

Visual Thought Stopping for Pain Stress and Depression

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***But I drink lots of coffee and love it
Withdrawal produced LHS Visual Aura misinterpreted as a TIA
Dr Brian Costello***

***Caffeine, caffeine withdrawal, adenosine, and primary headache
by
Barry Spencer***

Introduction

This article introduces the theory that all primary headache, including all migraine, may be caffeine withdrawal. This article was intended for publication in a medical journal, but is written so as to be understandable by non-scientists. Hypertext links connect directly to the abstracts of referenced articles. Please [email the author](#) with your questions and comments.

BACKGROUND:

Caffeine is an adenosine antagonist used as a headache and migraine medicine. Migraine and cluster headache are associated with heavy caffeine intake, and caffeine withdrawal can cause a headache resembling migraine without aura.

OBJECTIVE:

To investigate the relationship between caffeine, caffeine withdrawal, adenosine, and primary headache.

METHODS:

A MEDLINE search of studies and a hand search of bibliographies from retrieved articles.

RESULTS: Caffeine use is more prevalent than is generally supposed: nearly everybody regularly ingests caffeine, including infants and children. A very moderate (100 mg/day) caffeine habit can potentiate severe headache and nausea/vomiting in normal (non-migrainous) subjects, and about half of normal subjects suffer moderate-to-severe headache whenever caffeine is denied. Severe caffeine withdrawal and migraine without aura are considered two distinct conditions, yet the two are indistinguishable from one another.

Nobody seems to know or care why caffeine often effectively aborts even severe primary headaches, even though the ability of caffeine to abort primary headache offers insight into the neurochemical mechanism underlying primary headache.

The near-universal use of caffeine, combined with the demonstrated ability of caffeine to potentiate a withdrawal syndrome indistinguishable from migraine without aura, suggests caffeine may be a major cause, if not the major or sole cause, of migraine without aura. Surprisingly, the possibility that caffeine withdrawal causes the entire phenomenon of primary headache is not excluded by existing experimental evidence.

CONCLUSIONS: Given the near-universal use of caffeine and its ability to cause severe headache and nausea/vomiting, it is difficult to understand why the cause of migraine without aura should remain mysterious. The role of caffeine, caffeine withdrawal, and adenosine in primary headache has not been adequately examined. Prevailing theory may grossly underestimate the impact of caffeine on primary headache. An inpatient trial designed to determine how important caffeine and caffeine withdrawal are in primary headache is called for.

Nearly everybody -- 98 percent of the U.S. population¹ -- regularly uses caffeine, an addictive drug with a withdrawal syndrome that often includes severe headache and nausea/vomiting.² Caffeine's ability to potentiate severe headache and nausea/vomiting, combined with its near-universal use, should make caffeine the prime suspect in the hunt for the mysterious cause of migraine without aura. Yet neither caffeine nor caffeine withdrawal is considered a major cause of headache or migraine. Instead, the prevailing view is that caffeine is merely one among many factors that influence primary headache.

The lack of focus on caffeine is not due to any experimental evidence that rules out caffeine as a major cause of migraine without aura. Surprisingly, no such experimental evidence exists; primary headache has never been demonstrated to exist separately from caffeine withdrawal. The failure to focus on caffeine is due not to demonstrated evidence but to error.

One such error is the collective failure to control for caffeine withdrawal, a demonstrated cause of headache, in studies of primary headache or primary headache treatments. The reason for this error may simply be the near-ubiquity of caffeine, which makes the effects of caffeine blend into the background of human existence; because nearly everyone uses caffeine, in other words, the effects of caffeine have become confounded with the condition of being human.

Another error that may obscure the importance of caffeine in headache is the collective tendency to underestimate the prevalence of caffeine use. Many headache researchers and physicians may assume, for example, that infants and children are generally not exposed to caffeine. In fact more than 75 percent of infants have been exposed to caffeine in the womb,³ and some infants suffer caffeine withdrawal symptoms soon after birth.⁴ Many nursing infants are exposed to caffeine in mother's milk.⁵ Nearly all children are regularly exposed to caffeine: a study in which food diaries were kept for one week found 98 percent of subject's ages five to 15 regularly consumed caffeine.¹ Caffeine is no doubt just as popular, if not more popular, among adults. Phone survey studies, however, find a lower prevalence of caffeine use: in one phone survey only 61 percent of subjects said they use caffeine every day.⁶ In another phone survey 96 percent of subjects said they had ever used caffeine, 83 percent said they drink a caffeine-containing beverage at least once a week, and 14 percent said they had ceased all caffeine intake.⁷

It may be subjects tend to underestimate their own caffeine intake, and therefore studies that depend on self-reported information about personal caffeine intake tend to underestimate the prevalence of caffeine use. Those 14 percent of interviewees who believe they have ceased all caffeine intake, for example, may be mistaken. Many migrainers insist they ingest no caffeine whatsoever, so there is plenty of anecdotal evidence that primary headaches such as migraine without aura can occur separately from caffeine withdrawal.

Yet because caffeine is present in many foods, drinks, and medicines, and is often occult, it is all too easy to ingest caffeine without being aware of it, so testimony regarding personal caffeine intake is unreliable. Because primary headache has never been demonstrated to exist separately from caffeine withdrawal, all migrainers who believe they consume no caffeine may be mistaken.

Many primary headache patients insist they can readily distinguish between their caffeine withdrawal headaches and their migraines or other types of primary headache. Such testimonial evidence, however, amounts to conclusions drawn by patients based on their interpretation of subjective symptoms. Patients who believe they have multiple distinct headache conditions may be mistaking one highly variable condition for multiple distinct conditions.

Unquestioning faith in the prevailing multiple disease theory of primary headache may be the biggest reason for the failure to focus on caffeine. According to prevailing theory, primary headache consists of multiple distinct disease entities (tension headache, migraine with aura, migraine without aura, cluster headache, etc.), each of which may have multiple causes and multiple precipitating factors, called triggers. The theory that primary headache is heterogeneous is so firmly entrenched that evidence to the contrary is ignored. For example: visual aura accompanying cluster headache⁸ is not considered compelling evidence of kinship between cluster headache and migraine with aura. This suggests caffeine withdrawal and migraine might still be considered separate conditions even if caffeine withdrawal was demonstrated to cause visual aura.

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