Current PSYCHIATRY

How to control migraines in patients with psychiatric disorders

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Migraines often coexist with psychiatric disorders, including anxiety and major depression. Managing the headaches can improve psychiatric symptoms, too.

Many of the 28 million people who suffer from migraine headaches each year[1] need psychiatric care in addition to headache relief. Migraine headaches often coexist with depression,[2] anxiety/panic disorders,[2,3] bipolar disorder,[4] and phobias,[5] as well as with stroke[6] and epilepsy.[7]

A study of 995 young adults found that anxiety disorders, phobias, major depression, panic disorder, and obsessive-compulsive disorder were two to five times more prevalent among migraine sufferers than among a control group *(Table 1)*.[2]

Migraine sufferers know that at any time an attack could hamper their ability to work, care for their families, or engage in social activities. A nationwide study of migraineurs found that attacks often impaired their relationships with family and friends.[8]

Psychiatrists should screen patients for a history of migraine or other headaches and carefully consider the relationship between migraines and psychiatric disorders when prescribing treatment. In this article, we outline acute and preventive headache treatments and present two cases to help you treat these patients appropriately.

Table 1
PSYCHIATRIC COMORBIDITIES IN PATIENTS WITH VS. WITHOUT MIGRAINES*

	Migraineurs (%) (n = 128)	Controls (%) (n = 879)
Any anxiety	54	27
Generalized anxiety disorder	10	2
Phobia	40	21
Major depression	35	10
Panic disorder	11	2
Obsessive-compulsive disorder	9	2

* Prevalence
Source: Breslau N, Davis GC. *Cephalalgia* 1992;12(2):85-90.

Table 2

THREE TYPES OF PRIMARY HEADACHE: DIAGNOSTIC CRITERIA

Headache type	Age of onset (years)	Location	Duration	Frequency/ timing	Severity	Quality	Features
Migraine	10 to 40	Hemicranial	4 to 72 hr	Variable	Moderate to severe	Throbbing, steady ache	Nausea; vomiting; photo/ phono/ osmophobia; neurologic deficits; aura
Tension-type	20 to 50	Bilateral/ generalized	30 min to 7 days+	Variable	Dull ache, may wax and wane	Tight, band-like pressure	Generally none
Cluster	15 to 40	Unilateral, periorbital or retro-orbital	15 to 180 min	1 to 8 times per day or night	Excruciating	Boring, piercing	Ipsilateral, conjunctival injection, nasal congestion, rhinorrhea, miosis, facial seating

Source: 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.

Headache definitions and diagnosis

Primary or secondary. Under the International Headache Society's (IHS) 1988 headache classification and diagnostic criteria,[9] headaches are primary or secondary:

- Primary headaches are benign recurrent headaches that commonly present in practice.
- Secondary headaches occur much less frequently and are caused by underlying pathology.

The possibility of secondary headache should be ruled out before a primary headache can be diagnosed. The following headache features should cause concern:

- Severe headache with abrupt onset
- Subacute or progressive headache over days or months
- Headache, nausea, vomiting, and fever not explained by systemic illness
- New-onset headache late in life
- Headache with neurologic signs or symptoms such as confusion, decreased level of consciousness, meningismus, or papilledema
- Headache following head trauma
- Patient history of sickle cell disease, malignancy, or HIV.

Headache types. The three major types of primary headache are migraine, tension-type, and cluster *(Table 2)*. Tension-type is the most common, is often mild, and is either self-treated with over-the-counter medications or ignored. Migraine is the most troublesome headache in everyday practice. Cluster is the most severe and fortunately is rare.

Migraine with aura and migraine without aura are separate diagnoses. IHS criteria for diagnosing migraines without

aura are listed in *Table 3*. According to the IHS, migraine with aura (or "classic migraine") fulfills all the criteria for migraine without aura, with fully reversible neurologic symptoms indicating focal cerebral cortical and/or brain stem dysfunction.

