Medication-overuse headache

When the **cure** becomes the **cause**

www.bpac.org.nz keyword: headache

Key concepts

- Recognition of the problem is the key
- Over the counter medications are often overused
- All medications used for immediate relief of headache have the potential to cause medication-overuse headache
- Withdrawal of the overused medication is essential

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Further reading

BPJ 7 (August 2007) – Avoidance, recognition and management of medication overuse headache

A recent comprehensive clinical summary "Medication overuse headache" is available at Medlink neurology:

www.medlink.com (subscription required)

What is it?

Medication-overuse headache is a complex disorder that is best thought of as an "interaction between a therapeutic agent used excessively and a susceptible patient".[1]

Medication-overuse headache develops in people who have a pre-existing primary headache disorder, usually migraine or tension-type headache. The type, location and severity of the headache may vary, but the headaches characteristically occur on a daily or near daily basis. Medication-overuse headache remains one of the most important, frequent, but under-diagnosed cause of chronic headache.[3,4]

Medication-overuse headache can be defined as:

"A headache that is present on 15 or more days of the month and has developed or worsened whilst the patient has been regularly using analgesic or anti-migraine medicines for more than three months." [5]

Diagnostic criteria are available (see Box 1).

Box 1: The latest revised diagnostic criteria for medication-overuse headache are: [6]

A. Headache present on ≥ 15 days/month

B. Regular overuse for ≥ 3 months of one or more acute/symptomatic treatment drugs as defined:

   1. Ergotamine, triptans, opioids or combination analgesics on ≥ 10 days/month on a regular basis for ≥ 3 months.

   2. Simple analgesics or any combination of ergotamine, triptans, analgesics, opioids on ≥ 15 days/month on a regular basis for ≥ 3 months without overuse of any single class alone

C. Headache has developed or markedly worsened during medication-overuse

How big is the problem?

Medication-overuse headache is an increasingly common worldwide health problem. It is estimated that up to 2% of the population have medication-overuse headache.[7,8,9]

Characteristics of people with medication-overuse headache

Studies have identified a higher prevalence of medication-overuse headache in people with the following characteristics or comorbidities:

- Female gender [4,9,10,11]
- Age 40 to 50 years [10,11]
- Migraine [4,11]
- Obesity [12,13]
- Low socioeconomic status[14]
- A tendency to exhibit a low threshold for head pain[7]

What medications are involved?

Almost all drugs used to provide immediate treatment of headache have the potential to cause medication-overuse headache, those used for the prophylaxis of headache do not. [3,18]

The crucial factor in the development of medication-overuse headache is the chronic use of medication on both a frequent and regular basis.[1] Individual doses of medication are generally not higher than recommended. Medication-overuse headache can develop in three months but it may take longer.

What makes some people overuse medications?

Psychological issues that can contribute to the overuse of medications include:[2]

- Belief that medication is the only solution for a headache
- Fear of pain
- Low tolerance to discomfort
- Belief that medication will help with sleep
- Need to continue to function
- Personality disorder
- Clinical diagnosis of anxiety, depression, panic disorder or substance use disorder
- Dependence on other psychoactive substances including alcohol and nicotine[11]
- A family history of substance disorders.[11,15]
- A family history of mood disorders[16]
- Psychiatric comorbidity[15]

Not all people with chronic daily headache overuse medications and not all go on to develop medication-overuse headache. Some people predisposed to headache, may develop medication-overuse headache after frequent use of analgesics for conditions other than headache, particularly chronic neck and low back pain.[7,8,17]

Medications known to lead to medication-overuse headache include simple analgesics (e.g. aspirin, paracetamol), caffeine, ergotamine, combination agents (e.g. paracetamol/codeine, dextropropoxyphene), triptans (sumatriptan, rizatriptan*), NSAIDs and all opioids including codeine, tramadol, oxycodone and morphine.

People who have headache most commonly use over the counter medications. Sumatriptan has been available over the counter for the last few months (see BPJ 9). Triptan use is increasing and these drugs are now regarded as one of the most commonly implicated types of drugs in the development of medication-overuse headache.[9] Triptans cause this type of headache more quickly and with lower doses than other analgesics.[10]

How to recognise medication-overuse headache

Consider this diagnosis in all patients with frequent headache. Direct questions should be asked about patterns of medication use, including those purchased over the counter. Some patients may be vague or evasive and refuse to disclose an accurate level of their medication use. Explaining to them the concept of medication-overuse headache and the way in which it develops may help them understand the importance of your questions. In some cases you may need to check medication use with a partner or family member, the pharmacist or verify the patient's medical record. A daily headache diary can be useful when collecting information on the level of medication use and identifying the extent of overuse.[16]

In addition, a general medical and neurological history is required to make a correct diagnosis.

