IHS)

- Ergotamine, triptans, opioids, butalbital (any formulation)

≥10 days per month or more

- Analgesic overuse

≥15 days per month

- Total exposure ≥15 days per month

- Triptan overuse more likely to increase migraine frequency

Headache Classification Subcommittee of the International Headache Society. *Cephalalgia* 2004.

The Headache Classification Subcommittee put in place some recommended limits that define medication overuse in headache. These include using ergotamine, triptans, opioids or butalbital-containing medications on 10 or more days per month. Additionally, analgesics limits are recommended to no more than 15 days per month. For patients using both specific and nonspecific medications for their headache, total exposure on more than 15 days per month qualifies as overuse. Overuse of triptans also may lead to increases in headache frequency. Currently there is controversy on the specific recommendations for limitation of medication. The current IHS recommendations limit medication use to 10 or 15 days per month (depending on medication type); however, previous recommendations state that it is important to also determine if there is a pattern of

Headache Classification Subcommittee of the International Headache Society. *Cephalalgia* 2004;24(suppl 1):1:160.

Saper, JR. The mixed headache syndrome: a new perspective. *Headache Disorders. Current Concepts in Treatment Strategies*. Littleton, MA: Wright- PSG Publishers; 1983;22:284-286.

Saper JR, Silberstein SD, Gordon CD, Hamel RL. *Handbook of Headache Management. A Practical Guide to Diagnosis and Treatment of Head, Neck, and Facial Pain*. 2nd ed. Baltimore, MD: Lippincott Williams & Wilkins; 1999.

AGENTS POSSIBLY ASSOCIATED WITH OVERUSE

- Most over-the-counter analgesics and decongestants
- Opioids
- Butalbital combinations
- Isometheptene combinations
- Benzodiazepines?
- Ergotamine tartrate
- Triptans

Saper JR, Jones J. *Clin Neuropharmacol.* 1986; Gobel H et al. *Neurology.* 1996; Mathew NT et al. *Headache.* 1990; Meyler WI. *Cephalalgia.* 1996.

Analgesics, ergotamine tartrate, and the triptans can all cause rebound headaches if used to excess. However, ergotamine tartrate and analgesic rebound are more firmly established in the literature than is rebound caused by triptans. It is unclear, in part owing to their long duration of effect, whether dihydroergotamine or naratriptan cause rebound. The transformation or progression from intermittent to daily headache can occur when any of these medications, even at low dosages, is taken regularly more than two to three times per week. It does not appear to be the total dose but rather the frequency of usage that leads to the development of rebound headache.

Some headache specialists believe that combination analgesics are especially likely to cause rebound, but there are no firm data to prove this contention.

Abrupt discontinuation of medications in patients with rebound headache usually results in profound escalation of headache intensity (withdrawal headache), which explains why patients experience great difficulty discontinuing medication on their own and why perpetuation of this process occurs so readily. Even after total discontinuation and termination of the rebound event, “normalization” of the headache process and responsiveness to standard medications may take weeks or even months.

Saper JR, Jones J. Ergotamine tartrate dependency: features and possible mechanisms. *Clin Neuropharmacol.* 1986;9(3):244-256.

Mathew NT, Kurman R, Perez F. Drug induced refractory headache—clinical features and management. *Headache.* 1990;30(10):634-638.

Meyler WJ. Side effects of ergotamine. *Cephalalgia.* 1996;16(1):5-10.

Gobel H, Stolze H, Heinze A, Dworschak M. Easy therapeutical management of sumatriptan-induced daily headache. *Neurology.* 1996;47(1):297-298.

DIAGNOSTIC STUDIES FOR CHRONIC DAILY HEADACHE

■ Diagnosis is based on history

■ Organic pathology must be ruled out

■ Diagnostic studies

- Blood/urine tests
 - Chemistry, endocrine, drug screen, hematology
- CT/MRI scans
 - Head, cervical spine, sinuses
- MRA/MRV
- Lumbar puncture
- ENT/dental evaluation
- Others

Saper JR et al. *Handbook of Headache Management*. 1999;
Silberstein SD, Lipton RB. *Wolff's Headache and Other Head Pain*. 2001.

