

Chronic Daily Headache

Part 1: Classification and Evaluation*

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Chronic daily headache (CDH) affects approximately 4% of the general population, and is predominantly a female problem. It is defined as headaches occurring at least 15 days per month and lasting about 4 hours daily.¹ In the United States, this entity accounts for 30% to 75% of all subspecialty headache visits.¹

Patients who have CDH may be rebuffed or intimidated by their primary care physicians or OB/GYNs, many of whom lack sufficient training, expertise, and time to treat this form of chronic pain. To properly diagnose and treat patients with CDH, physicians must take a detailed history, perform a thorough physical examination, and encourage behavioral changes that may be difficult for patients to implement. Physicians must avoid overprescribing common analgesics, and help patients to withdraw from drugs that have been misused or abused in the past. Coexisting conditions such as panic disorder, depression, chronic pelvic pain, fibromyalgia, and irritable bowel syndrome (IBS) may also complicate CDH treatment. Within a few

weeks of starting appropriate therapy, however, most CDH sufferers can expect a considerable decrease in the frequency, intensity, and duration of their headaches.

This first article in a two-part series describes the epidemiology, categories, and clinical evaluation of CDH.

EPIDEMIOLOGY

Headaches of any type are more common in women than in men. Among US residents age 12 to 80, 18% of women versus 6% of men suffer from migraines; the highest gender ratio (3.3:1) is in the 30- to 45-year age group.² The prevalence of tension-type headaches is not quite as skewed toward women but still shows female predominance: 42% of women versus 36% of men suffer from episodic attacks (ratio, 1.2:1), and 1.7% of women versus 0.9% of men suffer from chronic attacks (ratio, 2.2:1).³ An epidemiologic study performed in the Netherlands found that daily headaches occurred in 6% of persons age 20 or older and were twice as common in women as in men (8% vs 4%).⁴ Although CDH occurred at any age, the highest prevalence was in persons age 20 to 24 and in those older than 64 (8% for both), and the lowest incidence was in persons age 35 to 54 (5%). In a

population-based US study, frequent headaches, defined as 180 or more attacks yearly, occurred in 5% of women versus 2.8% of men.⁵

About 7 million US adults have at least 3 headache days per week, which can significantly interfere with work productivity and social functioning.⁵ Many patients delay seeking medical treatment for their chronic headaches for 11 to 20 years from the year of onset.⁶ When asked the reason for this delay, 46% of patients cited lack of physician understanding regarding headaches, 31% believed that no treatment was effective, and 29% thought that no medications were available to ease this type of discomfort.⁷

PRIMARY HEADACHE TYPES

The term *chronic daily headache* describes a number of distinct headache types, and is not a specific diagnostic entity. Many CDH sufferers have several types of head pain that vary in intensity and duration. One type of headache may change on the following day into a different form of head pain. Many of these patients experience periodic disabling headaches that are superimposed on their baseline headaches and that wax and wane in intensity. Disabling headaches, also known as "sick headaches," often have migraine characteristics

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such as nausea, vomiting, photosensitivity, and phonosensitivity. Menstruation may exacerbate both existing headaches and comorbid conditions (e.g., fibromyalgia, depression, panic disorder, IBS):⁸ As estrogen levels influence central pain receptors, fluctuations in circulating estrogen may trigger head pain and fibromyalgia in susceptible females.⁹

CDHs are classified as either primary or secondary (Table 1).¹ Primary headaches are further categorized according to duration.

Short Duration

These headaches last less than 4 hours.

Cluster headache. This is the most common type of short-duration headache. Although it strikes 6 times as many men as women, it must be considered in females who have this distinctive presentation:

- mean age at onset, 27 to 31 years (~10 y later than migraine)¹⁰
- pain is severe, unilateral, and supraorbital, and lasts between 15 and 180 minutes
- associated symptoms include conjunctival injection, tearing, nasal congestion, rhinorrhea, facial sweating, miosis, ptosis, and eyelid swelling
- one to eight attacks daily
- episodic or chronic.

Chronic paroxysmal hemicrania.

This cluster headache variant occurs primarily in women. Pain is usually unilateral, intense, and sharp, and may occur 20 to 30 times daily. As with other forms of CDH, medication overuse is a common consequence. An attack of chronic paroxysmal hemicrania responds almost exclusively to indomethacin; improvement in symptomatology is often dramatic.

Hypnic headache. This type of headache occurs primarily in elderly women who are awakened from sleep by intense pain similar to a cluster headache. However, unlike cluster headaches, hypnic headaches are frequently associated with nausea and vomiting.¹¹

Idiopathic stabbing headache.

These headaches are more common in females than in males. They are characterized by severe, stabbing pain that lasts for several seconds. Pain may occur many times per day and may be located on any part of the head. Autonomic features are absent. These headaches respond to treatment with indomethacin. The pain of idiopathic stabbing headaches is less intense than that of trigeminal neuralgia and is of shorter duration than that of cluster headaches.

