

## Medication Overuse Headache

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Medication overuse headache (MOH) was previously called rebound headache, drug-induced headache, and medication-misuse headache. All acute treatments can produce MOH with the possible exceptions of dihydroergotamine (DHE) and the neuroleptics. Medication overuse headaches are experienced 15 or more days a month for at least 3 months.<sup>1</sup> Overuse is defined in terms of treatment days per month, and depends on the drug. Ergotamine-, triptan- or opioid-overuse headache requires intake on 10 or more days a month on a regular basis for 3 or more months, while simple analgesics (or any combination of different acute drugs excluding caffeine) require 15 or more days. This translates into 2 to 3 treatment days every week. Evidence suggests that this occurs sooner with triptan than with ergotamine overuse.<sup>1</sup> (Table 1)

MOH no longer takes precedence over chronic migraine. The ICHD-3 $\beta$  now allows patients with chronic migraine and medication overuse to have two diagnoses: 1.3 chronic migraine and 8.2 medication overuse headache. It no longer requires that "headache resolves or reverts to its previous pattern within 2 months after discontinuation of overused medication."

Medication overuse is often motivated by a patient's desire to treat his or her headaches or a fear of future headaches.<sup>2</sup> Medication overuse may make headaches refractory to preventive medication.<sup>2</sup> Although stopping the acute medication may result in withdrawal symptoms and a period of increased headache, subsequent headache improvement usually, but not always, occurs.<sup>2</sup>

Patients with MOH can be difficult to treat. Patients should be started on preventive medication (to decrease reliance on acute medication), with the explicit understanding that the drugs may not always become fully effective until medication overuse has been eliminated.<sup>3</sup> Some patients need to have their headache cycle terminated. Outpatient detoxification options, including outpatient infusion in an ambulatory infusion unit, are available. If outpatient treatment proves difficult or is dangerous, hospitalization may be

required.

Patients can have severe exacerbations of their migraine during detoxification. Patients often need additional treatment (*headache terminators*) to break the cycle of chronic daily headache and/or help with the exacerbation that occurs when overused medications are discontinued. Withdrawal symptoms include severely exacerbated headaches accompanied by nausea, vomiting, agitation, restlessness, sleep disorder, and (rarely) seizures. Barbiturates, opioids, and benzodiazepines, unless replaced with long-acting derivatives, must be tapered to avoid a serious withdrawal syndrome.<sup>2</sup>

Terminators include repetitive intravenous DHE infusions, often coadministered with metoclopramide, which helps control nausea, and is an effective antimigraine drug in its own right. The neuroleptics (chlorpromazine, droperidol, haloperidol, and prochlorperazine) are used intravenously, intramuscularly, and by suppository, as terminators for nausea, vomiting, and pain. Intravenous ketorolac is a helpful adjunctive treatment. Clinical experience and open label trials suggest that corticosteroids are also effective.

One concern with using neuroleptics is a prolonged QTc interval on EKG. Patients who receive daily repetitive intravenous droperidol should have an EKG before their first dose of the medication and daily thereafter. A QTc that is above 450 msec is considered a 'grey zone (the drug should be stopped or the dose reduced)' and a QTc above 500 msec is a 'red zone (an absolute contraindication)'. Bradycardia, abnormal EKG, and a change in the QTc of more than 60 msec are the other risk factors for torsades de pointes associated with prolonged QT syndrome.

### References

1. Headache Classification Committee of the International Headache Society (IHS). The International Classification of Headache Disorders, 3rd edition (beta version) Cephalalgia. 2013 Jul;33(9):629-808.
2. Dodick DW and Silberstein SD. Migraine Oxford university Press New York 2016 Chapter 9 Chronic Migraine Pages 206-209

TABLE 1. ICHD-3 $\beta$  Criteria for 8.2 Medication-overuse headache (MOH)<sup>1</sup>

- A. Headache present on >15 days/month in a patient with a pre-existing headache disorder
- B. Regular overuse for > 3 months of one or more acute/symptomatic treatment drugs as defined below
  - 1. Ergotamine, triptans, opioids, **or** combination analgesic medications on  $\geq$ 10 days/month on a regular basis for >3 months
  - 2. Simple analgesics **or** any combination of ergotamine, triptans, analgesics opioids on  $\geq$  15 days/month on a regular basis for > 3 months without overuse of any single class alone
- C. Not better accounted for by another ICHD-3 diagnosis