Diagnostic studies do not establish the diagnosis but rule out accompanying and mimicking organic diseases, which are varied. Particularly important is to rule out intracranial disease, occipitocervical disorders, sinusitis (particularly sphenoid sinusitis), systemic conditions, and alterations of CSF pressure. Both high and low CSF pressure syndromes can produce symptoms that mimic chronic daily migraine and may be absent postural or accompanying features to distinguish these from the primary headache conditions.

Consider neuroimaging, laboratory testing, and lumbar puncture to rule out organic pathology, particularly if the patient does not respond to medical treatment.

MRA and MRV may be used to rule out entities such as: venous sinus thrombosis, vasculitis, vascular dissection, arterio-venous malformations, and arterio-venous fistulas. Consider imaging if the clinical situation raises the suspicion for one of these conditions or if other imaging studies suggest these conditions. For example, a patient who presents with CDH and features suggestive of intracranial hypertension should have MRV to rule out CVST. A patient who presents with unilateral CDH, particularly frontal/temporal/or periorbital, which may have begun abruptly and now continues should have MRA to rule out carotid dissection - parenthetically, I just had a case like this last week - a 22 year old with 22 years of CDH wherein the diagnosis of carotid dissection due to fibromuscular dysplasia was missed - only a carotid bruit and a small pupil on the same side of the headache gave it away)

Saper, JR, Silberstein SD, Godeon CD, Hamel RL. *Handbook of Headache Management: A Practical Guide to Diagnosis and Treatment of Head, Neck, and Facial Pain*. Baltimore: Lippincott-Williams & Wilkins; 1999.

Evans RW, Rozen TD, Adelman JU. Neuroimaging and other diagnostic testing in headache. In: Silberstein SD, Lipton RB, Dalessio DJ, eds. *Wolff's Headache and Other Head Pain*. 7th ed. New York: Oxford University Press; 2001:27-49.

Silberstein SD, Lipton RB. Chronic daily headache, including transformed migraine, chronic tension-type headache, and medication overuse. In: Silberstein SD, Lipton RB, Dalessio DJ, eds. *Wolff's Headache and Other Head Pain*. 7th ed. New York: Oxford University Press; 2001:247-282.

CHRONIC MIGRAINE: PRINCIPLES OF MANAGEMENT

- Identify & reduce of aggravating factors
- Establish limits to acute & rescue therapy: limit use to ≤ 2 days/week
- Consider nonpharmacologic treatment
- Create new treatment plan (acute / preventive)
- Assess / treat neuropsychiatric, comorbid, and behavioral disturbances

Silberstein SD, Lipton RB. *Wolff's Headache and Other Head Pain*. 2001.

The diagnosis must be properly established by ruling out organic disease. A wide range of treatments is available and needed to effectively treat this patient population. Acute treatment for CDH is directed at the acute migraine or migraine-like events, including the standard abortive medications for migraine.

Attempt to limit use of medication to no more than two headaches per week and two doses per headache. In the presence of medication overuse or rebound, these medications must be discontinued. Use of acute medications that do not cause rebound is essential.

If the patient is rebounding, inpatient management or ambulatory infusion treatment may be required. An escalation of acute pain is likely during this period of medication overuse withdrawal. Aggressive, innovative pain control methods must be used to maintain patient compliance.

If medications implicated in rebound are given again (which is discouraged), they should be given no more than one to two days per week on a regular basis. Nonmedical treatment, as well as aggressive preventive and acute pharmacotherapy, are required. Reduction of traditional headache (migraine) provoking factors, such as smoking and stress, is worthwhile.

Often critical to outcome is the treatment of neuropsychiatric, comorbid, and behavioral disturbances. The latter group of conditions often interferes with headache treatment, frustrating both the physician and the family.

