Chapter 125

# Headache Attributed to Psychiatric Disorder

*Nutan Vaidya and K. Michael A. Welch*

## INTRODUCTION

Headaches in psychiatrically ill patients are due to (a) psychologic stress (e.g., stress at work causing muscle contraction), (b) psychiatric disorders (e.g., headache secondary to anxiety disorder or depression), (c) neurologic and general medical illness, and (d) iatrogenic causes (e.g., headache secondary to medication or procedures such as electroconvulsive therapy [ECT]). A diagnosis of headache attributable to psychiatric disorders is definite if it improves after effective treatment or spontaneous remission of the psychiatric disorder. If the psychiatric disorder cannot be treated or does not remit spontaneously, a diagnosis of headache probably attributed to psychiatric disorder is given.

The focus of this chapter is on headache in patients with depression, mania, anxiety, and somatoform and psychotic disorders. Headaches that are comorbid with psychiatric disorders and iatrogenic headaches are covered elsewhere in the book. The revised International Classification for Headache Disorders (ICHD-II) (29) covers headache attributed to somatization and psychotic disorders under section 12, but headache attributed to other psychiatric illnesses such as depression, anxiety disorders, and somatoform disorders are covered in the appendix under section A12.

## MOOD DISORDERS AND HEADACHE

Mood disorders include disturbances of intense emotion, from extreme sadness to elation. Cognitive, behavioral, somatic, sleep, and appetite disturbances are some accompanying features.

Diagnoses of mood disorders, which are included in the DSM-IV-TR (3) and ICD-9 and -10 (International Classification of Diseases) (61), include unipolar (patients with sad or apathetic mood), bipolar (patient with elation, often alternating, or simultaneously occurring with sadness; elation alone is enough to receive a diagnosis of bipolar), and secondary (mood disturbance is secondary to a general medical or neurologic illness) disease.

### Headache in Unipolar Depression

**International Headache Society (IHS) code and diagnosis:** A12.3 Headache attributable to major depressive disorder
**World Health Organization (WHO) code and diagnosis:** R51 Headache attributed to psychiatric disorder
**Short description:** Depressed patients report somatic symptoms such as headache (migraine and nonmigrainous headache) (12,13,64), chronic pain, and fatigue. The prevalence of somatic symptoms varies between 45 and 90% (50). Similarly, patients with primary headaches such as migraine or tension-type headache are more likely to have major depression or dysthymic disorder than those with secondary headache disorders (30,46). Indeed, 50 to 70% of patients with frequent primary headaches or "chronic daily headache" have major depression or dysthymia (58). Also, a presentation of chronic daily headache or morning headache may suggest a depressive illness (30,45).

Chronic tension-type headache may be attributed to a physiologic response to depression (16,38,63). The episodic form of tension-type headache, however, is not always associated with depression (41).

An increased frequency and severity of headache can lead to depression. Alternatively, depression leading to headache has been shown to be true for migrainous headache but not for severe headache without migraine. Breslau et al. reported that the risk for migraine in patients with depression was three times higher than in persons without depression (10,12). Patients with migraine had a

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five times higher risk for developing depression than those without a history of headache. This bidirectional association between migraine and depression suggests shared pathophysiologic mechanisms, which could be genetically determined.

Women and elderly patients with depression are more likely to complain of headache than male patients (30,48).

### *Pathophysiology*

Serotonergic and noradrenergic pathways are present in brain structures that are involved in mood (15) and nociception (58), which suggests that dysregulation in these systems may underlie depression and various headache disorders (14,39).

Headache in patients with major depression could be a side effect of psychotropic medications, such as selective serotonin reuptake inhibitors (SSRIs) (55,57), or part of an SSRI discontinuation syndrome (7). Anecdotally, such headaches often are nonmigrainous.

### *Treatment*

Traditional antidepressants are helpful in the treatment of depressed patients with migraine or tension-type headache (56). Newer antidepressants such as venlafaxine may be effective (1) and would undermine anticholinergic side effects of the traditional antidepressants, but evidence from large-scale controlled studies is needed before recommending these treatments. The efficacy of SSRIs in migraine is not fully established (56).

## Headache in Bipolar Disorder

**IHS diagnosis and code:** There is no specific category of headache attributable to a bipolar disorder.
**WHO code and diagnosis:** R51 Headache attributed to psychiatric disorder

**Short description:** The most common form of headache in patients with bipolar disorder is migraine, but other types have been reported (41). It has been suggested that many patients with an initial diagnosis of unipolar mood disorder in fact have bipolar disease (19), but this conclusion is not accepted universally (11).

