

TTH OR CM
OR BOTH?
MULTIPLE
DIAGNOSIS

Aud Nome Dueland, MD,
PhD



Disclosures

Aud Nome Dueland

Honoraria:

Allergan/AbbVie, Eli Lilly & Co., Lundbeck Pharmaceuticals, Novartis, Pfizer, Teva Pharmaceutical Industries Ltd.

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How do patients with chronic migraine describe their headaches? Is self-diagnosis accurate?

Examples of what patients ask and say about their headaches:

1. I have chronic headache but how can I have chronic migraine when my headache is mostly a tension headache?
2. I have many different headaches – I have some days with migraine headache, and I have many days with tension headache
3. Migraine makes me lie down, and sometimes I need to vomit. My tension headache is mild, but I don't like noise and sunlight
4. My doctor told me that my neck pain was tension headache....

Chronic headaches in medical literature

What does PubMed search about chronic headaches in medical literature:

“chronic tension type headache” gives 1856 results

“chronic migraine” gives 9120 results, with increasing numbers every year

“chronic daily headache” gives 57250 results, with a peak in 2021



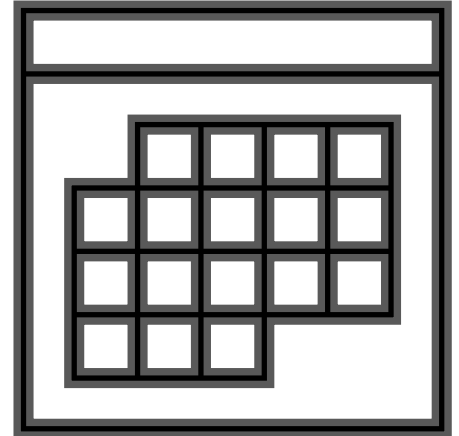
The development of Chronic migraine in ICHD¹

Transformed migraine was first introduced in 1987²

Chronic migraine was suggested for the first time in 1995³

In 1996:⁴

«**Chronic daily headache**» was defined as ≥ 15 headache days pr month over more than 3 months and transformed migraine was classified as one type of CDH



1. Medrea I, Christi S. Chronic Migraine - Evolution of the Concept and Clinical Implications. Headache. 2018 Oct;58(9):1495-1500. doi: 10.1111/head.13380. Epub 2018 Sep 4. PMID: 30178876.
2. Mathew NT, Reuveni U, Perez F. Transformed or evolutive migraine. Headache. 1987 Feb;27(2):102-6. doi: 10.1111/j.1526-4610.1987.hed2702102.x. PMID: 3570762.
3. Manzoni GC, Granella F, Sandrini G, Cavallini A, Zanferrari C, Nappi G. Classification of chronic daily headache by International Headache Society criteria: limits and new proposals. Cephalalgia. 1995 Feb;15(1):37-43. doi: 10.1046/j.1468-2982.1995.1501037.x. PMID: 7758096.
4. Silberstein SD, Lipton RB, Sliwinski M. Classification of daily and near-daily headaches: field trial of revised IHS criteria. Neurology. 1996 Oct;47(4):871-5. doi: 10.1212/wnl.47.4.871. PMID: 885771

Multiple headache diagnoses is common in headache clinic patients

CTTH: 86.6% also had migraine

Pure CTTH: <10%

Some important findings:

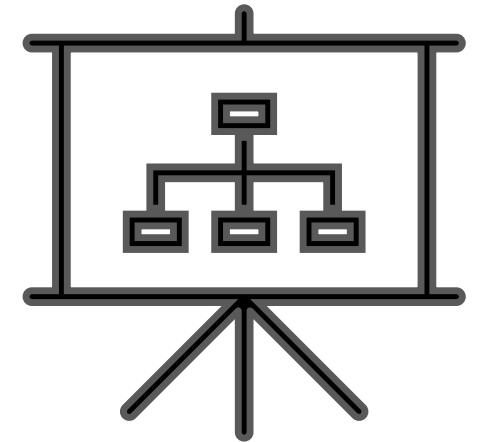
“ (i) The majority of chronic daily headaches have a history of migraine which transforms itself into chronic daily headache.

