Glutenology MasterClass: Module 8 – Gluten Mimickers

Pseudo grains

- These are the most commonly confused for grains.
- Cross-contamination issue
    - The biggest problems with this.
    - A lot of them are cross contaminated with enough gluten to create damage.
        - Its 20 parts per million is the generally accepted scientific rule.
    - Some research shows one exposure to gluten can create an inflammation that can last for two months.
    - Quinoa
        - 
        - Some studies have shown that quinoa proteins can mimic gluten.
            - Many people with gluten issues react to quinoa as well.
        - This can be dangerous for you if you're trying to be gluten-free.
    - Buckwheat
        - 
        - It also has cross-contamination.
    - Amaranth
        - 
        - Many experts believe that these pseudo cereals are similar to grain and gluten.
            - That they haven't been adequately studied to be recommended as a staple source of food.

- Gluten
    - It is the name of the storage proteins found in all grains.
    - Alpha Gliadin
        - According to food labeling laws, gluten is only known as this.
        - This is found in wheat, barley, and rye.
- Corn
    - It is one of the gluten-free grains that can trigger a response.
    - It is because corn has a type of gluten called Zein.
    - Numerous studies have shown that people with gluten sensitivity have trouble healing when they add corn to their diets.
- Rice
    - It contains a type of gluten protein called orzenin.
    - Rice proteins in general have been linked to Enterocolitis.
        - It is one of the common causes of intestinal inflammation in industrialized countries.
            - It is because of the gluten-based protein.
            - Many of your rice components have heavy toxic metals in them.
                - Cadmium and arsenic are found in high levels
                - Studies have shown that rice products predominantly made for the free market are contaminated with toxic heavy metals.
                    - That can also cause inflammation and other types of damage to your organs and tissue.
- Oats
    - It is another labeled gluten-free grain.
        - Although technically it's not gluten-free.
    - The type of gluten in oats is called Avenin
        - This is common when used in lotions and hygiene products.
    - Studies have shown that these are oftentimes cross-contaminated with wheat, barley, or rye gluten.
    - Also, studies have shown that avenin proteins can create an inflammatory reaction in those with gluten sensitivity.
- Millet
    - They are also considered as gluten-free.
    - Some research has shown that it hasn't been well-enough studied to be considered safe.
- Sorghum
    - A lot of your sorghum-based beers are claiming to be free on the market.
    - These are not recommended for a gluten-free diet.
- Grains for a gluten-sensitive individual are going to trigger that genetic interrelationship.
    - That leads to an inflammatory response.
- Dairy
    - Casein
        - Some research shows that this can mimic gluten and create an inflammatory response.
        - Gluten and this kind of dairy are extremely similar.
        - A lot of autistic communities have evolved to a gluten-free casein diet.
            - This has to do with that dairy cross-reacting and looking potentially like gluten to the body.
        - 50% of those with celiac disease reacted to dairy casein proteins.
    - There's also the processing of this kind of food that occurs that can interfere with the structure of dairy.
        - And make this a more reactive food.
    - The dairy danger for gluten-sensitive individual

- On the far right top of this diagram are the added gums.
  - Generally, with milk, you're not going to see gums being added.
  - You'll see things such as yogurt, ice cream, and confections that are produced from dairy and even some of the cheeses.
  - One of the most dangerous gums for somebody with a gluten issue is carrageenan gum.
    - This type of gum is derived from a type of seaweed and it's used as a thickening agent.
    - It's been shown in many research studies that this causes gastrointestinal inflammation.
- Added hormones
  - This can change the chemical composition of the milk making the milk not necessarily gluten, but not healthy for you.
- Molecular mimicry of gluten
  - It is the casein molecule for many that have crossover with gluten.
- BCM-7

        - Beta-casomorphin 7
        - It was discovered by researchers in New Zealand.
            - Where the children of New Zealand were developing Type I diabetes at record rates.
            - It was dairy from industrialized cows that produced this.
        - This is a protein that induces autoimmune disease.
        - This is the type of dairy that most farmers use in the United States.
    - Lactase Deficiency
        - This happens in gluten sensitivity.
        - Gluten damages the GI tract
            - As it damages it, that also damages your ability to produce an enzyme called lactase.
        - Lactase is the name of the enzyme that breaks down lactose.
            - Lactose is the sugar that's found in dairy.
        - Gluten-induced intestinal damage makes people dairy intolerant.
            - Using dairy creates a lot of gas, bloating, and irritable bowel syndrome.
    - Meat glue
        - It is used as a thickening agent in a lot of dairy products.
        - Researchers are showing that when you add this particular bacterial enzyme to processed food
            - It changes the nature of the proteins in that food and it can make them more resemble gluten.
            - Creating the potentiation of inflammation and leading or contributing to autoimmune disease.
- Mucosal reactivity to cow's milk protein in celiac disease
    - This is a research study.
    - Ten of the twenty patients showed a similarly strong inflammatory reaction to cow's milk challenge.
    - Six of the cow's milk sensitive patients were challenged with specific cow milk proteins
        - Specifically Casein and α-lactalbumin.
    - Casein induced an inflammatory response similar to that produced by cow's milk.
    - A mucosal inflammatory response similar to that elicited by gluten was produced by cow's milk protein.
    - About 50% of the patients with celiac disease seem to be involved in this reaction.
- Serum IgA response of patients with celiac disease.
    - There's a protein called mucosal IgA
        - It is your first line of defense.
        - It's a protein antibody that will bind on to potential toxins and help the body get rid of them.
    - What was found in this research study is that people consuming dairy were producing IgA response to that dairy.
        - Similar to what is produced with gluten sensitivity.
    - This study confirms that bovine and cow's milk, intolerance or sensitivity is not an uncommon thing.
        - For people with a history of gluten sensitivity or celiac disease.

