Introduction

Chronic headache is not defined formally by the International Headache Society (IHS) classification (1988). However, it is commonly used as the headache which occurs repeatedly or persistently for a long period, including migraine, tension-type headache and cluster headache as major disorders. It involves many people and lowers their quality of life (QOL), thus implicating an important disease in daily clinical practice. In this article, classification of chronic headache and essential points for the diagnosis are presented.

The Disorders with Chronic Headache in the IHS Classification

In the IHS classification, headache is classified into primary headache which is functional...
and a secondary one which is of organic, metabolic or drug-induced origin. Primary chronic headache includes migraine, tension-type headache, and cluster headache, while secondary chronic headache consists of chronic post-traumatic headache, and chronic headache associated with substance use. The patients with primary headache outnumber those with secondary one. It is announced that the revised version of IHS classification will be presented at the XI Congress of IHS to be held in Rome in 2003, and that the number of major categories will increase from 13 to 15 in the first version to 15 in the revised. Although some modifications are predicted in the terminology of diseases, they are not clear at present. Therefore, in this article the name of headache disorders is expressed as in the first version.

In the IHS classification, the period implying “chronic” is not determined. However, “chronic tension-type headache” means the tension-type headache which occurs at least 15 days a month during 6 months. And, “chronic cluster headache” occurs for more than one year without remission or with remission lasting less than 14 days. It is thought, therefore, that “chronic” means a period of 6 to 12 months or more. In the literature, Lance classified headache into “acute”, “subacute”, and “chronic”, describing under the title of chronic headache that “in the patient who has suffered from headache for a year or more, the prospect of a tumor or other serious disorder being the cause is more remote. If the patient’s headache have been consistent in character for 5 years or more one may feel fairly confident that they are not caused by intracranial tumor”. The disorders presenting with chronic headache are shown in Table 1, based on the IHS classification.

Major Disorders Presenting with Chronic Headache

1. “1.1 Migraine without aura”
   Typically, this type of headache has the characteristics of unilateral location and pulsating quality, aggravated by walking stairs or similar physical activity, which lasts 4 to 72 hours if untreated or unsuccessfully treated. It is of moderate or severe intensity, inhibiting or prohibiting daily activities. During attacks nausea, vomiting, photophobia, and phonophobia are frequent. The frequency of attacks differ from once in several years to several times every month. The liberation from mental stress as in the weekend, and particular foods such as cheese, chocolate, and red wine provoke the attacks, as well as menstruation in women. The prevalence of migraine without aura in women is two to three times that in men. Triptans are a specific remedy for the setback of the attacks.

2. “1.2 Migraine with aura”
   In this type of headache, migraine attacks follow auras, which are neurologic symptoms localizable to cerebral cortex or brain stem, consisting of unilateral scintillating scotoma, hemisensory disturbance, hemiplegia or aphasia. An aura lasts 5 to 20 minutes, usually less than 60 minutes, then shifting to headache phase. The nature, intensity, duration, frequency, and provoking factors of headache are almost the same as “1.1 migraine without aura”, as well as sex ratio in prevalence.

3. “2.1 Episodic tension-type headache”
   Headache attacks of this type occur repeatedly with duration of 30 minutes to several days. Typically, they are of pressing or tightening quality, bilateral location, especially in the occipital and/or temporal regions. The intensity is mild or moderate without an aggravation by walking stairs or similar routine physical activities, and also without prohibiting daily activities different from migraine. They are not accompanied by nausea or vomiting (anorexia may occur), as well as by photophobia and phonophobia, although only one of the latter two may be present. The prevalence in women is somewhat more frequent than in men, which is 1 to 1.5 times of that in men. It is subdivided...
### Table 1 Disorders Presenting with Chronic Headache

**A. Primary headaches**

1. Migraine
   - 1.1 Migraine without aura
   - 1.2 Migraine with aura
     - 1.2.1 Migraine with typical aura
     - 1.2.2 Migraine with prolonged aura
     - 1.2.3 Familial hemiplegic migraine
     - 1.2.4 Basilar migraine
     - 1.2.6 Migraine with acute onset aura
   - 1.3 Ophthalmoplegic migraine
   - 1.4 Retinal migraine
   - 1.7 Migrainous disorder not fulfilling above criteria

