

Current Approach to Medication Overuse Headache

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Medication overuse headache (MOH), which is a chronic disease caused by intensive analgesic usage, develops secondary to primary headache disease such as migraine and tension type headache. The prevalence of MOH is reported between 0.5-7.2% although it varies in different geographical regions. It is thought that the development of MOH is related to the regional and medical approaches as well as psychosocial and economic reasons (1-4). In the population-based headache prevalence study conducted in our country, the incidence of MOH was presented to be 2.1% for population and 8.2% for patients with definite diagnosis of migraine (5).

Although the pathophysiology of MOH is still unclear, imaging studies revealed some reversible changes in periaqueductal gray matter (6-7). Drug overuse increases neuronal excitability in the cerebral cortex and trigeminal system. While cortical hyper-excitability facilitates cortical spreading depression, it is suggested that increased excitability of trigeminal neurons may facilitate peripheral and central sensitization. In addition, it is thought that there are some changes including structural, functional and metabolic in central pain pathways (1). In some studies, functional magnetic resonance imaging (fMRI) revealed an insufficiency in the descending inhibition pathways, and this deficiency became to be normal after detoxification (6-7).

MOH was first included in the International Classification of Headache Disorders (ICHD) with the title of Medication Overuse Headache in 2004; in 2018, it is classified in the title of secondary headache and diagnostic criteria were reviewed. According to this classification it is defined as, patients with a pre-existing primary headache developing a new type of headache caused by drug overuse or a significant worsening of their pre-existing headache (8). Patients with migraine or tension headache, usually defined as primary headache, are known to have two diagnoses together. More rarely, MOH may develop in few patients with chronic cluster headache, and new daily persistent headache. Other secondary headaches such as intracranial space-occupying lesions, intracranial hypotension, intracranial hypertension and meningitis should also be kept in mind in the differential diagnosis. Another important point is that MOH should be differed from the diagnosis of chronic migraine, and in some patients these two diagnoses may be combined.

The definition of MOH according to the 2018 ICHD diagnostic criteria is as follows:

Diagnostic criteria:

- Headache occurring on 15 days/month in a patient with a pre-existing headache disorder.
- Regular overuse for >3 months of one or more drugs that can be taken for acute and/or symptomatic treatment of headache.
- Not better accounted for by another ICHD-3 diagnosis.

Although specific drugs are not mentioned in the definition of drug overuse, subgroups have been defined for various painkillers. For example, MOH can be diagnosed if patients regularly use of one or more triptans, ergotamine, combined analgesics and opioids group at least 10 days per month or acetylsalicylic acid, paracetamol, and non-steroidal anti-inflammatory groups at least 15 days per month for more than three months. MOH may be developed in some patients with using of more than one drug. For instance, if a patient takes 12 triptans and 20 paracetamol per month, either triptan overuse headache or simple analgesic (paracetamol subgroup) overuse headache may develop.

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There are some risk factors defined for MOH which is more common in women than men (4). It is important to know these risk factors and to carefully monitor patients for changeable causes. Another important point is that a patient keeps a headache diary, which raises awareness both in the prevention of the development of MOH and in the treatment process, during the follow-up period. It is known that MOH always occurs as a result of taking medicine more and frequently for migraine attacks in a patient diagnosed with episodic migraine. Therefore, the goal of the treatment of migraine patients should not be only to terminate the attack, but also to learn how often the pain is experienced. Thus, the initiation of appropriate prophylaxis medication at the appropriate time in the required patients may also prevent the development of MOH.

The priority in treatment should be raising awareness and preventing the development of MOH. Thus, patients will experience less pain, and in addition it will be cost effective (3). It is the simplest and most accurate approach to inform patients that they will experience more pain with the use of excessive painkillers and to keep physicians' education on this subject up to date. Especially in female gender known as having more risk, those with a diagnosis of primary headache, experiencing more than 10 headaches per month, having one of the other chronic severe conditions, with low socio-economic level, showing addictive behaviors, smoking, physically inactive, and those with accompanying psychiatric patients should be followed closely (4). It is recommended that these patients should be followed up at short intervals (9).

The discontinuation of over-used drugs is the basis of treatment if MOH has evolved in spite of any prevention. First of all, it is necessary to establish good communication with the patient, and to convince him not to take painkillers by explaining the reason for having more headache (10). It has been shown that the most effective and successful treatment in patients with MOH is detoxification by discontinuation of pain medication (11). The main principle in detoxification is that the patient consumes plenty of fluids and stays away from overused analgesics. Drugs administered with fluid can be determined according to the clinician's experiences, and other concomitant diseases of patients (9). Antiemetic drugs, steroids and preventive treatment options can be reviewed. At the beginning of the treatment, it is necessary to share with a patient that the pain may worsen for a short period of time but the recovery will follow. It may take a couple of months to reach a full favor. The aim of treatment is to decrease the number and severity of headaches, and increase in the response to correct and appropriate treatment, rather than complete painlessness (9). Choosing the right prophylactic treatment as well as appropriate attack medication during drug discontinuation is important. It may also be necessary to provide a supportive drug that is effective on withdrawal symptoms. Anxiety, autonomic symptoms and insomnia may develop with headache in patients who do not take painkillers. Knowing that these symptoms will not take long may help the patient. Withdrawal symptoms are mostly seen in patients using triptan and may last for 2-7 days (1). According to various treatment options, the success rate is approximately 60-70% in long and short-term follow-up. The Danish study, which evaluated 337 patients with possible MOH, also showed that primary headache migraine type and triptan overuse patients had

less relapse, while for those with chronic tension type headache, opioid overuse, and comorbid psychiatric disease, relapse rate was higher (12).

MOH may be a major health problem especially in patients with primary headache (3). Knowing well this clinical picture, monitoring patients especially with risk factors closely, updating the training to increase the awareness of patients and physicians on this issue, are important factors in preventive medicine. Besides, powerful randomized controlled trials are needed in order to guide the treatment modalities.

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