

The Perils of Medication Overuse Headache Caroline Tredway, MD

Story from the Front Lines

A man in his 20s presented to clinic for evaluation of chronic headaches. He had headaches three to four times per week for the past ten years. These headaches began after multiple traumatic brain injuries while skiing. Three years ago, he sought formal evaluation and treatment of these headaches. His headaches were occipital, bilateral, and pulsating, and they were associated with photophobia and nausea. His primary care physician ordered an MRI/MRA of his brain, which showed two small aneurysms in the posterior arteries of his Circle of Willis. Neurology reviewed his history and imaging and recommended neurosurgical evaluation. Neurosurgery felt that these small aneurysms were likely incidental and did not contribute to his daily headaches, but referred the patient to interventional radiology for consideration of additional imaging via computed tomography or cerebral angiography. This imaging never occurred, nor did any subsequent follow up. Throughout his headache course, he self-treated with over-the-counter medications, including ibuprofen, acetaminophen, and Excedrin, often taking these medications multiple times a day. The patient saw many different clinicians, though he felt nobody in particular was primarily responsible to help manage his symptoms. He never received formal explanation for the etiology of his headaches and prophylactic treatment options were never pursued. When he presented to our clinic three years later, his headaches were worsening in intensity and frequency, and he was taking an increasing number of over-the-counter medications each day to treat his pain.

Teachable Moment

This patient's unsuspected imaging results led to a well intended but avoidable cascade of events that did not actually help the patient. The attention placed on his incidental findings, and the further workup it was believed they deserved, prohibited any physician from looking deeper into his headache etiology. This led to missed opportunities for education on, and treatment of, his medication overuse headache.

This patient developed headaches after several traumatic brain injuries and underwent imaging studies. While no randomized controlled prospective trials of imaging in headache have ever been performed (due to ethical issues), there is a group of generally agreed upon indications for imaging in headache. Imaging studies in a headache patient are indicated when "danger signs" are present. "Danger signs" include focal neurologic signs or symptoms, onset of headache with exertion, orbital bruit, onset of headache after age forty, recent significant change in headache pattern or severity, and progressive worsening of headache despite appropriate therapy. In a summary of previously published studies, only 0.45% of patients with headache who were scanned in the absence of warning signs had an anatomical etiology for their headache (1). This headache patient did not display any danger signs, so imaging was very unlikely to uncover an actionable finding and was likely avoidable. His imaging detected an incidental finding of small posterior aneurysms, distracting his doctors from treating the patient's symptom and causing the patient angst about the natural history of "brain aneurysm."

Throughout this course, the patient was taking over-the-counter analgesics. His providers encouraged these for symptomatic relief, but the patient was never educated

about the risk of developing medication overuse headache. During his evaluation, no one brought up to him that his headaches could have a component of medication overuse. As physicians, it is easy to approve the use of a “benign” over-the-counter medication that patients are already using without delving into an in-depth discussion of these non-prescription medications’ risks and benefits. Since medication’s dosage and frequency is not as tightly controlled by the physician as a prescription medication would be, its use easily falls off the physician’s radar. This, combined with an incomplete discussion of medication risks and benefits, can lead to unintentional overuse of over-the-counter medications.

If this overuse is identified as a potential cause of headache, treatment is inexpensive and effective. One study shows that education alone can lead to a patient’s successful withdrawal of the offending analgesic causing his medication overuse headache (2). By avoiding unwarranted imaging, and by understanding and communicating the risks associated with a patient’s over-the-counter medication use, a patient with medication overuse headache can more quickly achieve relief from their symptoms.

References

1. Report of the Quality Standards Subcommittee of the American Academy of Neurology. Practice parameter: the utility of neuroimaging in the evaluation of headache in patients with normal neurologic examinations (summary statement). *Neurology*. 1994;44: 1353-4.
2. Rossi P, et al. Advice alone vs. structured detoxification programmes for medication overuse headache: a prospective, randomized, open-label trial in transformed migraine patients with low medical needs. *Cephalalgia*. 2006;26(9):1097.