Ongoing Caffeine Anaphylaxis and Anorexia Nervosa: A Case Report

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Introduction

Ongoing caffeine anaphylaxis poisons the hypothalamus and generates a series of chemical imbalances which upset homeostasis. The upset in homeostasis manifests as a wide range of physical and psychological abnormalities, including anorexia nervosa. A case report of a young, caffeine-allergic woman who developed anorexia is presented, followed by the biological effects of caffeine anaphylaxis, psychiatric symptomatology, and information on theophylline, a caffeine metabolite and hypersensitivity agent.

Case

On a winter evening in 1975, a young woman presented at a Massachusetts emergency room suffering symptoms of anaphylaxis, including hives, tingling lips and throat. After the patient's mother explained that the family had dined at a seafood restaurant several evenings before, the emergency room physician diagnosed a clam allergy and injected the patient with adrenaline. By doing so, he increased the patient's adrenaline, noradrenaline, and dopamine levels, putting the young woman into acute psychosis. Contrary to diagnosis, the patient was allergic to caffeine and had suffered caffeine anaphylaxis from ingesting cola. Psychosis became chronic and progressed with continued caffeine ingestion. Because caffeine's half-life increases in an allergic patient, the woman never suffered another occurrence of caffeine anaphylaxis generated urticaria. Organs retained endogenous and exogenous toxins, masking visible ongoing allergic reactions. As time passed, the young adult suffered ongoing caffeine anaphylaxis related disorders, including episodes of anorexia. Anorexic individuals are known to consume large amounts of caffeine.[1,2] A person often can crave the very substance the body is allergic to.[3,4] Although the allergic woman ate healthy meals and without consequence ingested clams, with the progression of brain poisoning, she craved caffeine products in excess of a routine two eight-ounce cups of coffee a day, adding these products to her diet. Often the woman ate a chocolate bar or two for lunch and skipped dinner. With caffeine craving, acceleration of her sympathetic and parasympathetic nervous system activity, decrease in appetite and food intake and the inability to depict an accurate sense of self, the woman lost weight rapidly.

Biochemical Effects of Ongoing Caffeine Anaphylaxis

During ongoing caffeine anaphylaxis (fight or flight toxicity) the sympathetic and parasympathetic nervous systems speed up, but the parasympathetic can't keep up with the sympathetic system. Despite an outpouring of acetylcholine, effects of the sympathetic nervous system override effects of the parasympathetic system. This process manifests as an anticholinergic effect. Anticholinergic agents.[5,6] The fight or flight response slows digestion. A toxic caffeine allergic person feels full; during ongoing caffeine anaphylaxis a person is incapable of detecting hunger. The hypothalamus controls feeding urges. Destruction to the lateral hypothalamic feeding centre induces an unwillingness to eat.[7] The poisoned cortex disables a toxic person from accurately recognizing changes in eating habits and perceiving self. Instead, despite a gaunt appearance, in a delusional state, a caffeine allergic person believes eating habits are healthy and perceives an overweight self.

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Chronic Poisoning

The American Psychiatric Association considers 250 mg of caffeine per day safe,[8] yet according to chemical manufacturers, caffeine is toxic when swallowed and harmful when inhaled.[9-13] Constant exposure to caffeine can result in chronic poisoning.[9,14] Toxic effects occur in direct proportion to the amount of a drug in the body, an allergy develops after previous contact with a drug, delivered small doses over time.[15-17] When a caffeine allergic person continually ingests caffeine, exogenous and endogenous toxins accumulate.

Psychiatric Patients, Caffeine and Anorexia

Psychiatric patients chronically consume toxic amounts of caffeine.[18-25] Rihs et al. reported a daily consumption >750 mg in 13% of 98 psychiatric patients, with the average intake being 405 mg per day, before hospitalization. During hospitalization, the average amount decreased to 332 mg of caffeine per day.[18] Fowler et al. reported a mean caffeine intake of 404.7 mg in a group of 194 schizophrenic patients with 17.3 % consuming more than 600 mg caffeine per day.[19] Long-term psychiatric patients commonly consume up to 1,000 mg of caffeine in the morning[20] and patients routinely ingest caffeine throughout the day. Anorexia is a prevalent disorder among psychiatric patients. An overwhelming number of persons diagnosed with OCD, anxiety, panic disorder, depression, mania, bipolar disorder, and schizophrenia suffer anorexia.[26-41] In 1917, Emil Kraepelin described a young person diagnosed with dementia praecox. After refusing to eat, the patient "suddenly asked for Swiss cheese and then for chocolate, and devoured them both greedily."[42] Symptoms and diagnosis of a mental disorder often follow a significant weight loss.[35,36,43] A young man depicted on a documentary about schizophrenia gained weight during his teenage years. After dieting and working out he dropped a substantial amount of weight. Soon after the weight loss he was diagnosed with schizophrenia. Talking at an accelerated speed he is noted with a caffeinated beverage.[43]

The parasympathetic system plays a role in mental illness.[44-51] Anticholinergic activity has been noted with psychosis.[45] Researchers propose that an imbalance, causing cholinergic insufficiency, is involved in mental illness; depressed cholinergic activity, and an imbalance are considered factors of psychosis.[47,49,50] A cholinergic deficit is proposed as a primary factor of mania.[47] Cholinergic activity differs according to the degree of psychological symptomatology. In the case of caffeine anaphylaxis, this suggests that effects of the accelerated but insufficient parasympathetic function worsen with progression of psychosis. Considering the caffeine intake of psychiatric patients and the chemical imbalances of ongoing caffeine anaphylaxis it is logical to conclude that anorexic behavior of caffeine consuming psychiatric patients is due to chronic allergic response to caffeine. Weight loss with a failure to eat suggests, in the case of caffeine anaphylaxis, hypothalamus poisoning and progression of toxic dementia. Anorexia nervosa is associated with caffeine toxicity,[1,2,52-54] because anorexia is a symptom of caffeine poisoning.[52-54] Poisoning may be allergically induced.

Theophylline

Theophylline, a caffeine metabolite, is potentially more stimulating and dangerous than caffeine.[14,55] Ingestion of theophylline presents a risk of developing a theophylline hypersensitivity,[56] or an allergy to theophylline. Chronic theophylline toxicity develops at lower dosage than acute toxicity and results in progressive toxic symptoms.[55,57] According to the Massachusetts Poison Control Centre, theophylline use can result in neurological failure.[58] A theophylline level is a helpful tool in diagnosing an allergy to caffeine. As theorized, [14] an allergic reaction to caffeine presents as an al-

lergic reaction to theophylline. Acute caffeine toxicity results in a high level of detectable caffeine. Allergic toxicity results in a detectable level of theophylline. Low molecular weight molecules usually induce hypersensitivity.[17,59,60] Caffeine's molecular weight is 194.19.[61] Theophylline's molecular weight is 180.17.[62] The first time it was tested for, 15 years after the diagnosis of a clam allergy, theophylline was discovered in the caffeine allergic woman's serum.

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