Silberstein SD, Lipton RB. Chronic daily headache, including transformed migraine, chronic tension-type headache, and medication overuse. In: Silberstein SD, Lipton RB, Dalessio DJ, eds. *Wolff's Headache and Other Head Pain*. 7th ed. New York: Oxford University Press; 2001:247-282.

CHRONIC MIGRAINE: PRINCIPLES OF THERAPY

■ Taper *with caution* overused medications

- Analgesics, barbiturates, ergotamines, triptans, others

■ Substitute acute medications that are not overused

- NSAIDs, metoclopramide, hydroxyzine, etc.

■ Initiate rational copharmacy

CAUTION- LOOK FOR

■ Opioids and barbiturate abstinence syndromes

■ Increasing headache during withdrawal period

Overuse of analgesics, ergotamine tartrate, or triptan medication may contribute to the development of rebound headache. The strategy for treatment of rebound is gradual reduction of these medications followed by substitution of acute medications that are not likely to cause rebound. These include low-dose NSAIDs, hydroxyzine and metoclopramide, among others. To treat both side effects and withdrawal symptoms, rational copharmacy should be considered.

Caution should be paid to monitoring and treatment of symptoms associated with withdrawal, which can include:

- Nausea and vomiting
- Seizures from barbiturate withdrawal
- Abdominal pain and constipation
- Severe headache

Patients should be cautioned that they may experience an increase in headache intensity while undergoing detoxification. This should improve several days to several weeks following the washout period. Implementation of a preventive program should be strongly considered, although ultimately, some patients do not require it.

Silberstein SD, Lipton RB, Goadsby PJ. *Headache in Clinical Practice*. 2nd ed. London, England: Martin Dunitz; 2002.

CHRONIC MIGRAINE: NONPHARMACOLOGIC TREATMENT

Enable healthful patient behavior

- Education
- Reduce medication overuse, treat rebound headache
- Smoking cessation
- Regular eating and sleeping patterns
- Exercise
- Biofeedback and behavioral treatment
- Other psychotherapeutic interventions

Silberstein SD et al. *Headache in Clinical Practice*. 2nd ed. 2002.

Nonpharmacologic approaches include treatments that are generally accepted as useful interventions for patients with chronic headache disorders. Behavioral treatments and biofeedback can serve as helpful adjuncts to pharmacotherapy. Behavioral treatments may include relaxation, cognitive therapy, and other forms of psychotherapy. These are particularly useful when psychophysiological and behavioral issues contribute to or interfere with headache or its management.

Silberstein SD, Lipton RB, Goadsby PJ. *Headache in Clinical Practice*. 2nd ed. London, England: Martin Dunitz; 2002.

PRINCIPLES OF PREVENTIVE THERAPY

- Choice based on efficacy, AE profile, coexistent conditions, diagnosis
- Start at low dose & gradually increase until efficacy achieved, AEs, ceiling dose reached
- Benefit develops slowly; often not fully effective until overuse eliminated
- If first choice fails choose second from another class
- Monotherapy preferred, but combination therapy often necessary
- Communicate realistic expectations

Patients with a chronic daily headache may benefit from initiation of preventive therapy. The choice of medication is often based on efficacy, AE profile, other coexistent conditions, and the specific diagnosis. Initiation of preventive treatments should be done with starting with a low dose and increasing the dose until efficacy achieved, AEs develop or a ceiling dose reached is reached and the drug is considered ineffective. For some patients, combination therapy may be needed, although monotherapy is ideal. Remember that changes in headache patterns occur over several months, and these expectations should be managed with the patient. If there is other medication that is being overused, the full benefits of preventive therapy may not be seen until the overused medicine is withdrawn.

PREVENTIVE PHARMACOTHERAPY FOR CHRONIC MIGRAINE

Antidepressants

- TCAs
- MAOIs
- SSRIs

Beta-adrenergic blockers

Antiepileptics

Calcium channel antagonists

Methysergide

Botulinum toxin ?

