Medication overuse headache in Scandinavia

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A longstanding tradition of restrictive use of painkillers is changing and the use of simple analgesics and combination drugs has steadily increased. In particular, 50% of all analgesics are used for the treatment of headache, this tendency may raise awareness and alarm.

In clinical settings, MOH is a very frequent diagnosis: MOH is the third most prevalent form of headache in Scandinavia after TTH and migraine. The total prevalence of chronic secondary headache according to the International Classification of Headache Disorders, 2nd edn criteria was 2.14%, the vast majority of whom had MOH (1.72%).

The introduction of triptans in the 1990s may also have contributed to the increasing incidence of MOH. The paradox that painkillers are usually effective for the treatment of the individual headache attack, whereas frequent intake of painkillers may aggravate the headache, and act as a pain trigger, is still unexplained.

MOH occurs by definition most frequently in patients with primary headaches and is closely linked to migraine and tension-type headache (TTH) via a common but yet unknown neurobiological denominator.

Women are more prone then men to develop MOH (1:3.5) and migraine (1:3); this observation may reflect the fact that MOH is closely genetically related to the female gender, where both migraine intensity and frequency are much more pronounced. In relation to age, MOH is most frequently reported to start 10–15 years after the onset of migraine or TTH and parallels the peak intensity and frequency of migraine in the 40s. In children and adolescents the number of case reports of MOH is increasing. The consumption of analgesics increased with age for those both with and without headache, and there was a significant association between use of analgesics and headache, most pronounced for migraine.

The median age of the reported patient population was 48 years with a male:female ratio of 1:2.7. The initial headache frequency was 30 days/month and the duration of primary headache was 17 years. Prior to the development of MOH, 86% had a primary
headache disorder, 10% pure migraine, 33% pure TTH and 43% coexisting migraine and TTH. After detoxification the headache pattern of these patients usually returns to that of their primary headache and once again becomes responsive to prophylactic strategies. Only 47% were actually in need of pharmacological prophylaxis after withdrawal, underlining the positive short-term effect.

Different drugs have different predispositions for development of MOH: combination drugs with simple analgesics combined with caffeine, codeine and barbiturates are the most important and result in MOH at a much lower quantity and after exposure for a significantly shorter period of time than simple analgesics. Simple analgesics are less likely to cause MOH, and non-steroidal anti-inflammatory drugs (NSAIDs). The most frequently overused drugs in Scandinavia are: paracetamol or combinations of paracetamol or aspirin with codeine, followed by triptans and then NSAIDs. In Denmark the most frequently overused drugs were combination analgesics (42%), followed by simple analgesics (29%), triptans (20%), opioids (6%) and ergots (4%).

At present no overall accepted, international and evidence-based guidelines for the treatment of MOH exists. Underlying the literature and classification of MOH is the assumption that medication overuse of itself aggravates the primary headache and, conversely, that simply removing the overused medication should make the patients better.

In the Danish Headache Centre, the general treatment programme recommends that all acute headache medication is discontinued abruptly and that patients are kept medication-free for 2 months.

The relative reduction in headache frequency (days per month) was highly skewed, with a 67% reduction in migraine, 0% in TTH, 37% in coexisting migraine and TTH and 0% in other headaches. Patients with both migraine and TTH had a baseline TTH frequency approximately three times higher than migraine frequency. Patients with triptan/ergot overuse, mainly with a primary diagnosis of migraine, had a significantly better outcome as measured in reduction of headache frequency vs. all other types of medication and of other diagnostic groups. A clear effect of TTH frequency was lacking, whereas headache intensity was reduced by 21%, emphasizing the need for differentiated outcome parameters for those chronic headaches rather than the very strict parameter headache days per month, which usually fails in these chronic pain conditions. A reduction
in pain intensity, or hours with pain per day, makes a highly significant improvement in the quality of life and overall functioning for the patients.

The high success rate of withdrawal therapy in MOH makes this treatment one of the most successful and rewarding strategies.

Sex and duration of overuse play a minor role in outcome, whereas diagnosis of headache and type of overused drug are very important predictors. In general, the relapse rate is lower in pure migraine patients with triptan overuse (single users) compared with TTH patients with overuse of combination analgesics or opioids (polyabusers), probably also due to the positive effect of the new generation of migraine prophylactics.

The major and universal goal of treatment is to detoxify patients, and to prevent the relapse of a MOH. The most important step in MOH treatment is probably the detailed and focused information to patients at risk of developing MOH in medication leaflets, pharmacies and in the medical society. MOH patients who have been detoxified must also be thoroughly informed about the risk of relapse and be advised how to avoid relapsing.

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