

Pain Forum

Medication Overuse Headache

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Introduction

Medication Overuse Headache (MOH, formerly known as Analgesic Rebound Headache) is a common problem affecting primary headache sufferers. It is an interaction between a therapeutic agent used excessively and a susceptible patient. The frequent use of medications used for the acute management of migraine is a positively identified risk factor for developing chronic forms of headache.¹ Patients with frequent headaches (e.g. tension headaches or migraine) self medicate to pre-empt or cure the headache and a vicious cycle occurs of analgesia, rebound headache, and more analgesia. All simple analgesics, including non-steroidal anti-inflammatory drugs, have been implicated, especially those mixed with caffeine and/or codeine.³ However, the culprits are not only OTC medications – ergotamine and ergotamine derivatives are a potent cause of MOH, as are the triptans.⁴ Rebound headaches may occur after only a few days of analgesic dosing per week, and frequent low dose usage carries a greater risk than larger doses taken less frequently.⁵

Epidemiology

Epidemiological studies have shown that approximately 4% of the population have more than 15 headache days per month, and that of these, approximately 30% overuse acute or rescue medications. This indicates that about 1% of the population are potential MOH sufferers.^{6,7} About 20% of patients with chronic headaches and most with daily headaches have possible MOH.^{8,9} Most patients with MOH have developed the condition as a result of medication overuse for episodic migraine, although it can also develop from overmedication for tension headache.

Chronic tension headache is less often associated with MOH but, especially amongst patients seen in specialist headache centres, episodic tension-type headache has commonly become a chronic headache through overuse of analgesics.¹⁰ It affects more women than men (5:1), and is more frequent in those patients in the 30-60 year age group.¹¹ The peak prevalence is in women in their 50s, with 5% of women in this age range meeting the criteria for possible MOH.^{12,13} In the United States, up to 80% of the patients seen in a headache clinic have more than 15 days of headache per month, and up to 60% of them have possible MOH.¹⁴

Presentation

Many patients with MOH use large quantities of drugs and multiple analgesic agents. The pain is often worst on waking in the morning and may be increased after physical exertion, and there may be a history of superimposed vascular or migraine-type headaches in addition to the baseline daily headache. The history may begin with episodic headache months or years earlier. Depression and sleep disturbances frequently co-exist. The headache associated with medication overuse often has a peculiar pattern of shifting, even within the same day, from having migraine-like characteristics to having those of tension-type headache.¹⁰

Diagnosis

According to the Headache Classification Committee of the International Headache Society, a positive diagnosis of MOH can only be made if the headache reverts to its original pattern within 2 months of the discontinuation of analgesics, i.e. the diagnosis can only be made retrospectively.¹⁰ According to the IHS classification therefore, it is not possible to confirm the diagnosis from the history, although the history will often provide a high level of suspicion. The diagnosis of MOH is of major clinical importance, particularly when preventive medications are prescribed, as patients with MOH rarely respond to preventive medications whilst overusing acute medications.¹⁰

The differential diagnosis includes any cause of regular headache from migraines, tension headaches, and chronic sinusitis to intracranial pathology and space occupying lesions.

Medication dosages

The amount of medication that constitutes overuse depends on the drug. As the susceptibility varies from patient to patient, absolute quantification is not possible, and is therefore based on expert opinion rather than on formal evidence.

Simple analgesics, such as acetylsalicylic acid and paracetamol, require an intake on 15 or more days per month for more than 3 months for the diagnosis of possible MOH to be made.^{15,16} Combination medications, typically those that contain simple analgesics mixed with caffeine and/or codeine, require an intake on 10 or more days per month for more than 3 months,¹⁷ and ergotamine overuse headache requires an intake on 10 or more days per month on a regular basis for 3 months.¹⁸ Although it was initially believed that the triptans did not cause MOH, later studies have shown that they are becoming an important contributory factor in the development of MOH.^{19,20} If there is triptan intake (any formulation) on 10 or more days per month for at least three months, it suggests that MOH may be present – evidence suggests that MOH occurs even sooner with triptan overuse than with ergotamine.^{12,15}

The acute treatment of migraine has changed substantially over the past 15 years, and consequently, the medications associated with MOH have changed as well. Triptans are now becoming a more frequent cause of MOH, although at present triptan MOH is still less prevalent than MOH associated with other substances.²¹ The high cost of the triptans may have prevented more triptan users from developing MOH, and it is possible that the incidence of triptan-induced MOH will increase with the advent of the cheaper generic triptans now becoming available.

