When the Pain Won't Stop:
Managing Chronic Daily Headache

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Chronic daily headache (CDH) is classified as ≥ 15 headache days per month. The one-year prevalence of CDH in adults is about 4% of the population. Studies from the US show that 50% to 80% of CDH sufferers have transformed migraine (TM). Prospective studies suggest high rates of remission over one year to four years for those who are affected. Unfortunately, the etiology of CDH remains obscure. At the moment, there is limited evidence from placebo-controlled trials for some possible treatment strategies.

Shayla's case

Shayla, 67, presents with an onset of headaches that began three years ago after strenuous gardening. The pain is on one side only and becomes worse with activity. Initially, it was quite severe, but it is now milder, with only occasional exacerbations.

Examination

Other than the headaches, Shayla is in good health and has no previous history of headache.

Her examination appears to be normal. She takes daily anti-inflammatories to help with the pain.

Shayla admits to being depressed because of the chronic pain. She was forced to stop all outdoor activities and does not sleep well.

Shayla is asked to keep a headache diary to assess her headaches (Figure 1).

For a follow up to this case, look to page 82.

Headaches

CDH can be divided into four main groups:

- chronic migraine (CM),
- chronic tension-type headache (CTTH),
- hemicrania continua (HC) and
- new daily persistent headache (NDPH).

CM

CM, also known as TM, affects 35% of patients with CDH. CM is characterized as headache occuring ≥ 15 days per month for more than three months. At least eight of these days should fulfill the criteria for migraine with or without aura, or respond to the use of a triptan.

CTTH

CTTH affects 50% of patients with CDH. Tension-type headaches occur ≥ 15 days per month for at least six months. Pain is generally mild-to-moderate and bilateral.

Headache Severity

DATE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Morning	1	0	2	0	0	0	0	0	2	3	0	0	13	0	0	0	2	3	3	0	2	2	3	3	3	2	2	2	2	2	
Afternoon	2	2	3	0	0	0	0	1	3	3	0	2	3	0	2	2	3	2	3	0	2	2	3	3	3	0	0	0	1	2	
Evening	3	2	3	0	0	0	1	2	3	2	0	3	2	2	2	3	3	0	3	0	2	0	3	3	3	2	0	0	0	0	

Scale of 0 to 10 No pain = 0 Pain as bad as it could be = 10

SYMPTOMATIC MEDICATIONS (Tablets/injections per day)

Name: Ibuprofen 400 mg	3	2	3				1	2	4	3		3	3	1	2	2	3	2	4		3	2	3	3	3	2	1	1	2	2	
Overall relief	2	3	2				3	3	2	2		1	2	3	3	2	2	3	1		2	3	2	2	2	3	3	3	3	3	
Name:																															
Overall relief																															
Name:																															
Overall relief																															

Relief: 0-1-2-3 0 = None 1 = Slight relief 2 = Moderate relief 3 = Complete relief

PREVENTIVE MEDICATIONS

Name: mg																															
Name: mg																															

Figure 1. Shayla's headache diary, 2005.

HC

HC headaches are persistent, unilateral pain of variable intensity, responsive to indomethacin. Painful exacerbations are associated with:

- ptosis,
- lacrimation and
- nasal congestion.

NDPH

NDPH is characterized by continuous daily head pain with varying intensity and is sometimes accompanied by migrainous symptoms that are daily from the onset.

Risk factors

Risk factors for CDH include:

- Obesity (headache frequency tends to be increased)
- Psychological issues:[1]
  - depression
  - anxiety
  - stress
- Overuse of pain medication
- Sleep disturbances
- Previous history of intermittent migraine (characteristic of 70% of cases)

CM/TM[3,4]

CM/TM implies a past history of intermittent migraine attacks, which become more frequent over time. These (almost daily) headaches are often less severe, but may be punctuated with exacerbations.

Characteristics of CM/TM

CM/TM patients often share these characteristics:

- they have a history of episodic migraine beginning in their teens or twenties,

- they are female and
- they overuse medication.

