METHYLXANTHINE TOXICITY SYNDROME

Caffeine is the world's most consumed stimulant, thus could have far-reaching health effects. Although the beneficial as well as detrimental effects of caffeine have been long-debated, some well-defined short and long term deleterious effects of this simulant are clearly evident.

The methylxanthine family of compounds consists of caffeine, as well as theobromine, theophyllihne and paraxanthine.

Through Applied Kinesiology muscle testing it is possible **to identify those individuals whose health is being compromised by consumption** of any members of the methylxanthine family.

Once this problem is identified, a specific diet along with nutrients can be prescribed to help the patient detoxify and achieve improved health by avoiding these substances.

INTRODUCTION

Caffeine Paraxanthine, Theobromine and Theophylline

Caffeine as well as theobromine, paraxanthine and theophylline, are part of the methylxanthine family and can be labeled as psychoactive stimulants. These substances in varying amounts and complexes are found in coffee, tea, chocolate, cola yerba mate and guarana. (2)

Caffeine is the most consumed, socially-acceptable stimulant in the world. Approximately 90% of adults in the world consume caffeine in their daily diet.

More than 150 million people in the US drink coffee on a regular basis averaging 2 cups a day, which is the quivalent of 280 mg/day of caffeine. (1)

Coffee contains caffeine and theophylline, but no theobromine, while tea and chocolate are higher in theobromine.

Tea actually contains more caffeine then coffee but since it is brewed weaker the average cup of tea has less than the average cup of coffee.

The prevalence of coffee shops and promotion of chocolate as a "health food" in our society and worldwide may be a result of **the high addiction rate that humans have towards methylxanthines.**

I have found in some people only, only one of the four substances either causes a strong muscle to weaken or a weak muscle to become hypertonic due to their relationship to the liver and heart. Either weakening of a strong muscle or a muscle becoming hypertonic is considered to be a positive test (problematic response).

A positive response can be due to overconsumption or hypersensitivity or a compromised phase 1 detoxification system. We have found about 40% of our patients exhibit a positive test (hypo or hyper) to at least one of the 4 substances.

In about 90% of these patients, the test was normalized by the herb in Body Guard – Phyllanthus fraternus, resihi, carbonized bamboo- Takisumi, or certain B-vitamin complexes.

In many of these cases, avoiding coffee tea, yerba mate chocolate, guarana, acai and cola for 1 month while taking the appropriate remedies normalizes the test and the person can re-introduce the "foods" in moderation after that.

They may or may not have to stay on the supplementation. A small percentage of people cannot re-introduce methylxanthines from the above foods and need long term avoidance.

People that refuse to avoid the foods should take maintenance doses of the appropriate supplements and remedies.

References

1. Kabagambe EK, Wellons MF. Benefits and Risks of Caffeine and Caffeinated Beverages. http://utdol.com 2009.
2. Davidek, J. editor. Natural Toxic Compounds of Foods, Formation and Change During food Processing and storage. Boca Raton, Florida: CRC Press; 1995
3. Fredholm BB, Battig K, Holmen J, Nehlig A, Zvartau EE. Actions of Caffeine in the Brain with Special Reference to Factors that Contribute to its Widespread use. Pharmacol Rev 1999; 51; 83-133
4. Giardina E. Cardiovascular Effects of Caffeine. http;//utdol.com 2009.
5. Cornelis MC, El-Sohemy A, Kaagambe EK, Campos H. Coffee, CYP1A2 Genotype, and Risk of Myocardial Infarction. JAMA 2006; 295: 1135-1141.
6. Carrillo JA, Benitez J. CYP1A2 Activity, Gender and Smoking, as Variables Influencing the Toxicity of Caffeine, Br J Clin Pharmacol 1996; 41: 605-608.
7. Broderick P, Benjamin AB. Caffeine and Psychiatric Symptoms; A Review. J Okla State Med Assoc. 2004; 97 (12); 538-42.
8. Cannon ME, Cooke CT, McCarthy JS. Caffeine-Induced Cadiac Arrhythmia: An Unrecognized Danger of Healthfood Products. Med J Aust 2001; 174: 520-1.
9. Chopra A, Morrison L. Resolution of Caffeine-Induced Comlex Dsrhythmia with Procainamide Therapy. J Emerg Med 1995; 13: 113-117.
10. Weng X, Odouli R, D-K Li. Maternal Caffeine Consumption During Pregnancy and the Risk of Miscarriage: A Prospective Cohort Study. A J Obstet Gynecol 2008; 198: 279.el-279.e8.

Methylzanthine Toxicity syndrome – Michael P. Lebowitz, D.C. and Ami D. Kapadia, M.D.

Observations

The most common symptoms I see are locked up joints ("I woke up and my neck won't turn despite no trauma"), being prone to musculoskeletal injuries, sleeplessness, anxiety, cardiac symptoms (palpitations etc.) adrenal weakness (midafternoon fatigue postural hypotension, etc.), hemorrhoids and varicose veins.

Conclusions – **The methylxanthine family of compounds is a common source of musculoskeletal and endocrine complaint**s. Applied Kinesiological testing with the actual

vials of the 4 methylxanthines avoids many of the false negatives found by just testing the "food" substance, coffee or chocolate alone**.**

Caffeine acts as a competitive inhibitor of vital chemicals in the body and **results in stimulation of excitatory neurotransmitters**. (4)

Symptoms associated with too much caffeine (too much ingested or impaired breakdown of it) include: **headache, anxiety (including generalized anxiety) and depression, panic attacks, tremors, insomnia, nervousness, irritability, muscle twitching, chronic or acute pain, and GERD.** (2) (7).

Both acute and chronic ingestion of **caffeine influences mood and cognition** (2) (7). In addition, heavy coffee (>2 cups/day) intake **may trigger coronary and arrhythmic events in susceptible individuals**. (8) (9). Finally, it has been shown that excess caffeine consumption consumption (>200 mg/day) during pregnancy **may increase the risk of miscarriage**. (10)

The other related symptoms: In susceptible individuals, theophylline can cause nausea diarrhea, increase in heart rate, arrhythmias, and CNS excitation with resultant headaches, insomnia, irritability, dizziness and lightheadedness.

Testing

On food sensitivity testing via Applied Kinesiology, I find chocolate, coffee and green tea show up (give an abnormal muscle test response) only on occasion: 10%, 5% and 2%, respectively.