Global Year Against HEADACHE
Oct 2011 - Oct 2012

Medication Overuse Headache

Definition

Medication overuse headache is a chronic headache that may occur in patients suffering from primary headache (especially migraine). Medication overuse is a strong risk factor for increasing headache frequency; it may worsen from an episodic headache (less than 15 headache days a month) to a chronic headache (more than 15 headache days a month over a minimum time period of 3 months).

Medication overuse can occur from too frequent intake of analgesics, compound analgesic medication, ergotamines, triptans, and opioids, if taken on a regular basis (>10 days per month). Diagnostic criteria for medication overuse headache are defined by the International Headache Society (IHS).

Epidemiology of Medication Overuse Headache

Medication overuse headache is reported all over the world. Population-based prevalence is reported to be between 0.7% and 1.7%. Prevalence varies in different countries. Medication overuse headache seems to be more frequent in women than in men (this might be due to a higher prevalence of migraine in women). Medication overuse headache is reported in up to 15% of the patients treated in specialized headache centers. Reported prevalence of medication overuse headache strongly depends on the diagnostic criteria.

The most common underlying headache disorder in medication overuse headache is migraine. Among patients presenting with a daily headache in headache centers, medication overuse headache is one of the most frequent diagnoses, suspected in up to 50% of those patients.

Risk Factors for Medication Overuse Headache

Patients with medication overuse headache are more likely to have a lower income and a lower education level compared to the general population. Frequency of medication overuse level was found to be higher in immigrants from southern or eastern European countries and within the first generation of immigrants than the second generation. The burden of headache is reported to be higher in patients with medication overuse headache resulting in decreased quality of life. Patients with other pain disorders (chronic musculoskeletal pain, rheumatic diseases) may also develop medication overuse headache due to daily intake of analgesics, especially if these patients have a history of primary headache disorder.

Pathophysiology of Medication Overuse Headache

Medication overuse headache can be caused by the intake of:

- Simple analgesics (ibuprofen, acetaminophen/paracetamol, acetylsalicylic acid, metamizol, and others)
- Ergotamines
- Compound analgesics (containing caffeine, barbiturates, and others in addition to simple analgesics)
- Triptans
- Opioids

The risk of headache development seems to be different in these substances and might be higher in ergotamines, opioids, triptans, and compound analgesics compared to simple analgesics.

The pathophysiology of medication overuse headache is not yet clearly understood. Central sensitization, genetic factors, endocrine changes, and psychological mechanisms (coping strategies, learning, and behavioral factors) may be involved.

In medication overuse headache due to substances with psychotropic effects (barbiturates, opioids, or caffeine), additional factors may play a role. However, in most cases, medication overuse is not a true addiction to substances.

Clinical Features of Medication Overuse Headache

The most common underlying headache disorder in medication overuse headache is migraine. Medication overuse headache patients report their first headache attack earlier in life than migraine patients who do not have medication overuse headache. Diagnostic criteria and differential diagnosis of medication overuse headache were provided by the IHS. The definition has changed over time, and numerous publications discuss several aspects of it. Clinical features of underlying primary headache alter when overuse continues. Headache is more bilaterally located (compared to being more unilateral in migraine). The typical pulsating pain of migraine headache may change into dull pain.

Therapy for Medication Overuse Headache

As first reported in 1951, the withdrawal of medication in patients with chronic headaches and daily intake of ergotamines reduced their headache frequency. Headache therapy thus led to the recognition of a disease that was previously unknown. Therefore, current guidelines suggest abrupt withdrawal or tapering down of overused pain medication. Inpatient withdrawal therapy is recommended for patients overusing opioids, benzodiazepine, or barbiturates because of psychotropic effects. Prophylactic therapy with substances recommended for headache prophylaxis is needed. Effects of prophylactic treatment may improve after withdrawal therapy. Corticosteroids (prednisone) may be helpful for treatment of withdrawal symptoms. Withdrawal and treatment within specialized headache centers and multidisciplinary treatment settings might be beneficial for patients with medication overuse headache.

Prognosis after Withdrawal Therapy

Relapse rate after withdrawal was up to 30% after 1 year in several studies. Therefore, after withdrawal therapy, patients should be followed up regularly to prevent a relapse of medication overuse. The relapse rate may decrease if patients are treated in multidisciplinary treatment programs. Risk factors for relapse include a high frequency of migraine after withdrawal therapy, being male, taking combination analgesics after withdrawal therapy, or taking the causative medication again after withdrawal.

References

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