Characteristics of CM/TM include:

- A pattern of daily or almost daily headaches that seem to be a mixture of CTTH and migraine attacks
- Pain that decreases in severity from severe-to-moderate or mild
- Pain is not always accompanied by:
  - phonophobia,
  - photophobia, or
  - nausea
- Other migraine symptoms may persist including:
  - unilateral pain,
  - GI symptoms and
  - aggravation by other triggers

MOH

Medication overuse headaches (MOH) are quite common and often under-recognized. They can complicate any type of headache by causing an increase in the frequency of headaches and having a reduced response to rescue, as well as preventative medication.

CDH frequently improves by merely discontinuing the offending drug, even without the use of another form of treatment.

How much is too much?

MOH can occur when *any* analgesic or anti-inflammatory drug, or a combination of drugs, is taken three or more days a week for more than three months, or any opioid or opioid-containing medications are taken for two or more days a week, for more than three months. Analgesics or anti-inflammatories can

Table 1

ID Migraine™ questionnaire[1]

If you are concerned about migraine, ask these questions. If you answer yes to 2 out of the 3 questions, then a diagnosis of migraine is 93% accurate.

	YES	NO
1. Has a headache limited your activities for ≥ 1 day in the last 3 months?	☐	☐
2. Are you nauseated or sick to your stomach when you have a headache?	☐	☐
3. Does light bother you when you have a headache?	☐	☐

Table 2

Red flags of chronic daily headache[2]

Systemic systems
- Fever
- Weight loss
- Secondary risk factors:
  - HIV
  - Systemic cancer

Neurological symptoms/abnormal signs
- Confusion
- Impaired alertness/consciousness
- Onset is:
  - Sudden
  - Abrupt
  - Split-second

Older symptoms
- New onset
- Progressive headache, especially in:
  - Middle-age
  - > 50-years-of-age (giant cell arteritis)

Previous headache history
- Is this the first headache?
- Is this headache different from the others in:
  - Attack frequency?
  - Severity?
  - Clinical features?

Shayla's case cont'd...

After discussing the differential diagnosis with Shayla, the following recommendations are made:

1. Perform a MRI scan to exclude low cerebrospinal fluid volume headache. A cerebrospinal fluid leak may be a cause of sudden headache after exertion
2. Examine the sedimentation rate to rule out temporal arteritis, even though no jaw claudication or tenderness over temporal arteries is evident
3. To rule out medication overuse headaches, Shayla is asked to stop taking all daily anti-inflammatories
4. Shayla is given a triptan to take not > 3 times per week, for the more severe headaches
5. Shayla is started on a low-dose tricyclic (10 mg, h.s.)

For Shayla's results, look to Figure 2.

be single agent drugs (*e.g.*, acetaminophen, or combination drugs, such as acetaminophen-codeine-acetylsalicylic acid preparations).

Always remember to ask about OTC drugs as patients often think these do not count as they are not prescription drugs.

Migraines

Migraine pain is characterized by:

- recurrent,
- unilateral or bilateral,
- pulsating pain.

Migraines also present as moderate-to-severe headaches, possibly exacerbated by physical activity.

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Migraine pain can occur in the face, neck and jaw.

The pain is usually accompanied by:

- nausea,
- photophobia, or
- phonophobia.

Less than 20% of migraineurs have visual aura. Table 1 outlines some questions to help you identify patients with migraines using the ID Migraine™ questionnaire.

Diagnosing CDH

Approach

To properly diagnose CDH, a detailed history of past and present headaches is required along with a general and neurological examination. Watch out for red flags (Table 2). If any are present, appropriately investigate and treat. In the absence of red flags, < 0.7 % of imaging studies are abnormal. Currently, no evidence-based guidelines exist for choosing an MRI vs. a CT scan and there does not appear to be need for an electroencephalogram.

Daily headache diaries

Daily headache diaries (Figures 1 and 2) provide both the patient and the doctor with an accurate reflection of the frequency of the headache, the intensity, duration and the response to medication. They also show the link between triggers (*e.g.*, menses and headache occurrence). Headache diaries are used to compare headaches before and after treatment.

Headache diaries actually count the number of headache days per month. Patient recall is very unreliable in the absence of diaries.