Other therapy and rational copharmacy

Silberstein SD et al. *Headache in Clinical Practice*. 2nd ed. 2002

Drugs useful in the prevention of migraine are often useful in the treatment of CDH. The following drugs are particularly valuable:

- Antidepressants, which also treat often accompanying depression and sleep disturbance. Tricyclics, such as amitriptyline, nortriptyline, and doxepin, are generally considered first-line treatments. SSRIs may have value for particular individuals. MAOIs may be useful for difficult cases.
- Beta-adrenergic blockers are appropriate in those patients who are likely to benefit and tolerate beta-adrenergic blockade.
- Sodium valproate is particularly useful in the presence of varying comorbidities, including rapid mood changes, seizure-like events, and in patients who cannot tolerate or benefit from antidepressants or beta-adrenergic blockers.
- Calcium channel antagonists as well as daily use of ergot derivatives, such as methysergide, occasionally are required.

Monotherapy is preferred. Combination use of these medications must be carried out cautiously, but various combinations of medication (known as rational copharmacy) have proven useful, especially in resistant cases.

Rational copharmacy is the use of more than one agent at a time to enhance treatment efficacy. Useful combinations may include a tricyclic antidepressant and a beta-blocker, a beta-blocker and sodium valproate, or methysergide and a tricyclic antidepressant.

Silberstein SD, Lipton RB, Goadsby PJ. *Headache in Clinical Practice*. 2nd ed. London, England: Martin Dunitz; 2002.

MEDICATION OVERUSE: DETOXIFICATION OPTIONS

- Outpatient treatment: Preferred but not always safe or effective

- Home
- Infusion center

- Inpatient treatment: If outpatient treatment fails or is not safe

Medication overuse headache requires that the patient be withdrawn from the substance being overused. This can be done several ways, depending on the type of medicine that is being withdrawn. Outpatient detoxification may work for some patients, especially if using NSAIDs, ergotamines or triptans. However, opiate and barbiturate withdrawal will require a more intense detoxification process, with many requiring hospitalization.

HOME DETOXIFICATION STRATEGY

- Pretreat with preventive medications

- Taper overused medication

1. Substitute transitional drug and taper it

- NSAIDs, DHE, corticosteroids, or triptans

2. Prevent withdrawal

- Butalbital: use phenobarbital or benzodiazepine
- Opioids: taper slowly or use methadone

Some patients are successfully managed through a home detoxification program, which includes several important steps. The first is to assess if the patients are eligible for migraine preventive medications. Once withdrawal of the overuse medicine is complete, migraine preventive medications may help reduce the frequency and severity of attacks, and prevent escalation of acute medication use.

Gradual tapering of the medication being overused can be challenging and many patients resist this for fear of headaches returning or being uncomfortable when medicines are withdrawn. Additionally patient habits are difficult to break, and sometimes psychotherapy is warranted. Steps also should be taken to minimize withdrawal symptoms in those patients overusing barbiturates or opioids. This should be done carefully, and may require hospitalization.

OUTPATIENT INFUSION

- Management for 8-10 hours/day in supervised medical setting

- Migraine status, uncomplicated CDH

Major concerns with infusion:

- Withdrawal from long-acting or potent drugs
- Psychiatric disorders will interfere with treatment
- Comorbid medical illness that may require monitoring
- Allows only short-term follow-up

Some patients may prefer to undergo detoxification through a home-infusion process. This includes patients attending a medical setting for 8 or 10 hours each day, where their medical treatment is monitored. The risk with outpatient infusion or home detoxification is that withdrawal from long-acting or potent drugs may be complicated, with the patient experiencing risk of seizures or other withdrawal symptoms. Additionally, no counseling or other psychosocial support systems are maintained. Often behavior modification is needed to help patients break their habit or routine of taking medications daily, or even hourly. Many patients with CDH or CM also may have coexisting health conditions, which may worsen during the detoxification process (e.g., depression, anxiety).

JUSTIFICATION FOR HOSPITALIZATION

- Symptoms are severe and refractory to outpatient treatment
- Headache accompanied by drug overuse or toxicity not treatable as outpatient
- Intensity of neuropsychiatric and behavioral comorbidity renders outpatient treatment ineffective
- Confounding medical illness
- Treatment urgency of clinically desperate patient

Saper JR et al. *Handbook of Headache Management*. 1999.