2. Tension-type headache
   - 2.1 Episodic tension-type headache
     - 2.1.1 Episodic tension-type headache associated with disorder of pericranial muscles
     - 2.1.2 Episodic tension-type headache unassociated with disorder of pericranial muscles
   - 2.2 Chronic tension-type headache
     - 2.2.1 Chronic tension-type headache associated with disorder of pericranial muscles
     - 2.2.2 Chronic tension-type headache unassociated with disorder of pericranial muscles
   - 2.3 Headache of the tension-type not fulfilling above criteria

3. Cluster headache and chronic paroxysmal hemicrania
   - 3.1 Cluster headache
     - 3.1.1 Cluster headache periodicity undetermined
     - 3.1.2 Episodic cluster headache
     - 3.1.3 Chronic cluster headache
   - 3.2 Chronic paroxysmal hemicrania
   - 3.3 Cluster headache-like disorder not fulfilling above criteria

4. Miscellaneous headache unassociated with structural lesion
   - *( Included in chronic headache when headache attacks occur repeatedly)*
     - 4.1 Idiopathic stabbing headache
     - 4.2 External compression headache
     - 4.3 Cold stimulus headache
       - 4.3.1 External application of a cold stimulus
       - 4.3.2 Ingestion of a cold stimulus
     - 4.4 Benign cough headache
     - 4.5 Benign exertional headache
     - 4.6 Headache associated with sexual activity
       - 4.6.1 Dull type
       - 4.6.2 Explosive type
       - 4.6.3 Postural type

**B. Secondary headaches**

5. Headache associated with head trauma
   - 5.2 Chronic post-traumatic headache

8. Headache associated with substances or their withdrawal
   - 8.2 Headache induced by chronic substance use or exposure
     - 8.2.1 Ergotamine induced headache
     - 8.2.2 Analgesics abuse headache
     - 8.2.3 Other substances

10. Headache associated with metabolic disorder
    - *( Included in chronic headache when associated with chronic metabolic disorders)*
    - 11. Headache or facial pain associated with disorder of cranium, neck, eyes, ears, nose, sinuses, mouth or other facial or cranial structures
    - *( Included in chronic headache only when associated with chronic disorders)*
    - 12. Cranial neuralgias, nerve trunk pain and deafferentation pain
        - *( Included only when they are chronic)*

*Comments by the author*

Digits in italic show the code number in the IHS classification in 1988

* Comments by the author
into two types depending upon whether associated or not with disorders of pericranial muscles.

4. **“2.2 Chronic tension-type headache”**

Headache attacks of this type occur for at least 15 days a month over more than 6 months. The nature, intensity, and location are the same as episodic tension-type headache, which may shift to chronic tension-type headache by an abuse of analgesics. Its subdivision also consists of the type associated or not with disorders of pericranial muscles.

5. **“3.1 Cluster headache”**

Cluster headache implies the headache of severe unilateral excruciating or burning pain in the orbital, supraorbital or temporal regions. It lasts for 15 to 180 minutes, associated with conjunctival injection, lacrimation, nasal congestion, rhinorrhea, forehead, and facial sweating, miosis, ptosis, and/or eyelid edema. Nausea is frequent, but vomiting is rare. Headache attacks occur almost at the identical time everyday, of which series lasts for weeks or months, and remits after an attack-free period of months or years. It is called chronic cluster headache when the series of cluster headache continues for more than a year without remission or with remission lasting less than 14 days. The prevalence of cluster headache in men is 2 to 5 times that in women. Indomethacin prevents the attacks dramatically in contrast with the fact that it is ineffective for cluster headache.

6. **“3.2 Chronic paroxysmal hemicrania”**

In this disorder the headache is a severe unilateral excruciating or burning pain in the orbital, supraorbital or temporal regions, quite similar to that of cluster headache, although the duration is 2 to 45 minutes and frequency is usually more than 5 times a day, with shorter duration and higher frequency than those of cluster headache. Nausea and vomiting are rare. It is more common in women, with the prevalence being 2 to 3 times that in men. Indomethacin prevents the attacks dramatically in contrast with the fact that it is ineffective for cluster headache.

7. **“4.1 Idiopathic stabbing headache”**

Transient stabbing pain occurs spontaneously in the distribution of the first division of the trigeminal nerve without the base of organic diseases. The pain lasts for a short time, with a single stab or series of stabs recurring at irregular intervals. It occurs more commonly in the people with migraine. Indomethacin prevents the attacks.