Headache Severity

DATE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Morning	0	0	0	0	2	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2	0	0	2	0	0	0				
Afternoon	0	0	2	0	0	0	0	2	0	2	0	2	0	0	0	0	0	0	2	2	2	2	0	0	0	0	0				
Evening	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	2	0				

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SYMPTOMATIC MEDICATIONS (Tablets/injections per day)

Name: Ibuprofen 400 mg																					1										
Overall relief																															
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Overall relief																															
Name:																															
Overall relief																															

Relief: 0-1-2-3 0 = None 1 = Slight relief 2 = Moderate relief 3 = Complete relief

PREVENTIVE MEDICATIONS

Name: Amitriptyline mg	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4				
Name: mg																															

Figure 2. Shayla's headache diary, 2006.

It is also important to know if the diaries do not show an improvement. At this point, one should look again for red flags, or change to another rescue medication. Checking the history once more may be beneficial, as the patient may work the night shift, thus not sleep properly, *etc.*

Headache diaries can be downloaded from the following address: www.headachenetwork.ca

Shayla's case

In Shayla's case, there appeared to be daily headaches and one could immediately see there was medication overuse (ibuprofen was taken more than three times per week, with minimal effect). Shayla was not taking a preventative agent.

After she stopped overusing ibuprofen, her headaches decreased by > 80% and she now uses a tricyclic, amitriptyline, 10 mg to 50 mg h.s. as a preventative medication.

CDH is classified as ≥ 15 headache days per month. The one-year prevalence of CDH in adults is about 4% of the population.

General principles of management

The following is an excerpt from the American Academy of Neurology website with regards to making decisions about neuroimaging in

Take-home message

- Investigate chronic daily headache and diagnose
- Educate the patient. Encourage research about triggers, lifestyle issues and stress management
- Find appropriate rescue medication. If the headache has migrainous features, consider using a triptan
- Address medication overuse (if present)
- Engage patient in management plan
- Address fears (*e.g.*, pain, causes, drug dependency, *etc.*)
- Choose a preventative agent. Start low, go slow. If other conditions are present, select drugs that will address both issues (*e.g.*, for insomnia AND headache, try a tricyclic)
- Set realistic goals
- Consider a non-medication approach, like biofeedback, relaxation, acupunture, *etc.*

headache.[5] The US Headache Consortium identified three consensus-based (not evidence-based) general principles of management:

- Testing should be avoided if it will not lead to a change in management
- Testing is not recommended if the individual is not significantly more likely than anyone else in the general population to have a significant abnormality
- Testing that normally may not be recommended as a population-policy may make sense at an individual level, resources notwithstanding (*e.g.*, exceptions can be considered for patients who are disabled by their fear of serious pathology, or for whom the provider is suspicious even in the absence of known predictors of abnormalities on neuroimaging studies [presence of red flags])

Conclusion

Assessing CDH can be a challenging but also a rewarding exercise. It is important to provide the patient with the necessary tools in order to be able to manage CDH as it is often not curable.

A referal to a Headache or Chronic Pain Clinic should be considered where signs and symptoms require it. Dx

References

1. Lipton RB, Dodick D, Sadovsky R, et al: A Self-Administered Screener for Migraine in Primary Care. The ID Migraine Validation Study. Neurology 2003; 61(3):375-82.
2. Silberstein SD, Lipton RB, Dalessio DJ (eds): *Wolff's Headache and Other Head Pain*. Seventh Edition. Oxford University Press, New York, 2001, pp.6-26.
3. Silberstein SD, Burstein R, Dodick D, et al: Understanding the Clinical Features, Biology and Management of Transformed Migraine: The Evidence Base. Continuing Education. Annual Scientific Meeting of the American Headaches Society, Boston, June, 2005.
4. Goadsby PJ, Silberstein SD, Dodick D (eds): *Chronic Daily Headache for Clinicians*. BC Decker, Inc. London, 2005.
5. American Academy of Neurology website. www.aan.com.

Resource

1. Zeeberg P, Olesen J, Jensen R: Probable Medication-Overuse Headache: The Effect of a Two-Month Drug-Free Period. Neurology 2006; 66(12):1894-8.

Useful websites for patients:

1. Headache Network Canada (www.headachenetwork.ca).
2. National Headache Foundation (www.headaches.org).
3. World Headache Alliance (www.w-h-a.org).
4. American Council for Headache Education (www.achenet.org).