Intermediate Duration

These headaches last longer than 4 hours.

Transformed migraine. Most patients with this type of headache have a history of episodic migraine beginning at age 15 to 25.¹ Over time (months to years), headache pain becomes more frequent and intense while associated migraine symptoms (e.g., nausea, sensitivity

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to light) diminish. Migraine triggers such as menstruation and sleep disturbances persist.¹² Attacks of severe migraine may be superimposed on a background of chronic daily tension-type headaches. Approximately 80% of patients with transformed migraine overuse analgesics.¹³

Chronic tension-type headache.

Patients who have a history of episodic tension-type headaches may develop chronic tension-type headaches. These headaches are diffuse, and frequently involve the posterior head and neck. Most features of migraine are absent.

New daily persistent headache (NDPH).

This entity, manifested by acute-onset headaches that do not remit, may be associated with an accident, stress, pregnancy, postviral syndrome, oral contraceptive use, surgery, spinal tap, hormone replacement therapy use, or a dental procedure.¹⁴ Onset of NDPH is often dramatic (it usually occurs during the teenage years); indeed, many patients can specify the exact date that their headaches began. Sufferers do not have a history of evolution from migraine or chronic tension-type headaches to NDPH, but 90% of women with NDPH have had episodic tension-type headaches in the past.¹⁵ As with transformed migraine, NDPH may sometimes be associated with analgesic rebound.

Hemicrania continua. This rare disorder is significantly more common in females than in males. It is characterized by continuous moderate pain with painful exacerbations, and is accompanied by autonomic disturbances on the side of the headache. These include ptosis, miosis, tearing, and sweating. Some

TABLE 1. Classifying CDH¹

Primary Headaches

Lasting < 4 H

Cluster headache
Chronic paroxysmal hemicrania
Hypnic headache
Idiopathic stabbing headache

Lasting > 4 H

Transformed migraine
Chronic tension-type headache
New daily persistent headache
Hemicrania continua

Secondary Headaches

Posttraumatic headache
Cervical spine disorders
Headache associated with vascular disorder (AVM, arteritis, subdural hematoma)
Headache associated with nonvascular intracranial disorders (infections, pseudotumor cerebri, neoplasm)
Other (sinusitis, TMJ disorder, trigeminal neuralgia)

CDH = chronic daily headache; AVM = arteriovenous malformation; TMJ = temporomandibular joint.

patients also experience photophobia, phonophobia, and nausea. Hemicrania continua exists in both continuous and remitting forms. In the former, headaches occur daily for years; in the latter, periods of daily headache alternate with pain-free remissions.¹⁶

Rebound Headache

Patients who use analgesics more than twice weekly to relieve headache pain are likely to develop analgesic rebound headaches, which can lead to development of transformed migraine. In these cases, headaches become more frequent as medication use increases. Analgesics that at one time com-

pletely eliminated the head pain simply suppress the pain and then eventually become ineffective.

In typical cases, patients are awakened from sleep as serum analgesic levels drop below their pain threshold, triggering a more intense headache. Upon awakening, they take another pill or use a stronger analgesic to kill the pain. Stopping this chronic overuse of analgesics will cause them to experience intense withdrawal symptoms, including nausea, vomiting, sleep disturbance, increase in headache, irritability, and depression. This withdrawal phase lasts 2 to 4 weeks but is followed by a considerable decrease in headache intensity, duration, and frequency. In typical cases, postwithdrawal headaches will become intermittent and then eventually remit.¹⁷

CLINICAL EVALUATION

Headache is a common disorder with many potential causes. Primary disorders, including migraine, cluster, and tension-type headaches, account for most cases, whereas secondary headaches, such as those due to tumor, aneurysm, or meningitis, are far less common.¹²

History

Evaluation of patients with CDH starts with a thorough and often time-consuming history. Headache specialists believe that the specific diagnosis of headache type can usually be determined by conducting a structured interview; thus, the history is of paramount importance. Table 2 provides a list of questions that should ensure that all pertinent facts are elicited and documented.

Physical Examination

This should include palpation of the scalp and neck muscles, which can

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be tender in patients who have CDH. Placing moderate pressure on the occipital notch just medial to the ear frequently reproduces the head pain (Figure). Patients who have pain in the occipital notch may be excellent candidates for an occipital nerve block. Presence of any focal neurologic abnormalities should prompt consideration of neuroimaging studies.