**Chronic Daily Headache (CDH)**

CDH means a headache which lasts more than 4 hours, occurring for more than 15 days a month, not related to a structural or systemic disease. It is said that 4 to 5% of the general population suffer from this type of headache, and that 0.5% have severe headache everyday. Although not included in the IHS classification, it is obviously important in daily clinical practice. Silberstein proposed the classification of CDH, adding to and complementing the IHS classification (Table 2). Drug overuse (anti-migraine drugs, analgesics, etc.) frequently

<table>
<thead>
<tr>
<th>Table 2 Proposed Classification of Chronic Daily Headache</th>
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<tbody>
<tr>
<td>Daily or near-daily headache lasting more than 4 hours for more than 15 days a month.</td>
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<tr>
<td>1.8 Chronic migraine (previously transformed migraine)</td>
</tr>
<tr>
<td>1.8.1 with medication overuse</td>
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<tr>
<td>1.8.2 without medication overuse</td>
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<tr>
<td>2.2 Chronic tension-type headache</td>
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<tr>
<td>2.2.1 with medication overuse</td>
</tr>
<tr>
<td>2.2.2 without medication overuse</td>
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<tr>
<td>4.7 New daily persistent headache</td>
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<tr>
<td>4.7.1 with medication overuse</td>
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<tr>
<td>4.7.2 without medication overuse</td>
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<tr>
<td>4.8 Hemicrania continua</td>
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<tr>
<td>4.8.1 with medication overuse</td>
</tr>
<tr>
<td>4.8.2 without medication overuse</td>
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Cited from Silverstein, S.D. et al.
causes CDH, and therefore, subdivision of CDH is based on the association with drug overuse or not.

1. Chronic migraine

Chronic migraine was previously called transformed migraine. Migrainous headache may become less intense as time passes, and its associated symptoms such as photophobia, phonophobia, nausea, and vomiting may be obscure, while the frequency of headache attacks may increase. It may look like chronic tension-type headache. However, its pulsating quality, an augmentation in menstrual period, and precipitating factors of attacks are remaining. Triptans are also effective for the abortion of headache.

2. Chronic tension-type headache

This is the same as “2.2 chronic tension-type headache” in the IHS classification, which is often transformed to from “2.1 episodic tension-type headache”.

3. New daily persistent headache

This is designated as headache of relatively abrupt onset of a constant unremitting CDH, not related to an evolution from migraine or tension-type headache. This daily headache develops abruptly during less than 3 days, fluctuating in intensity but lasting persistently. The nature of the headache such as intensity, and pulsating or pressing quality is not defined. The constancy of location is not always present. It may mimic chronic tension-type headache (CTTH), and, therefore, must be differentiated from CTTH from the negative history of tension-type headache. It may occur after viral infections, though often developing without obvious causes.

4. Hemicrania continua

This headache is not included in the IHS classification. It is a continuous, moderately severe, unilateral headache that varies in intensity, waxing and waning, often associated with jabs and jolts, and without disappearing completely. It is frequently associated with such autonomic disturbances as ptosis, miosis, conjunctival injection, tearing, and sweating as seen in cluster headache. Indomethacin brings a dramatic relief of the pain.

Conclusion

Chronic headache in the general population largely belongs to primary headache. However, secondary headache must always be ruled out. Particularly, “8.2 headache induced by chronic substance use or exposure” is important, of which diagnosis is obtained only by an elaborate history-taking and the actual withdrawal of causative substances (anti-migraine agents, analgesics, etc.). In chronic daily headache, a scrutiny into daily use of drugs is essential.

Differential diagnosis of the disorders of primary headache is based merely on symptomatology in the IHS classification. However, similarities exist among cluster headache, chronic paroxysmal hemicrania, and hemicrania continua in association with autonomic signs of the eye, nose, and face. Therefore, adjunctive diagnostic procedures using various clinical markers, biochemical, electrophysiological or of neuroimagings, should be developed in the future.

REFERENCES

4) Silberstein, S.D. and Lipton, R.B.: Chronic daily headache, including transformed migraine, chronic tension-type headache, and medication overuse. Wolff’s Headache and
