Tension-type Headaches


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Abstract: Tension-type headaches are generally regarded as head pain caused by excessive contraction of the pericranial muscles, and since approximately 10 to 20% of the general population complain of tension-type headaches, they are considered to be one of the symptoms most frequently recognized in daily life. Although tension-type headaches are not life-threatening, the severest symptoms of this disorder may adversely affect daily life and social activities. Although tension-type headaches are often triggered by stress, they are more frequently reported as a physical symptom of depression, anxiety disorder, and somatoform disorder. Some patients with tension-type headaches may require treatment for chronic pain disorder. From a prophylactic and therapeutic standpoint, clinicians need to direct particular attention to effective control of stress. Physical symptoms and related problems can usually be ameliorated by making improvements to a patient’s daily life and by the introduction of exercise and drug therapies. Various therapeutic approaches, including drug therapy using anxiolytic or antidepressant agents, should be considered to remove psychological factors.

Key words: Psychosomatic disorder; Psychological factors; Depressive state; Somatoform disorder

Introduction

Headaches are one of the symptoms most frequently recognized in daily life. Most headaches that are usually encountered are classified as functional headaches including migraine and tension-type headaches (tension headaches, muscle contraction headaches).

Regarding functional headaches, the morbidity of the general population in Europe and America is said to range from 10 to 20%. The morbidity is also high in Japan. Although functional headaches rarely cause directly life-threatening effects, the severest symptoms may adversely affect daily life and social activities.

Among individuals who present with the chief complaint of such headache symptoms, some show chronic or intractable symptoms which are resistant to treatment. Tension-type headaches are frequently observed as a physical symptom of depression, anxiety disorder or somatoform disorder. Therefore, the success
in treating tension-type headaches is largely dependent on accurate diagnosis.

Classification of Headaches

In recent years, researchers use the headache classification established by the International Headache Society (IHS). According to the IHS Guidelines, headaches are divided into functional headaches and organic headaches, and diagnostic criteria for both types of headache are established. Among tension-type headaches, those whose association with excessive muscular contraction can be demonstrated by muscular induration or increased electrical activity in electromyography (EMG) are defined as muscle contraction headaches (Table 1, 2, 3).

This type of headache is characterized by a pressure or bandlike sensation around the head and unbearable dull pain which is obtuse, tormenting and builds steadily. Although headaches develop gradually and persistently, the symptoms appear to recede as a result of physical exercise and bathing. Therefore, the absence of aggravation of the symptoms after physical exercise is regarded as a diagnostic criteria.

Individuals who are nervous, have a tendency to become tense and find difficulty in relaxing and resting effectively frequently complain of muscle contraction headaches. Continuous muscle contraction due to mental stress and maintaining the same posture results in the disturbance of muscle blood flow leading to the accu-
mulation of lactic acid and the release of pain-producing substances. These substances not only cause pain but also induce muscle contraction. This phenomenon starts a vicious circle and accelerates the development of persistent headaches. Recently, Lance 1) pointed out a lower threshold to pain resistance as the essential cause of such headaches.

Tension-type headaches are often accompanied by psychological symptoms such as anxiety and depressive state. Psychological regulation of secondary gain from illness is often recognized in individuals suffering from tension-type headaches. Patients with depression or anxiety neurosis frequently complain of this type of headache. 2)

Users of the IHS Guidelines can evaluate psychosocial stress, the load on muscles and psychological symptoms and record the results obtained. If an individual satisfies the criteria of Diagnostic and Statistical Manual of Mental Disorders III Revised (DSM-III-R), the applicable mental disorders including anxiety disorder, depression, and others are to be reported after the classification of tension headache (Table 4). Of these, headaches due to hysterical conversion regulation or delusion are defined as so-called psychogenic headaches.

Headaches Resistant to Treatment: Headaches as So-called Psychosomatic Disorder

Clinical problems arise in treating headaches because there are intractable headaches such as persistent headaches whose symptoms can not be alleviated by routine diagnostic procedures and appropriate drug therapy, headaches followed by new symptoms, and headaches which can not be successfully treated using drugs.

Psychological factors are generally involved in the development of this type of symptoms. Patients suffering from such symptoms make more favorable progress when they are placed on treatment for psychosomatic disorder rather than that for chronic headache. According to the criteria of Diagnostic and Statistical Manual of Mental Disorders IV (DSM-IV) established by the American Psychiatric Association, these types of headaches are categorized as “Psychological Factors Affecting Medical Condition.”