Auras. About 15% of migraineurs experience auras. Symptoms develop within 5 to 20 minutes, usually last less than 1 hour, and fade before the headache's onset. Gradual onset and history of previous attacks helps to distinguish aura from transient ischemic attacks. Auras may manifest as visual, sensory, motor, or brain-stem symptoms, or as combinations of these:

- Visual auras are most common, presenting as localized visual loss (scotoma), with flashing lights (scintillation) at margins or jagged edges (fortification).
- Sensory auras present as facial or limb paresthesias.
- Motor auras manifest as weakness or lack of coordination.
- Brain stem auras manifest as vertigo or double vision.

Migraine aura is considered part of the headache's prodrome, which may occur days or hours before the headache's onset. The aura may bring about:

- an altered mental state (e.g., depression, hyperactivity, euphoria, difficulty concentrating, dysphasia)
- neurologic symptoms (e.g., photophobia, phonophobia, hyperosmia, yawning)
- general bodily discomforts (e.g., anorexia, food craving, diarrhea, thirst, urination, fluid retention, cold feeling).

Despite their sometimes severe effects, migraines often remain undiagnosed.[10] Migraine should be suspected in patients with recurrent moderate to severe disabling headaches *(Box)*.[11-15]

Table 3

DIAGNOSTIC REQUIREMENTS FOR MIGRAINE WITHOUT AURA

Mandatory

1. Secondary headache excluded
2. Duration 4 to 72 hours
3. At least 5 attacks

At least 2 of the following:

1. Location unilateral
2. Pulsating/throbbing
3. Moderate or severe headache (inhibits or prohibits routine activities)
4. Aggravated by walking stairs or similar activities

During headache

At least one of the following:

1. Nausea and/or vomiting
2. Photophobia and phonophobia

Additional features

Migraine prodrome—A range of general, neurologic, and mental changes may occur hours or days before the headache's onset

General—Anorexia, food craving, diarrhea or constipation, thirst, urination, fluid retention, cold feeling

Mental—Depression, hyperactivity, euphoria, difficulty concentrating, dysphasia

Neurologic—Photophobia, phonophobia, hyperosmia, yawning

SOURCE: 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.

Case 1: "Bad, sick headaches"

Ms. A, 23, a single parent with a 2-year-old child, has had trouble staying employed because of repeated illnesses. She made 17 visits to her primary care physician within 26 months. While her main complaint was headache, she also complained of other aches and pains, a lack of energy, and insomnia. Numerous examinations revealed no physical abnormalities.

She reported having "bad, sick headaches" that sometimes lasted 2 to 3 days. Bed rest helped but this was not always possible. The headache was throbbing and usually one-sided. She had no aura, and ibuprofen gave partial relief. She noted that her mother gets similar headaches.

Ms. A was diagnosed with migraine without aura, and she was treated with sumatriptan, 100 mg (1 or 2 doses, as needed). Her headaches responded well to this treatment, but the frequency of attacks remained unchanged. She requested a change in her medicine.

continued

Box

WHAT CAUSES MIGRAINE HEADACHES?

The underlying mechanisms of migraine headaches are not completely understood.

Vascular causes. A recently described neurovascular mechanism[11] suggests that perivascular neurogenic inflammation involving meningeal vessels causes migraine. The triptan drugs have been found to reverse this process and relieve the headache.[12]

Positron emission tomography has demonstrated increased blood flow during acute migraine in midline brain stem structures. This suggests the presence of a central migraine generator in that location.[13]

Heredity. A rare form of migraine, familial hemiplegic migraine, is associated with a genetic abnormality on chromosome 19.[14]

Nitric oxide. Nitroglycerine-induced migraine headache, caused by the release of nitric oxide in cerebral vessels, can be reversed by nitrous oxide synthase inhibitors, thus opening up intriguing possibilities of new therapeutic agents and increased understanding of underlying migraine mechanisms.[15]

Treating migraines

Acute treatment. Migraineurs whose attacks are infrequent and mild may find OTC analgesics or NSAIDs adequate. Most patients, however, require specific migraine treatment, usually with triptans. Acute oral treatment options include sumatriptan, 50 to 100 mg; rizatriptan, 10 mg; zolmitriptan, 2.5 to 5 mg; and eletriptan, 40 mg.