(ii) This transformation is spontaneous in some and drug-influenced in many.

(iii) Headaches in transformed migraine patients still retain characteristics of migraine during some episodes and do respond to antimigraine agents.

(iv) A pure chronic tension-type headache as a cause of chronic daily headache is less prevalent than transformed migraine.”

-- Need for better diagnosis of transformed migraine



The evolution of the diagnosis of chronic migraine¹

The first international classification of headache disorders (1988) had no a diagnosis of transformed or chronic migraine.² However, chronic tension type headache was acknowledged

In the second classification (1994) several chronic headache types were classified^{3,4}

Chronic migraine: ≥ 15 migraine days pr month over more than 3 months

ICHD-3: Chronic migraine: more than 3 months with ≥ 15 headache days pr month of which minimum 8 days with migraine⁵

1. Medrea I, Christi S. Chronic Migraine - Evolution of the Concept and Clinical Implications. *Headache*. 2018 Oct;58(9):1495-1500. doi: 10.1111/head.13380. Epub 2018 Sep 4. PMID: 30178876.
2. Classification and diagnostic criteria for headache disorders, cranial neuralgias and facial pain. Headache Classification Committee of the International Headache Society. *Cephalalgia*. 1988;8 Suppl 7:1-96. PMID: 3048700.
3. Manzoni GC, Torelli P; International Headache Society. International Headache Society classification: new proposals about chronic headache. *Neurol Sci*. 2003 May;24 Suppl 2:S86-9. doi: 10.1007/s100720300049. PMID: 12811600.
4. Headache Classification Subcommittee of the International Headache Society. The International Classification of Headache Disorders: 2nd edition. *Cephalalgia*. 2004;24 Suppl 1:9-160. doi: 10.1111/j.1468-2982.2003.00824.x. PMID: 14979299.
5. Headache Classification Committee of the International Headache Society (IHS) The International Classification of Headache Disorders, 3rd edition. *Cephalalgia*. 2018 Jan;38(1):1-211. doi: 10.1177/0333102417738202. PMID: 29368949.

Migraine vs TTH



Migraine

Attacks lasting 4–72 hours

Headache characteristics, at least two:

1. unilateral location
2. pulsating quality
3. moderate or severe pain intensity
4. aggravation by physical activity

During headache at least one:

1. nausea and/or vomiting
2. photophobia and phonophobia

TTH

Attacks lasting from 30 minutes to seven days

Headache characteristics, at least two:

1. bilateral location
2. pressing or tightening (non-pulsating) quality
3. mild or moderate intensity
4. not aggravated by routine physical activity

During headache both of the following:

1. no nausea or vomiting
2. no more than one of photophobia or phonophobia

CM diagnostic criteria

- A. Headache (migraine-like or tension-type-like¹) on 15 days/month for >3 months, and fulfilling criteria B and C
- B. Occurring in a patient who has had at least five attacks fulfilling criteria B–D for 1.1 Migraine without aura and/or criteria B and C for 1.2 Migraine with aura
- C. On 8 days/month for >3 months, fulfilling any of the following:
 - 1. criteria C and D for 1.1 Migraine without aura
 - 2. criteria B and C for 1.2 Migraine with aura
 - 3. believed by the patient to be migraine at onset and relieved by a triptan or ergot derivative
- D. Not better accounted for by another ICHD-3 diagnosis.