Psychological factors adversely affect the general medical condition of patients in one of the following ways:

(1) The factors have influenced the course of the general medical condition
(2) The factors interfere with the treatment of the general medical condition
(3) The factors constitute additional health risks for the individual
(4) Stress-related physiological responses precipitate or exacerbate symptoms of the general medical condition

In addition, the following have been cited as the psychological factors:

(a) Mental disorder
(b) Psychological symptoms
(c) Personality traits or coping patterns
Inappropriate health behavior
Stress-related physiological response (e.g., stress-related exacerbation of tension-type headaches etc.)
Other unspecified psychological factors (e.g., interpersonal, cultural, or religious factors)

In the case of tension-type headaches, various stresses can cause pain in the head and the complication of depressive state and anxiety state usually results in further exacerbation and chronicity.

Mental Disorders to be Considered in the Treatment of Headaches

As mentioned above, we encounter individuals who develop headaches complicated by psychological factors or a mental disorder. However, clinicians need to direct particular attention to cases of mental disorder complicated by headaches.

1. Depressive state, depression

Headaches and lumbago are regarded as the physical symptoms of a depressive state. Hypermyotonia is known to be a symptom of depressive state and tension-type headaches which produce a bandlike sensation, as if one is being forced to wear an extremely tight band, is also recognized as a typical symptom. Furthermore, the threshold of resistance to pain is said to be lowered.

Patients occasionally develop no clear psychiatric symptoms such as depressive mood, hypobulia or decreased concentration. Moreover, some patients are so conscious of their headaches that they deny the existence of a depressive state or depression. These symptoms often introduce confusion into the formation of a definite diagnosis.

2. Somatoform disorder (somatization disorder)

The process of psychological regulation by which psychological conflicts are settled by expressing physical symptoms is defined as somatization. Somatoform disorder (somatization disorder) is a disease resulting from such psychological regulation. Headaches may develop as a symptom of somatoform disorder. Such patients frequently complain of multiple organ disorder. They repeat superficially meaningless words and emphasize their trouble and unhappiness because there is no one to help them. They often make reference to doctors and medical terms while in conversation. They frequently visit clinics although they do not appear to be seeking medical advice, and appear to visit clinics only to insist that no physicians can improve their symptoms, which occasionally causes disappointment to clinicians.

It is often difficult to make a symptom-based diagnosis of somatoform disorder. An accurate diagnosis can be made by directing particular attention to their typical patterns of behavior and complaint.

3. Psychogenic pain disorder

Somatoform disorder includes psychogenic pain disorder although patients with psychogenic pain disorder frequently complain of atypical facial pain rather than headache. Unlike pain due to a conversion reaction which appears anatomically, pain caused by psychogenic pain disorder assumes a more symbolic form. According to Kolb, the symptoms of psychogenic pain disorder are typically manifested after a psychologically important episode which causes the sensation of receiving a blow to the face. An individual may recognize pain following an experience which causes psychological confusion. Pain develops whenever that experience is repeated. The personality structure is characterized by masochism. Patients with this disorder tend to adopt a behavioral pattern that emphasizes their pain as if they wanted to flaunt their painful state.

4. Schizophrenia

Schizophrenics are often said to be in a state characterized by lower threshold of resistance to pain. In such patients, the threshold of resis-
tance to pain is so low that it is below the level which can be regarded as the byproduct of disability to communicate pain. Even if pain is reported, the reported pain can not be properly evaluated. Although some schizophrenics develop typical muscle contraction headaches, the description of symptoms is distorted by their delusional words, inappropriate emotions, and associated disorders. They fall into a state characterized by hallucinations or a delusion of headaches. The finding that the nature of headaches is bizarre and fixed is characteristic of patients with schizophrenia complicated by headache delusions.

**Treatment**

Although most tension-type headaches are classified as pain caused by the excessive contraction of the pericranial muscles (muscle contraction headaches), increased electrical activity in EMG of the pericranial muscles is not always recognized and a mixture of the above-mentioned pathological conditions is observed in some cases.

Generally, the psychosocial factors including stress are heavily involved in the development of headaches. Some patients may complain of recurrent headaches due to minor stress. In such cases, ways of dealing with stress should be considered in terms of headache prevention.5)

The improvement of the pattern of physical activities in daily life and the introduction of therapeutic exercise and drug therapy are often effective in solving problems. If this approach proves ineffective, appropriate use of anxiolytic or antidepressant agents should be considered as a therapeutic approach to ameliorate psychological factors.6) Some researchers reported the beneficial effects of topical injection of botulinus toxin.7)

Patients who chiefly complain of physical symptoms including headache are usually reluctant to receive psychological intervention such as counseling. Some patients may regard aggressive psychological intervention as an experience of psychic trauma. In such cases, increased emphasis on adopting a therapeutic approach that takes into consideration the psychological state of the patient is deemed to be the most effective psychological support a physician can provide. The more widespread use of psychosomatic approaches in routine therapy is eagerly anticipated.

**REFERENCES**