The prevalence of migraine in bipolar patients ranges between 20% and 40% (20,36), and it is more prevalent in type II than type I bipolar disease (20). Migraine is more common in women with bipolar disorder than in men (8,20). Bipolar patients with migraine are younger, are more educated, and had fewer psychiatric hospitalizations (34). Perhaps better prognosis is correlated with younger age and education rather than with migraine (21).

Bipolar patients with migraine have more left-sided headaches than unipolar patients with migraine who have more right-sided headache (21). A differential hemispheric involvement in bipolar and unipolar mood disorders may have pathogenic significance that needs further elucidation. It has been suggested that bipolar disease and migraine share common mechanisms rather than one leading to the other (47).

Cluster and tension-type headaches are also seen with bipolar disorder (37). Furthermore, medication-induced headache can occur in association with lithium toxicity (6).

### *Treatment*

Valproic acid should be the treatment of choice because it is effective against both mania and migraine (4,23,62). Anticonvulsants, such as gabapentin and topiramate, have demonstrated efficacy in migraine but may not be as effective for mania (59). Lamotrigine is effective in the depressed phase of bipolar disorder but may not be effective in migraine (51).

## Anxiety Disorders and Headache

**IHS codes and diagnoses:**
A12.4 Headaches attributable to panic disorder
A12.5 Headaches attributable to generalized anxiety disorder
A12.7 Headaches attributable to social phobia
A12.8 Headaches attributable to separation anxiety disorder
A12.9 Headaches attributable to posttraumatic stress disorder

**Short description:** The association between migraine and panic disorders is well documented (13,20,42,52), but the links between nonmigrainous headaches, panic disorders, and anxiety disorders is not as robust (13,30,58). Although most studies included patients who developed headache before the anxiety or mood disorder, Breslau et al. demonstrated a bidirectional nature of this relationship (12), which is stronger for migrainous than for nonmigrainous type.

In psychiatric patients without headache, anxiety is often comorbid with depression (31). A similar increase of prevalence in anxiety is seen in patients with migraine (9,45). In Breslau's (9) study, anxiety disorder predated migraine, but major depression followed migraine. Merikangas et al. found that migraine was associated with a combination of anxiety disorder and depression, but not anxiety disorder or depression alone, and concluded that migraine with anxiety and depression may be a distinct syndrome (42). Other anxiety disorders, such as generalized anxiety disorder, are also seen in headache patients although not as frequently as panic disorder (30,58). As with depression, the association between anxiety disorders and headache is higher in women.

Serotonin dysfunction, implicated in the pathophysiology of anxiety, migraine, and depression, may provide the basis for increased comorbidity of these disorders. These and other hypotheses are discussed elsewhere in the book.

### *Treatment*

Anxiety disorders respond well to antidepressants and cognitive behavioral therapy (53). Conversely, antidepressants and behavioral modification help in the treatment of headache independent of anxiety (25,33). Older antidepressants such as tricyclics help but may cause cardiac and antimuscarinic side effects. SSRIs are helpful in treating anxiety disorder, but their role in treating headache remains controversial.

Benzodiazepines, which are frequently used to relieve acute anxiety, may be tried when antidepressants fail (level 3 evidence). Their use, however, is limited by their abuse potential and development of tolerance. Withdrawal from benzodiazepines may precipitate headaches, and long-term use of benzodiazepines may contribute to onset of chronic daily headache (7). A long-acting benzodiazepine (e.g., clonazepam) may be used for short-term control of anxiety.

Neuroleptics should not be used in treating anxiety disorder due to significant side effects including tardive dyskinesia. Buspirone, a nonbenzodiazepine $5HT_1$ receptor agonist used to treat generalized anxiety disorder (22,44), may be effective in patients with chronic tension-type headache (43).

## Somatoform Disorders and Headache

**IHS code and diagnosis:** 12.1 Headache attributable to somatization disorder
**WHO code and diagnosis:** F45.0, Headache attributed to somatization disorder
**Short description:** The ICD-10 and DSM-IV include several diseases in this category (Table 125-1), and many are comorbid with mood and anxiety disorders (24).

The diagnosis of conversion disorder should be made with caution since 12 to 59% of patients initially diagnosed with conversion disorder have a medical illness at follow-up (32,35). In contrast, the diagnosis of somatization disorder tends to remain stable with time (32). Somatization disorder patients tend to be female and have more male relatives with antisocial personality disorder and alcoholism (28).