Coffee

- It is technically gluten-free.
- You can have instant coffee mixes where gluten is mixed in.
    - Your instant coffees oftentimes can contain gluten-based ingredients.

- Processed coffees and instant coffees can be cross-contaminated or contain grain elements for flavor enhancement.
- Dr. Vojdani did a study on whether or not coffee created a mimicry effect with gluten.
    - He didn't find that coffee stimulated what's known as a cross-reactivity with gluten.
- Who should be concerned about coffee?
    - Those with rheumatoid arthritis
    - Type I diabetes
    - Hashimoto's hypothyroid
    - Those with pre-existing GI inflammation.
        - Barrett's esophagus
        - Chronic acid reflux
        - Peptic ulcers
        - Celiac disease
- Coffee and autoimmunity
    - A 2017 review about what they've found in Coffee.
    - Coffee consumption seems to increase the risk of developing rheumatoid arthritis and type I diabetes.
        - Coffee intake led to a decrease and insulin sensitivity in type I diabetes.
    - It also reduced the efficacy of methotrexate and rheumatoid arthritis.
    - It also led to a reduction in thyroid medication working as effectively.
    - These researchers did find coffee consumption associated with cross-reactivity with gliadin antibodies and celiac patients.
    - You also have to remember that quantity and the additives that you put in your coffee matter.
        - Coffee can promote reflux for many people.
        - Caffeine can be a gastric irritant for people.
            - The more caffeine you're exposed to, the more of an irritant it can be.
    - Non-dairy creamers
        - They are made from hydrogenated oils that are highly inflammatory and unsafe.
    - Many of them have corn syrup and GMO natural flavors in other synthetic compounds.
- Coffee promotes gastroesophageal reflux
    - A study published in Scandinavian Journal of Gastroenterology.
- The impairment of gastroduodenal mucosal barrier by coffee
    - It is a study published in 2014
    - The results indicate that coffee may damage the mucosa of your GI tract.
    - If you're a heavy coffee drinker or a habitual coffee drinker
        - There's possible that coffee itself is damaging the mucosal lining of your GI tract.
            - A leaky gut happens when you damage the mucosal lining of your GI tract.
- Why can coffee be a problem?
    - Instant coffee can contain gluten.
    - Many coffees also contain mold toxins.
        - Mold toxins can mimic gluten-related symptoms.
        - Coffee as a food supply source contains a lot of mycotoxins.
    - Coffee also contains high levels of pesticides.
        - It's one of the most heavily loaded foods in terms of pesticide usage.
        - Pesticides are their antibiotics.
            - They can destroy healthy gut flora.
    - Caffeine in coffee can be a problem for those with pre-existing inflammation.
        - But caffeine can also be a problem for those with adrenal insufficiency.
        - And the caffeine can continue to overstimulate the adrenal glands.
            - Making it harder for your recovery.
- Bottom line

- Coffee is gluten-free
- Many brands of instant coffees or cross-contaminated with gluten.
- What you put in your coffee does make a difference.
- Some people's immune systems treat coffee like gluten.
- Too much coffee can damage the gut.

Sugar

- This does not mimic gluten.
- Candida albicans
  - They create an environment that promotes the growth of a type of yeast.
    - That's a natural inhabitant of all humans.
  - This is an opportunistic yeast
  - A lot of people say candy is bad and evil.
    - But it is about the quantity.
    - Yeast overgrowth
      - It's the Candida that's growing inside of you that has reached a level where it starts to become a problem.
        - But everybody has some level of candida growing inside of them.
    - The sugar feeds the small level of candida to make it easier for the candy to replicate
      - And grow more colonies or populations.
  - They produce a protein called High fill wall protein.
    - Researchers have found that High fill wall proteins mimic gluten.
- This does not mimic gluten, however, this can cause yeast overgrowth
  - Yeast overgrowth produces excessive quantities of a protein that mimics gluten.
- There are those with genetic susceptibility, it's a common thing to get prescribed an antibiotic.
  - The antibiotic knocks out their healthy gut flora.
  - The antibiotic creates a yeast overgrowth.
    - The sugar in the diet feeds that yeast overgrowth.
      - That yeast produces a protein that mimics gluten.
- Candida albicans can trigger the onset of coeliac disease.
  - A study published in 2003
  - The virulence factor of C Albicans-hyphal wall protein 1 contains amino acid sequences
    - That is identical or highly homologous to known celiac-related alpha-gliadin and gamma-gliadin T-cell epitopes.
  - People with gluten sensitivity that have these yeast overgrowth are being gluten
    - And it leads to the development or contributes to the development of gastrointestinal damage.
- Humoral immunity links Candida albicans infection and celiac disease.
  - A study that was published in 2015
  - The HWP expressed the pathogenic phase of candida albicans
    - Presents sequence analogy with the gluten protein gliadin.
    - This leads to the potentiation of triggering gluten-related disorders
      - And these individuals with yeast overgrowth.