Hospitalization criteria currently are debated, but in general, refractory symptoms that are intense and disabling often require hospitalization. This is particularly so in patients with rebound or toxic states and for individuals who cannot withstand the headache and that will ensue as medication reduction occurs.

The presence of neuropsychiatric comorbidity, obsessive-compulsive tendencies, drug-seeking behavior, panic states, and compulsive drug-taking are psychiatric features that often make hospitalization mandatory to achieve effective control.

The presence of confounding medical illness that could be aggravated by the stress of withdrawal or that makes treatment more tenuous also mandates hospitalization.

Perhaps more important and often overlooked are the patients who are truly desperate and severely frightened by their pain, and therefore whose compliance cannot be assured under outpatient conditions. Severe pain and urgency to control it are themselves clinical and humane justifications for hospitalization that mandate aggressive pain control interventions.

Saper JR, Silberstein SD, Gordon CD, Hamel RL. *Handbook of Headache Management: A Practical Guide to Diagnosis and Treatment of Head, Neck, and Facial Pain*. 2nd ed. Baltimore: Lippincott Williams & Wilkins; 1999.

PRINCIPLES OF HOSPITAL TREATMENT

- Interrupt daily headache pattern with parenteral protocols
- Discontinue offending analgesics if rebound is present
- Implement preventive pharmacotherapy
- Identify effective abortive therapy
- Treat behavioral and neuropsychiatric comorbidities
- Education, discharge, and outpatient planning

Saper JR et al. *Handbook of Headache Management*. 1993.

During hospitalization, initial treatment should be directed at supporting patients and interrupting the daily headache pattern. Detoxification and drug reduction protocols must be undertaken, and preventative treatment eventually must be started to sustain control on an outpatient basis.

Effective abortive treatment should be undertaken during hospitalization to give assurance to patients that they will be effectively managed when discharged without the medications that they may have become reliant upon. Behavioral and neuropsychiatric disturbances must be addressed because they contribute to the refractoriness of the clinical circumstances. Education and discharge and outpatient planning are equally important to sustained long-term outcome.

Saper JR, Silberstein SD, Gordon CD, Hamel RL. *Handbook of Headache Management: A Practical Guide to Diagnosis and Treatment of Head, Neck, and Facial Pain*. 2nd ed. Baltimore: Lippincott Williams & Wilkins; 1999.

Raskin NH. Repetitive intravenous dihydroergotamine as therapy for intractable migraine. *Neurology*. 1986;36(7):995-997.

Silberstein SD, Schulman EA, Hopkins MM. Repetitive intravenous DHE in the treatment of refractory headache. *Headache*. 1990;30(6):334-339.

INPATIENT DETOXIFICATION HEADACHE TREATMENT

Management occurs 24 hours/day

1. Break headache cycle: more than just pain control
 - Fluid/electrolyte replacement
 - Detoxification
 - Use terminators
2. Adjust preventive treatment
3. Treat coexistent behavioral problems
4. Establish outpatient methods of control

Inpatient detoxification includes 24-hour/day monitoring, which can be important depending on what medication is being withdrawn. The first step is to break the headache cycle, which often requires using a terminator medication.

TERMINATING THE HEADACHE PATTERN

Some medications are effective in terminating the headache cycle

These can be given repetitively IV

DHE

Neuroleptics

prochlorperazine,
chlorpromazine,
droperidol

Corticosteroids

Valproate sodium

Magnesium

Ketorolac

Terminating a pattern of chronic daily headache or chronic migraine sometimes is effective when specific therapies are given. These may require hospitalization or visits to the physician's office, as the medications are most effective when given iv.

Although the evidence proven in randomized, controlled trials is limited, anecdotal reports and expert consensus suggest that several different medications may be helpful. These include

- DHE
- Neuroleptics such as prochlorperazine, chlorpromazine, and droperidol
- Corticosteroids, valproate sodium, magnesium and ketorolac.