In case of vomiting or nausea, options include sumatriptan, 20 mg nasal spray or 6 mg SC; rizatriptan, 10 mg on a dissolving wafer; or dihydroergotamine, 2 mg nasal spray or 1 mg IM or SC. For severe nausea or vomiting, an anti-nauseant (e.g., prochlorperazine suppositories, 25 mg) may be of value.

Preventive treatment. Preventive treatment may be warranted, depending on attack frequency, severity, and the extent of disability caused. One prolonged, severe attack per month that responds poorly to acute treatment may indicate the need for preventive treatment. A range of preventative treatments is available *(Table 4)*.

In Ms. A's case, oral sumatriptan lessened the severity of the migraine attacks, and the addition of nortriptyline, 50 mg/d, reduced frequency by about 50%. She felt more energetic overall and was sleeping better.

Treating the psychiatric comorbidity

Behavioral therapy is used as an adjunct to pharmacologic headache treatment. This approach is usually considered after a poor or adverse response to treatment, or when pharmacologic treatment is contraindicated (e.g., during pregnancy).

Relaxation training, biofeedback, and cognitive-behavioral stress management are the most commonly used forms of behavioral therapy. Thirty-five to 55% improvement in migraine has been reported following such treatments.[16]

Cognitive-behavioral intervention has been shown to be effective in depression[17] and anxiety disorders.[18] When either psychiatric problem is comorbid with migraine, cognitive therapy can improve both the migraine and the psychiatric comorbidity.

Pharmacologic therapy. Depression is commonly associated with migraine and may be caused by living with chronic disabling headaches over time. In such cases, the depression will improve as the migraine responds to treatment. However, in cases where comorbid depression or anxiety trigger or exacerbate acute migraine attacks, neither the migraine nor the psychiatric problem responds until the underlying psychopathology is treated. In such cases, simultaneous psychiatric and migraine pharmacologic treatment is required.

We recommend that you treat the psychiatric comorbidity as it would be treated without a co-existing migraine. Be advised, however, that monoamine oxidase inhibitors are contraindicated in depression during the 2 weeks before treating the comorbid migraine with a triptan. If the patient does not respond or if there is concern regarding possible underlying pathology, consult with a clinician who specializes in headache treatment.

Precipitating and aggravating factors

Headache triggers. Helping patients to recognize headache triggers and aggravating factors is an important element in treating and preventing migraines. Identifying these factors in the patient history can help you establish a diagnosis and implement steps to avoid or reduce attack severity.

Table 4

TREATMENT OPTIONS FOR PREVENTING MIGRAINE ATTACKS

Drug	Efficacy*	Side effects*	Indications	Contraindications
ß blockers	4+	2+	Hypertension	Depression, asthma, diabetes, hypotension, congestive heart failure, peripheral vascular disease
Ca channel blockers	2+	1+	Hypertension, angina, asthma, migraine aura	Constipation, hypotension
Tricyclic antidepressants	4+	2+	Depression, anxiety disorders, insomnia	Heart block, urinary retention, mania
Selective serotonin reuptake inhibitors	2+	1+	Depression, obsessive-compulsive disorder	Mania
Monoamine oxidase inhibitors	4+	4+	Depression	Dietary restrictions
Divalproex/valproate	4+	2+	Epilepsy, anxiety disorders, mania	Liver disease, bleeding disorders, hair loss
Naproxen	2+	2+	Arthritis, other pain disorders	Gastritis, peptic ulcer

* Ratings on a scale from 1+ (lowest) to 4+ (highest).

Table partially derived from data in: Silberstein SD, Lipton RB, Goadsby PJ, Smith, R (eds). *Headache in primary care*. Oxford, UK: Isis Medical Media, 1999.

