ABSTRACT

Chronic tension-type headache is a difficult topic to address. It is difficult for the patient because there is no truly effective treatment. For the physician diagnosis is not always straightforward, particularly since chronic tension-type headache and migraine may coexist in the same patient. For researchers, scientific interest is inversely related to disease prevalence, and tension-type headache, particularly the episodic type, is quite common.

The International Headache Society recognizes 2 forms of tension headache: episodic and chronic. In the episodic form, there are fewer than 15 headache days per month. In the chronic form, there are 15 or more headache days per month. Both forms are bilateral and characterized by sensations of pressing and tightening around the head. The division of tension-type headache into episodic and chronic forms is arbitrary and is based on clinical observations that chronic tension-type headache is difficult to treat.

In the general population in Denmark, the prevalence of episodic tension headache is 74%; chronic tension headache, 3%; migraine, 10%; and drug-induced headache, 2%. However, in a headache clinic population in Glostrup, Denmark, the prevalence rates are 50% for drug-induced headache, 15% for episodic tension headache, 80% for migraine, and 30% for chronic tension headache, with considerable overlap of headache types (R.J., personal observation). Overall, headache disorders account for 20% of all absences from work in Denmark. Migraine accounts for 270 lost workdays per 1000 persons employed per year, and tension headache accounts for 820 lost workdays per 1000 persons employed per year. Yet, despite the increased disability among patients with tension headache, those patients with migraine are much more likely to seek care from a general practitioner—56% versus 16%.

Migraine and chronic tension headache, which may coexist in the same patient, share several similarities but are also different from each other as shown in the Table. Different pathophysiologic mechanisms account for the differences between these 2 headache types.

PATHOPHYSIOLOGY

Several mechanisms have been implicated in the pathophysiology of chronic tension headache, including peripheral mechanisms, central mechanisms, differences in biochemistry, muscular factors, and mechanical factors. Because tension in the muscles of the face, head, and scalp is so prominently involved in chronic tension headache, muscular factors are usually the first to be explored when investigating the pathophysiology of this headache type. Indeed, muscle activity has been found to be slightly higher in patients with chronic tension headache than in those patients with migraine. Moreover, one of the first questions that arises is whether the headache is due to tension in the muscles or tension in the mind.

Chronic (as well as episodic) tension headache is characterized by tenderness in the muscles of the face,
head, and scalp; tenderness is positively correlated with both the frequency and the intensity of the headache. Moreover, there is increased tenderness in the tendons of the face and head as well as in the muscles. Not only are the muscles tender to the touch but hard as well.

Recent investigations exploring a possible biochemical basis for the pathophysiology of chronic tension headache have found that levels of calcitonin gene-related peptide (CGRP) in the peripheral circulation are elevated in some patients as compared with controls. In one such investigation, 30 patients with chronic tension headache were compared with 34 controls. Eight of the headache patients who complained of throbbing pain had elevated levels of CGRP.3

Mechanical factors and sensitization of the central nervous system also appear to play a role, ie, patients with chronic tension headache are more sensitive to pressure, pain, and thermal and electrical stimulation. Increased headache intensity is thought to be a result of a peripheral mechanism in episodic tension headache and to a central mechanism in the chronic form.

**Strategies for Treatment and Prophylaxis**

In general, physicians see patients with tension headache when the headaches are chronic, not episodic, thus raising the question of whether it is possible to treat chronic tension headache so that it becomes episodic.

Acute pharmacotherapy of chronic tension headache includes aspirin, acetaminophen, ibuprofen (400 mg), and ketoprofen (50 mg), with aspirin and acetaminophen doses increased as necessary. The approach to prophylaxis relies principally on a headache diary, in which the patient is instructed to record symptoms, pain intensity, drug consumption, and mental or muscular stress, as well as a daily exercise program and low-dose amitriptyline (10-75 mg/day).4

**Conclusion**

Although migraine and tension-type headache are different disorders, they are similar in several respects, and both may coexist in the same patient. Moreover, migraine and tension-type headache may be difficult to separate diagnostically, thus making a diagnosis diary mandatory.

Muscular and genetic factors are involved in tension-type headache, with mechanical and biochemical factors as well as central and peripheral mechanisms also implicated. In the absence of a truly effective treatment, it is clear that specific, targeted therapy is needed.

**REFERENCES**


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**Table. Similarities and Differences in Migraine and Chronic Tension-Type Headache**

<table>
<thead>
<tr>
<th></th>
<th>Migraine</th>
<th>CTH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prevalence</td>
<td>10%</td>
<td>3%</td>
</tr>
<tr>
<td>Gender distribution (M:F)</td>
<td>1:3</td>
<td>2:3</td>
</tr>
<tr>
<td>Relative risk (if family history is positive)</td>
<td>1.9 (with aura)</td>
<td>3.2 (without aura)</td>
</tr>
<tr>
<td>Genetic etiology</td>
<td>Multifactorial</td>
<td>Multifactorial</td>
</tr>
<tr>
<td>Triggers</td>
<td>Stress, food, wine, nitroglycerin</td>
<td>Stress, food, wine, nitroglycerin</td>
</tr>
<tr>
<td>Nuropeptides</td>
<td>↑CGRP levels</td>
<td>Normal CGRP levels</td>
</tr>
<tr>
<td>Characteristic features</td>
<td>All or none</td>
<td>Continuum phenomenon</td>
</tr>
</tbody>
</table>

CTH = chronic tension-type headache; CGRP = calcitonin gene-related peptide.