PROGNOSIS

- Numerous studies show varying degrees of efficacy
- Detoxification, medication maintenance, and psychiatric treatment are necessary
- 50%–75% gain prolonged benefit with ongoing care
- Relapse can occur

Lake AL et al. *Headache*. 1993; Silberstein SD, Silberstein JR. *Headache*. 1992.

Prognosis varies for patients with CDH. Few authoritative studies are available. Most studies involving patients with intractable headache have not clearly defined CDH and include a variety of difficult-to-diagnose populations, if not varied headache phenomena. The essence of the available data suggests that aggressive treatment, particularly in the hospital, for patients with intractable cases, can be effective in 50% to 75% of cases. Resort to medication overuse, behavioral deterioration, and a return of persistent headache can occur. Aggressive initial intervention and ongoing maintenance of treatment, periodic use of more aggressive interventions, and ongoing psychological and behavioral treatment make quality of life and headache improvement more likely.

Lake and colleagues demonstrated the following in a 1993 prospective outcome study, which assessed 100 hospitalized patients:

- Frequency of severe headache was reduced at least 50% for 75% of patients
- Mean overall improvement was 74%
- Patients on leave from work due to pain dropped from 24% to 4%
- The number of working patients rose from 31% to 53%

Statistically significant reductions in days lost to pain, depression, sleep disturbance, and use of symptomatic medication were achieved.

Lake AE, Saper JR, Madden SF, Kreeger MA. Comprehensive inpatient treatment for intractable migraine: a prospective long-term outcome study. *Headache*. 1993;33(2):55-62.

Silberstein SD, Silberstein JR. Chronic daily headache: long-term prognosis following inpatient treatment with repetitive IV DHE. *Headache*. 1992;32(9):439-445.

CARE OF REFRACTORY PATIENTS

- Refer to specialized centers
 - Ongoing case management
 - Require disease management model
- Treatment centers should provide
 - Case management
 - Disease management planning
 - Hospitalization
 - Out-patient service

If patients are truly refractory to medication treatment, more intensive services are often provided at tertiary centers. Hospitalization may be required if certain criteria are met. Coordinated and aggressive inpatient/outpatient programming may be necessary to address behavioral, neuropsychological, and pain issues, including medication-use disturbances.

SPECIAL POPULATIONS: CDH IN PREGNANCY

~ 30% women have increase headache frequency

Beware of secondary causes

- Cerebral venous thrombosis
- Intracranial hypertension

MRI when necessary

Treatment: nonpharmacotherapy

- Avoid preventive medications if possible
- Avoid acute medications, including migraine-specific medicines, if possible

Approximately 30% of women experience an increase in frequency in migraine or headaches during pregnancy, which for many women improve during the second and third trimester. When presenting to the clinic, caution should be taken to exclude secondary causes (e.g., intracranial hypertension, cerebral venous thrombosis, other) for headache, especially if there is no previous history. For these women, MRI is the ideal imaging procedure, if necessary and if warranted.

Management of chronic daily headache or chronic migraine can be particularly challenging as treatment options are limited. For the most part, pharmacological therapies should be avoided, if possible. Nonpharmacological therapy may help in some patients, including biofeedback, relaxation therapy, and psychotherapy.

TREATMENT OF CDH IN PREGNANCY

Currently, there are no “approved” medications for treatment of CDH or CM in pregnancy

Treatment options may include– *when necessary*

- Acetaminophen
- Opioids
- Antiemetics (e.g. metoclopramide; ondansetron)
- Magnesium
- ? *Vitamin B₁₂*

Treatment of migraine in pregnancy is fairly standard, and limited to medications that are well tolerated by the fetus. These include acetaminophen and acetaminophen combinations including or codeine. Magnesium and riboflavin also may be helpful. Antiemetics (metoclopramide , ondansetron) also may offer some relief.

SPECIAL POPULATIONS: CDH IN ADOLESCENTS

- Incidence 0.9%
- Medication overuse rare
- Short period of transformation
- Functional disability is measured in school absence
- Screen for depression



Abu-Arefeh I, Russell G. *BMJ*. 1994; Gladstein J, Holden EW. *Headache*. 1996.