Common migraine headache triggers include menstruation, stress, relaxation after stress, fatigue, too much or too little sleep, skipping meals, weather changes, high humidity, glare and flickering lights, loud or high-pitched noises, smoke or dust, strong perfumes or cooking aromas. Food triggers cause 10% of migraine cases. Chocolate, strong cheeses, red wine, beer, citrus fruits, and foods with monosodium glutamate and nitrate preservatives are common food triggers.

Tension-type headaches are triggered by stress or the end of a stress-filled day. Triggers for cluster-type headaches include alcohol, smoking during the cluster phase, and lying down during an attack.

Case 2: Flying the unfriendly skies

Ms. B, 38, is a mother of three who works as a flight attendant. She is separated from her husband and had filed for divorce because of repeated spousal abuse. She has visited her primary care physician multiple times for migraine, sinus problems, backache, and coccygodynia. Orthopedic and rectal examinations revealed no abnormalities.

Her headaches met the IHS diagnostic criteria for migraine with aura, and these responded well to zolmitriptan, 5 mg. The headaches usually occurred during days off from work, but her sinus problems also led to headaches and nasal stuffiness when she flew. Her headaches eventually occurred almost daily.

Her supervisor was unsympathetic. An otolaryngologist had prescribed decongestants and a course of desensitization, both of which brought only transient relief.

A counselor at work recommended that Ms. B go on sick leave and accept a transfer to a non-flying job. The patient was tearful and felt overwhelmed by her problems. She felt that life was no longer worth living. She agreed to see a psychiatrist, who diagnosed depression and anxiety disorder. The psychiatrist prescribed citalopram, 20 mg/d, and agreed to see her regularly to monitor progress.

continued

Discussion. As a migraineur, Ms. B was at increased risk for depression and anxiety disorders.[19] Migraine with aura is associated with an increased lifetime prevalence of suicidal ideation and suicide attempts.[20]

The exact mechanisms by which migraine and depression are related are unknown. Each disorder increases the risk for developing the other. The specificity of this relationship is strengthened by the fact that depression is not associated with a greater risk of severe nonmigrainous headache, even though a severe nonmigrainous headache may cause depression.[21]

The patient in case 1 responded well when an antidepressant was added to her treatment. In her case, the diagnosis of a depressive disorder remained an open question. Migraine attacks are known to be associated with mood change, lethargy, and cognitive changes. The picture may be further confounded because migraine without depression responds well to prophylaxis with antidepressants.

The patient in case 2, however, presented with a complex of interrelated headache and psychiatric problems of potentially dangerous proportions. Psychiatric problems in migraineurs may be deep-seated, and these patients may require urgent, specialized attention to avoid further serious disability and a possible tragic outcome.

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Depression, anxiety, panic attacks, bipolar disorder, and phobias may be associated with migraine headaches. An awareness of the relationship between migraines and psychiatric symptoms can help the clinician devise effective treatment.

Bottom Line

Related resources

- Silberstein SD, Lipton RB, Goadsby PJ, Smith, R, eds. *Headache in primary care*. Oxford, UK: Isis Medical Media, 1999.
- Silberstein SD, Lipton RB, Dalessio DJ. *Wolff's headache and other head pain* (7th ed). New York: Oxford University Press, 2001.
- Davidoff RA. *Migraine. Manifestations, pathogenesis and management* (2nd ed). New York: Oxford University Press, 2002.
- International Headache Society. http://www.i-h-s.org

DRUG BRAND NAMES

Citalopram • Celexa
Dihydroergotamine • Migranal
Eletriptan • Relpax
Rizatriptan • Maxalt
Sumatriptan • Imitrex
Valproate sodium • Depakote
Zolmitriptan • Zomig

DISCLOSURE

Dr. Smith reports that he serves as a consultant to and is on the speakers' bureau of AstraZeneca Pharmaceuticals.

Dr. Hasse reports no financial relationship with any company whose products are mentioned in this article or with manufacturers of competing products.