Do not assume that:[15]

- Medication overuse occurs daily – although this is often true, for some people medication use may be much less frequent.

*Rizatriptan (maxalt 10mg wafers) has been fully funded since 1/6/08

- The medication must be taken in large quantities.
- Medication-overuse headache can be avoided by mixing and matching medications – combinations of medication can frequently be implicated.
- Medications taken for pain conditions other than headache "don't count".

Clinical characteristics of medication-overuse headache

There may be clinical characteristics that can be useful in assisting diagnosis (refer Box 2). It is important that other forms of headaches, both primary and secondary, are considered when making the diagnosis.

How should medication-overuse headache be managed?

For most people with medication-overuse headache, there is no relief until all medication used for acute relief is withdrawn.[19] Patient education is a crucial element and advice must be non judgemental. Information and support from family members may be required.[16]

An approach to management may be:

1. Explain to the patient that medication overuse is causing their headache and that they need to stop using the medication in order for the headache to get better. This may not be accomplished in a single consultation.

Box 2. Clinical characteristics of medication-overuse headache [3,16]

General observations and symptoms:

- Headaches are refractory to treatments and are usually daily, or nearly daily
- Headaches vary in severity, type and location from time to time, but often manifest as morning headache upon awakening
- Physical or intellectual effort ('normal' levels) may bring on headache i.e. the threshold for head pain seems to be low
- Symptomatic headache medications tend to provide only short-term relief
- Spontaneous improvement of headache occurs after a few days off medication
- Prophylactic drugs are often ineffective while the patient is taking excess amounts of drugs for immediate relief

Associated symptoms:

- Nausea
- Weakness
- Restlessness
- Anxiety, irritability or depression
- Forgetfulness, concentration and memory difficulties
- Gastrointestinal symptoms

Symptoms associated with overuse of ergotamine and to a lesser extent with triptans:

- Cold extremities
- Tachycardia
- Paraesthesias
- Hypertension
- Irritable bowel syndrome
- Weakness of the legs and muscle pain in the extremities
- Occasionally bradycardia and lightheadedness

2. Explain to the patient that it may take up to six weeks before there is any benefit from withdrawal of the overused medication.
3. Abrupt withdrawal is usually more successful than gradual withdrawal. If this is not tolerated, gradually withdraw the overused medication over 4 to 6 weeks. Alternatively, start migraine prophylaxis, usually with a TCA, and increase to the maximum tolerated dose, then withdraw the overused medication gradually. If a TCA is not tolerated consider sodium valproate or topiramate.*
4. Follow up is essential to guard against relapse and to make sure that there is improvement. If there is not, and the overused medication is withdrawn entirely for at least six weeks, then the diagnosis is wrong. At this stage refer to a specialist.

Note: For patients over the age of 55 years, a CRP and an ESR test should be requested to help exclude temporal arteritis, which can mimic medication-overuse headache.

Avoiding medication-overuse headache

The main way to prevent medication-overuse headache is to prevent medication overuse. When a patient presents with headache, but is not in the category of chronic headache syndrome, it is essential to warn them about the risks posed by excessive analgesic and triptan treatments. Consider avoiding the use of codeine, dextropropoxyphene or opioids for any headache. Patients whose headache is severe enough to require these medications, should be considered for headache prophylaxis.

Continuing to prescribe more and more analgesics, particularly those with addictive potential, without educating patients about the correct use of medications may promote medication-overuse headache.

Withdrawal symptoms

Withdrawal symptoms which may be physical and psychological may last between two to ten days and include withdrawal headache (which initially may be worse than the medication-overuse headache), nausea, vomiting, hypotension, tachycardia, sleep disturbances and anxiety.

Management of withdrawal symptoms

Many people with medication-overuse headache are able to manage withdrawal without additional assistance. However treatments to ease withdrawal may include fluid replacement, TCAs and steroids. For patients with severe withdrawal headache, analgesics may be required, but firm limits on use must be set, e.g. regular naproxen 500mg twice per day for two to three weeks only.

Study results have differed, however a short course of 60–100mg prednisone for five days may be effective in reducing the duration of withdrawal headache.[20,21] Even though this is a short course of prednisone, at this dose tapering is recommended, e.g. decreasing by 20mg per day until finished. If withdrawal symptoms are intolerable, consider referral for hospital treatment.

Patient education is important

The greatest risk of relapse is within the first 12 months after withdrawal.[3,16]

Patient education is important to initiate withdrawal and to reduce the risk of relapse. Encouraging and supporting the patient towards their goals and appropriate follow up is necessary. Behavioural techniques such as relaxation therapies and stress management have been shown to enhance outcome over drug treatment alone.[16]

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* Topiramate is fully funded without special authority for prophylaxis of migraine from 1 September 2008.

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