Chronic Migraine ICHD-3 notes:

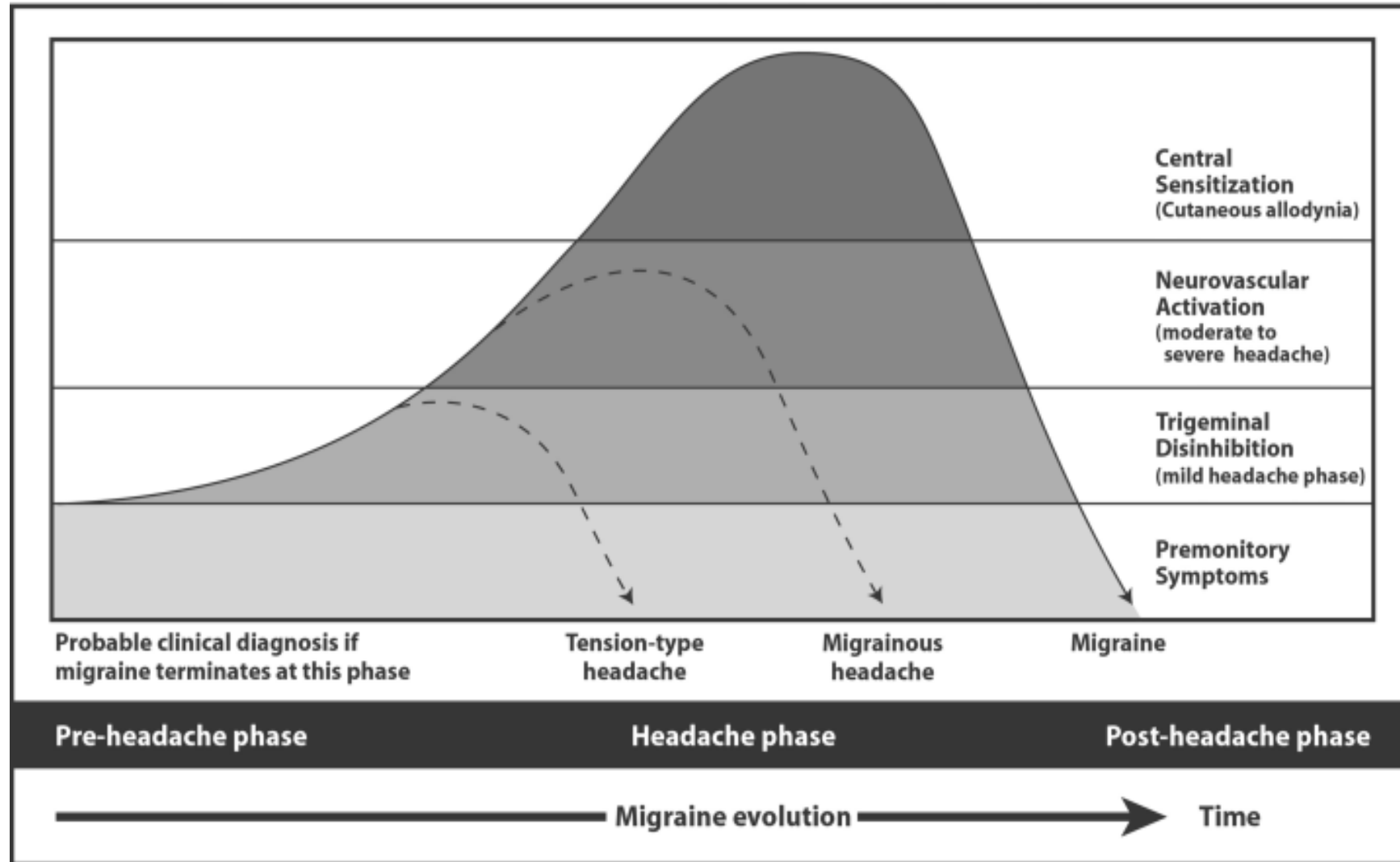
1. The reason for singling out 1.3 Chronic migraine from types of episodic migraine is that it is impossible to distinguish the individual episodes of headache in patients with such frequent or continuous headaches. In fact, the characteristics of the headache may change not only from day to day but even within the same day. Such patients are extremely difficult to keep medication-free in order to observe the natural history of the headache. In this situation, attacks with and those without aura are both counted, as are both migraine-like and tension-type-like headaches (but not secondary headaches).
2. Characterization of frequently recurring headache generally requires a headache diary to record information on pain and associated symptoms day by day for at least one month.
3. Because tension-type-like headache is within the diagnostic criteria for 1.3 Chronic migraine, **this diagnosis excludes the diagnosis of 2. Tension-type headache or its types.**