Neuroimaging Studies

In April 2000, the US Headache Consortium released comprehensive, evidence-based guidelines for diagnosis, treatment, and prevention of migraine headaches.¹⁸ These standards outline circumstances under which physicians should consider obtaining computed tomography (CT) or magnetic resonance imaging (MRI) studies for given patients. Specifically, neuroimaging may be useful in those with non-acute headache and an unexplained abnormal finding on neurologic examination. Patients who have atypical headache features or those who do not fulfill strict criteria for migraine may also be candidates for neuroimaging. By contrast, neuroimaging is usually not warranted in migraineurs with normal neurologic findings. The US Headache Consortium also concluded that data were insufficient to make any evidence-based recommendations regarding the relative sensitivity of MRI relative to CT in evaluating migraine or other nonacute headaches. Electroencephalography is not indicated in the routine evaluation of headache.^{18,19}

Most CDH sufferers will not benefit from undergoing CT or MRI. On occasion, however, such studies may be useful in alleviating their fear that an organic lesion is present. After being reassured that scan

TABLE 2: Headache Interview Questions

1. How many different types of headaches do you have?
2. At what age did the headaches begin?
3. Over the past 6 months, have the headaches gotten better or worse or have they stayed the same?
4. Did any event or injury trigger the onset of the headaches?
5. How many days of head pain have you had in the past 30 days?
6. What is the average intensity of your headaches on a 10-point scale over the past 30 days, with 10 being severe pain?
7. How many hours do your headaches last during a typical 24-hour period?
8. How many days per week do you take analgesics to treat your headaches?
9. Which medicines are you routinely taking, including over-the-counter analgesics, prescription medications, and vitamins?
10. How many analgesics do you use per month for your headaches?
11. Have you needed to use progressively more analgesics recently to control your headaches?
12. Do you have any close relatives who suffer from headaches?
13. Would you describe the quality of your pain as sharp, dull, burning, aching, stabbing, pressured, or tight?
14. Where on your head do the pains begin?
15. Do the pains move to any other locations on your head during the course of the headache?
16. What percentage of your headaches are right-sided, left-sided, or diffuse?
17. How long does it take your typical headache to reach peak intensity?
18. Are your headaches accompanied by nausea, vomiting, light sensitivity, sound sensitivity, dizziness, facial drooping, nasal congestion, facial flushing, frequent urination, abdominal pain, fainting, confusion, and/or loss of consciousness?
19. Do your headaches occur on consecutive days?
20. What may trigger your headaches?
21. Are your headaches worse around the time of menstruation?
22. What type of headache evaluations have you undergone in the past? Which tests were performed? What was the diagnosis you were given regarding your headaches?
23. Which treatments have been tried in the past for your headaches, and which have been the most beneficial in reducing your pain?
24. Before your head pain begins, do you get any warning signs that you will be getting a headache? Do you experience any changes in your vision, difficulty with your speech, and/or any numbness in your face or hands?
25. What time do you go to bed on weekdays and weekends? What time do you arise? Do you have trouble getting to sleep or staying asleep?
26. Do you work irregular hours or shifts?
27. How much caffeine do you drink daily? Do you smoke, drink alcohol, or use recreational drugs?
28. Do you exercise on a routine basis?
29. Does exercise make the headaches worse?
30. What do you think is causing your headaches?

FIGURE. Palpating the Occipital Notch



The occipital notch is palpated on the side of the head where the headache is most intense.

results are negative, they may find that their pain remits spontaneously. Neuroimaging may also be indicated in CDH sufferers whose headache patterns change in frequency, severity, or clinical features; in those who have progressive NDPH; and in those who fail to improve after an adequate trial of routine therapy.²⁰

COEXISTING DISORDERS

Anxiety, depression, sleep disturbance, panic disorder, fibromyalgia, and IBS are more common in migraineurs than in control subjects without migraines.^{21,22} Migraineurs may have increased susceptibility to multiple coexisting disorders because they inherit a very sensitive central nervous system (CNS). Certain environmental or emotional triggers may activate serotonin-mediated receptors in the CNS, leading to depression, anxiety, and chronic pain states.²³

Emotional problems are even more prevalent in patients with CDH than in migraineurs. For example, in a large, clinic-based

study, Minnesota Multiphasic Personality Inventory results were abnormal in 61% of patients with CDH versus 12.2% of patients with episodic migraine.²⁴ Likewise, another study revealed that Zung and Beck Depression Scale scores were much higher in CDH sufferers than in episodic migraine sufferers.²² If patients who have chronic pain can learn to stabilize their CNS through various behavioral modalities, then they can experience a dramatic improvement

in their quality of life. Physicians should always question CDH sufferers regarding the presence of coexisting disorders, which must be treated as aggressively as their chronic pain states.²⁵

CONCLUSION

Evaluation of CDH can be a complex procedure. However, allocating adequate time to obtain a complete history and perform a thorough physical examination in order to characterize the headache as accurately as possible can save both time and frustration in determining the best course of management. In addition, careful attention on the part of physicians to patients' descriptions of their problems can be very reassuring after patients have spent years searching for, but not finding, any relief.

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*Part 2 of "Chronic Daily Headache," which will appear in an upcoming issue of THE FEMALE PATIENT®, discusses behavioral and pharmacologic approaches to management.