Management

Pharmaceutical management

Drug withdrawal is currently the preferred pharmaceutical treatment for MOH,^{22,23} but there are currently no universally accepted standardized therapeutic protocols and no specific guidelines for controlled trials.^{24,25} Almost no prospective placebo-controlled trials have been conducted in this field, with the result that therapeutic recommendations for the acute phase of detoxification vary considerably among studies.^{3,26,27,28} Basically, detoxification therapy is aimed at 1) withdrawal of the overused drug/s, and 2) treatment of the withdrawal symptoms by means of a bridging programme of pharmacological and

non-pharmacological support designed to help the patient tolerate the withdrawal process, which can be extremely traumatic.^{29,30,31} Medication withdrawal may be either an abrupt discontinuation or a gradual reduction of the overused drug.

Triptans are becoming an important contributing factor

Many different strategies have been suggested to treat the symptoms of drug withdrawal, which includes exceedingly severe headaches for up to two weeks. These include the use of antiemetics, fluid replacement, analgesics or triptans, sedatives, amitriptylene, intravenous dihydroergotamine (not available in South Africa), valproate or other preventive medications before or after the withdrawal period, neuroleptics, cortisone, and relaxation therapies. These may be carried out as part of either an in-patient or out-patient programme.^{22,26-29} Many clinicians prefer in-patient programmes, but they are not a viable option for many patients and their cost-effectiveness has not been established.³² An important adjunct to detoxification treatment is effective patient education – most patients respond responsibly when the situation is explained to them.³³ Some authors are however of the opinion that no transitional therapy should be given during the withdrawal stage, in order to reverse previously learned illness behaviour and to reinforce the patient's active role in the management of their headache.³⁴ The results of detoxification treatment are improved if the patients receive ongoing biofeedback-assisted relaxation therapy. A three year follow-up study found that the relapse rate with withdrawal therapy alone was 47.6%, reducing to 26.3% when combined therapy was used. These results are, however, for the MOH component only – patients still had their original headaches, which is the most likely reason for the high relapse rate.²⁸

Non-pharmaceutical management

Recent studies using non-pharmaceutical methods for treating chronic headache conditions, such as pericranial muscle relaxation with intra-oral devices, and cauterization of scalp arteries, have shown that when successful therapy is instituted, patients spontaneously stop overusing rescue medication without experiencing withdrawal symptoms.^{35,36} As the non-pharmaceutical treatments are based on identifying and treating the underlying source of the headache pain, both the MOH and the original headache respond to treatment. No relapses of the MOH have been recorded in patients successfully treated using this approach.

Conclusion

Medication Overuse Headache is a widespread problem, and affects a significant proportion of the population. It is of utmost importance that the lay public is made aware of the possible consequences of ongoing headache self-medication with OTC medications, especially mixtures containing caffeine and/or codeine, and the 'migraine kits' dispensed freely by pharmacists, many of which contain ergotamine.

It is equally important for clinicians to carefully monitor patients' intake of prescription medications such as ergotamine and the triptans. Detoxification therapy has a high relapse rate, and requires constant monitoring with ongoing patient compliance to ensure that biofeedback therapy is maintained. Identification and treatment of the cause/s of the original headache may possibly emerge as the least traumatic and most effective way to manage MOH, with the important advantage that the original headache is eliminated too, and consequently the possibility of relapse is eliminated.

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