The convergence hypothesis

«Abstract

After reviewing the historic differentiation between migraine and tension-type headache, the authors note that the similarities between these two types of primary headaches outweigh the differences, and so hypothesize that these headaches share a common pathophysiology. The convergence hypothesis for primary headaches links the clinical features of an evolving headache to current pathophysiological models. The authors suggest that successive symptoms experienced clinically reflect an escalating pathophysiological process, beginning with the premonitory period and progressing into tension-type headache and, if uninterrupted, finally into migraine. The clinical manifestations of other headache types, such as so-called sinus headache or temporomandibular headache, may also be explained by this model. A convergence hypothesis for primary headaches has important implications for earlier recognition, diagnosis, and treatment.»

The Convergence Hypothesis



Headache, Volume: 47, Issue: s1, Pages: S44-S51, First published: 09 April 2007, DOI: (10.1111/j.1526-4610.2007.00676.x)

Cady RK. The convergence hypothesis. Headache. 2007 Apr;47 Suppl 1:S44-51. doi: 10.1111/j.1526-4610.2007.00676.x. PMID: 17425709.

The burden of migraine

Episodic migraine: 1 – 7 migraine days pr month

High frequency episodic migraine: 8-14 migraine days pr month

Chronic migraine: At least 15 headache days pr month of which at least 8 migraine days

When does migraine become chronic? Is there a threshold for disability?

8 -10 monthly migraine days is as disabling as having chronic migraine^{1,2}

Do we need to change the diagnostic criteria for chronic migraine?

1. Torres-Ferrús M, Quintana M, Fernandez-Morales J, Alvarez-Sabin J, Pozo-Rosich P. When does chronic migraine strike? A clinical comparison of migraine according to the headache days suffered per month. *Cephalalgia*. 2017 Feb;37(2):104-113. doi: 10.1177/0333102416636055. Epub 2016 Jul 11. PMID: 26961321.

2. Chalmer MA, Hansen TF, Lebedeva ER, Dodick DW, Lipton RB, Olesen J. Proposed new diagnostic criteria for chronic migraine. *Cephalalgia*. 2020 Apr;40(4):399-406. doi: 10.1177/0333102419877171. Epub 2019 Sep 22. PMID: 31544467.

Proposed new criteria for chronic migraine:

Chalmer et al.

Table 1. Proposed diagnostic criteria for chronic migraine (pCM).

- A. Fulfills the diagnostic criteria for 1.1 migraine without aura and/or for 1.2 migraine with aura.
 - B. For at least 3 months, migraine headache day frequency according to criterion C has been eight or more per month.
 - C. Each of the migraine days fulfills at least one of the following:
 1. Criteria C and D for 1.1 *Migraine without aura*
 2. Criteria B and C for 1.2 *Migraine with aura*
 3. Believed by the patient to be migraine at onset and relieved by a triptan, an ergot derivative, a CGRP antagonist, or a 5-HT_{1F} agonist.
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A few final comments...

- The pathophysiology of TTH is still not well known and the convergence hypothesis has not been confirmed
- Chronification of migraine reduces the typical migraine characteristics and this may be confusing for our patients
- The diagnosis of chronic migraine may include more than one headache type, and we also need to communicate that to our patients
- The current criteria for chronic migraine is not based on disease impact or disability
- Patients experiencing more than 8 migraine days pr month are at high risk of progression – partly due to recommended limitations for acute treatment and MOH
- Diagnostic revisions may be warranted.

