Oxalate and Disease

Monique L. Attinger
Low Ox Coach
lowoxcoach@gmail.com
The Evidence for Oxalate

• UK doctor who “cured” fibromyalgia through a low oxalate diet.

• Rats fed spinach for calcium did not have proper calcification in their bones

• Oxalate binds iron and prevents cells from using it
More Oxalate Evidence

• Cystic Fibrosis patients have increased risk of oxalate kidney stones

• Calcium oxalate stones found in the thyroid in thyroid disease

• Oxalate released in respiratory tissues in bronchial asthma
Still More Oxalate Evidence

• Gastric bypass patients have increased risk of calcium oxalate stones and hyperoxaluria

• Low Oxalate Diet helps manage abdominal migraine

• Oxalate can store in heart tissue
  Circulation Journal, Vol 74, November 2010

• Oxalate associated with autism
So Why Oxalate Now?

- **Key Factors:**
  - **Antibiotics**
    - The modern gut is NOT what it was pre WW2. We have killed off bacteria that ate oxalate as their primary food. We have also lost the symbiosis that would have existed between those bacteria and other species in the gut.
  - **Ability to eat high oxalate foods year round**
    - Modern food delivery processes have us eating high oxalate foods year round, when they would have had a short season
  - **Focus on raw foods**
    - We eat raw more than our ancestors, which means that we are not removing soluble oxalate from our foods (which many traditional methods - like boiling - did).
But not everywhere…

- People in areas where antibiotic use is virtually unknown are eating higher oxalate diets, without the same issues as we have
- Biomedical researcher Susan Owens has looked at people from Ghana where they are eating high oxalate foods. But these people have no obvious issues with bone development (which we would expect, based on lab animal studies).
Epidemics of Chronic Illness in the Developed World

- Autism
- Fibromyalgia
- Kidney stones
- Chronic fatigue
- Gut issues / digestion
- Asthma / COPD
- Sleep problems / insomnia
- Vulvodynia / IC
- Pain / inflammation / arthritis

- These all may be associated with oxalate.
What the heck is Oxalate?

- Oxalate is an anion, with 2 negative charges
- As a result, it likes to bind with minerals in the body, which have either 1 or 2 positive charges
- Think calcium, magnesium, iron, potassium, etc…
- Mineral deficiencies are very common with high oxalate diets because it chelates minerals (binds with them) and carries them out of the body
- Oxalate, bound by minerals, may form crystals (such as kidney stones).
- However, oxalate crystals are not limited to kidneys and have been found in other areas of the body in research animals.
Oxalate Disrupts Metabolic Functions

- Oxalate will be mistaken by cells for sulphate
- Oxalate will be mistaken by cells for bicarbonate
- Oxalate disrupts biotin and B6 dependent functions
- Oxalate appears to disrupt hormonal functions (female, thyroid, adrenal, parathryoid, etc)
- Oxalate disrupts mineral metabolism (by making minerals unavailable because they are bound to oxalate)
Oxalate is in Plants

- It’s always been in plants to varying degrees
- It’s used as a “light reflector” to support photosynthesis in plants
- It also helps the plant to pull minerals into the plant’s structure
- It can be further used as physical protection against predation by insects (kills them through physical action of oxalate on the insect’s mouth, gut)
Oxalate and Plant Food

• The plant foods we have been taught to think of as most healthy are often the foods that are highest in oxalate!

• Spinach, chard, nuts, sesame seeds, beets, quinoa, hemp, as examples

• Many gf grains are high oxalate: buckwheat, teff, brown rice, etc
Oxalate and Animal Foods

• No healthful biological use for oxalate in animals in general
• This makes most animal-based foods (meat, fish, eggs, dairy) generally low to no oxalate
Frequently Reported Oxalate-related Symptoms

- From the Trying Low Oxalate groups:
  - Frequent urination, crystals in urine, cloudy urine
  - “Sandy” stools, yellow stools, undigested food in stools
  - Insomnia, frequent waking, awake in middle of the night
  - Pain / inflammation (joints, muscles)
  - Elimination issues (chronic diarrhea, constipation, alternating, IBS)
  - Poor digestion / fat malabsorption / greasy stools
  - Symptoms associated with low mineral levels / deficiency / anemia
  - Symptoms associated with low vitamin levels / deficiency (often low vitamin C)
  - Brain fog / “fuzzy” thinking
  - Low energy / chronic fatigue / adrenal issues
  - Thyroid issues / hormonal issues
  - Celiac / gluten intolerance
What the Heck do I eat?

- Sub Spinach with Arugula
- Sub Curly Kale with Purple Kale
- Sub Hemp protein with Pea protein
- Sub Almond milk with Coconut milk
- Sub Sweet potato with Butternut Squash
- Sub Tapioca starch with Corn starch
- Get protein from meat, fish, eggs
- Bake with coconut flour, flax, starches
- Learn the oxalate value of foods, and stick to mostly very low, low and medium oxalate foods
For More Information

• Jess Armine and Shawn Bean
• Biomedical researcher Susan Owens at www.lowoxalate.info or Trying Low Oxalates support group (Facebook and Yahoo)
• On Facebook, you’ll find me as Low Ox Coach
• Email me at lowoxcoach@gmail.com
• Phone me at (647) 460-8273