The ICD-10 category of persistent somatoform pain disorder is reserved for persistent pain that (a) is severe and distressing, (b) lacks a general medical or physiologic explanation, (c) is not due to conditions of anxiety or depression, and (d) is associated with emotional or psychosocial problems. Somatoform pain disorder is now described in the DSM-IV as only "pain disorder," and 50% of these patients have no other psychiatric comorbidity (2).

**TABLE 125-1 Somatoform Disorders (DSM-IV)**

| *Diagnosis* | *Description* |
|---|---|
| Somatization disorder | A disorder characterized by unexplained physical symptoms involving multiple organ systems that begins before age 30, is chronic in nature, and has a combination of pain, gastrointestinal, sexual, and neurologic systems |
| Conversion disorder | Unexplained symptoms or deficits affecting voluntary motor or sensory function that suggest neurologic or other general medical illness |
| Hypochondriasis | Preoccupation with a fear of having an idea that one has a serious disease; based on misinterpretation of bodily symptoms or function |
| Pain disorder | Characterized by pain as predominant focus of clinical attention; psychologic factors are thought to play an important role in onset, severity, exacerbation, and continuation |

Headache can occur as a symptom in any somatoform disorder and can be migrainous (41) or otherwise part of a chronic pain condition. The frequency and severity of these headaches depend on the presence or absence of comorbid mood disorder (41).

### *Treatment*

Pharmacologic treatment and psychosocial management are essential therapeutic strategies (25,27). Guiding principles in the interprofessional management of these patients include:

1. Set endpoint goals.
2. Manage the illness and address expectations.
3. Watch for polypharmaceutical interactions and avoid complications.
4. Regularly schedule office visits and physical examinations, and listen to patients' complaints in a sympathetic but nonreactive manner.
5. Avoid minimalizing patients' complaints by avoiding use of such phrases as "It's all in your head" or "It's due to stress."
6. Avoid unnecessary tests, but evaluate new complaints.
7. Prescribe narcotic analgesics with caution and under strict supervision using well–laid out contracts. These patients are at risk of becoming dependent.
8. Antidepressants such as amitriptyline and anticonvulsants such as gabapentin should be considered the first line of pharmacotherapy.

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## Psychotic Disorder and Headache

**IHS code and diagnosis:** 12.2 Headache attributed to psychotic disorder
**WHO code and diagnosis:** R51 Headache attributed to psychotic disorder
**Short description:** Schizophrenia is an idiopathic disorder that is characterized by delusions and hallucinations, and is a thought disorder causing progressive deterioration in the level of functioning. Schizophrenia manifests in adolescence or early adulthood and is subclassified as paranoid, disorganized, catatonic, undifferentiated, and residual types. Symptom clusters known as positive (hallucination, delusion) and negative (avolition, apathy) distinguish good-prognosis from poor-prognosis schizophrenia. Although most patients have both types of symptoms, either positive or negative symptoms dominate the clinical presentation. Patients with negative symptoms tend to have a poorer prognosis, more neurologic symptoms, and more cognitive deficits (15,54).

Headache is rare in schizophrenics (40), and some investigators speculate that schizophrenics may be less sensitive to pain than normal individuals (18). Premenstrual headaches were reported in a prospective observational study of schizophrenics (18), but no reports of migraine were found. One study surveyed 108 schizophrenic and 100 normal subjects for the presence of headache and found no significant differences in the headache prevalence (18), although the duration of headache was longer in schizophrenics. Also, schizophrenic patients with headache tended not to complain about it. The study did not differentiate subtypes, thus not allowing any conclusion to be drawn on the relationship, if any, between positive or negative symptoms, and prevalence or intensity of headache.

Many neurologic disorders, such as tremors, epilepsy, systemic lupus erythematosus, and cerebrovascular disease, are associated with headache as well as psychotic symptoms (15,54,60). The presence of sudden headache in a psychotic patient suggests a secondary cause (5,17,54) requiring further diagnosis and appropriate treatment.

## CONCLUSION

Psychiatric symptoms and illnesses are common in patients with primary headache. Alternatively, headache is a common symptom in psychiatrically ill patients. Anxiety disorders often predate tension-type headache, and depression usually follows migrainous and nonmigrainous headaches. Also, bipolar mood disorder is often comorbid with migraine. Finally, headache is rare in schizophrenia.

Psychiatrically ill patients with headache should be evaluated for primary neurologic disorders and managed accordingly. Those patients whose headache is a primary headache disorder should receive primary-headache–directed therapies. In the absence of a primary headache disorder or a neurologic disease causing headache, headache in psychiatrically ill patients is assumed to be a somatic manifestation of the psychiatric disorder and treatment should be directed toward the psychiatric illness.

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