Although no population studies examine chronic daily headache specifically in adolescents, Abu Arefeh and Russell found that 0.9% of youngsters age 5–15 years have chronic headache (spells of daily headache for at least 10 days).

In a study of adolescents who present to a pediatric headache clinic, Gladstein and Holden found that most of the youngsters had underlying CTTH with spikes of migraine. According to Silberstein's 1996 criteria, these patients would be classified as transformed migraine, but in these young people there was hardly any transformation. This disorder has been called mixed headache or comorbid headache, and may be called chronic daily migraine in the future.

HC is rare in children, but some do have CTTH or NDPH. In Gladstein's study, little medication overuse was found in contrast to adults with CDH. It is unclear why teenagers with CDH have evolved into this pattern so quickly, whereas it takes many years to develop this condition in adults.

A careful and sensitive history should touch on functional disability, school days missed, and social isolation. Parents and children should be interviewed both together and separately. A screening tool for depression available in the waiting room may help identify children at risk for depression.

Abu-Arefeh I, Russell G. Prevalence of headache and migraine in schoolchildren. *BMJ*. 1994;309(6957):765-769.

Gladstein J, Holden EW. Chronic daily headache in children and adolescents: a 2-year prospective study. *Headache*. 1996;36(6):349-351.

CHRONIC DAILY HEADACHE CONCLUSIONS

- Chronic daily headache is a common disorder
- It is, perhaps, one of the most disabling of the primary headache conditions
- Sufferers frequently are affected by daily pain, experience neuropsychiatric comorbidities, behavioral disturbances, and drug overuse dilemmas
- Treatment requires complex medication regimens, detoxification, and behavioral management
- Advanced and severe cases may require inpatient care

Chronic daily headache is common disorder, especially in neurology and headache specialists offices. Sufferers are usually disabled by pain, and many experience psychiatric comorbidity such as depression or anxiety. Treatment requires complex medication regimens, long-term commitments on behalf of the patient and the physician. Many patients end up overusing medications, which exacerbate their illness and render preventive therapies ineffective. It is not uncommon for patients with chronic daily headache or chronic migraine to be hospitalized or receive office-based treatments.



CASE REVIEW AND DISCUSSION

*Chronic migraine & medication
overuse headache*

HISTORY (1)

- 34 y/o female; episodic headache for 20 years

- Initial Rx: ibuprofen or acetaminophen

- Gradual increased in frequency and intensity over time

- Previous diagnosis: tension-type headache; normal neurological exam

- Treatment: butalbital combination: 2 tabs bid to qid, prn for pain



HISTORY (2)

- Progressive depression & social withdrawal; butalbital used daily at 8-12 tabs/d

- Referral to neurologist; exam normal; diagnosis: transformational migraine

- Patient advised to discontinue butalbital

- Treatment plan: amitriptyline 50 mg h.s. & propranolol 20-40 mg tid; triptan limited 2 times/wk for acute attacks as needed



CONTINUED HISTORY...

*Patient ... continues to obtain
butalbital*

Headaches continue to worsen

ADDITIONAL ASSESSMENT

Follow-up with neurologist: acknowledged continued use of butalbital & worsening of symptoms

Additional tests: MRI (brain & C-spine) & MRV - no pathology; LP CSF evaluation and opening/closing pressures – normal; Psychological assessment: depressed, withdrawn, physiologically dependent on barbiturate and analgesics

DX: probable chronic migraine; medication overuse headache

MEDICATION OVERUSE WITHDRAWAL

- Phenobarbital 30-60 mg tid– to taper
- Amitriptyline & propranolol; doses modestly adjusted upward
- Triptan given for acute headaches
- Chlorpromazine suppositories for nausea & pain
- Naproxen 550 mg for pain prn, bid
- Cognitive behavioral therapy

PROGNOSIS

- Patient improved over 4 to 6 weeks
- Follow-up:
 - Regular physician/ office visits
 - Behavioral psychologist