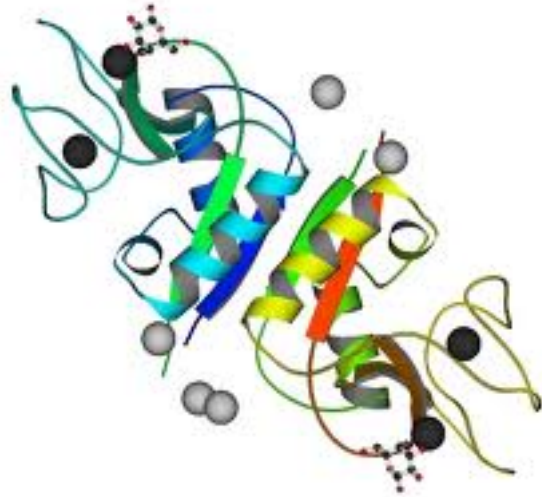


Lectin and Food Intolerance

Thank you to all who sent in questions about lectin. This topic is on many people's minds these days as scientific findings concerning its impact on health are being increasingly debated.

What is Lectin?

It's a type of glycoprotein that is found in most of the foods we consume. Recent findings show that it elicits allergic and antigenic¹ responses in many individuals.²



Where is it found?

- In dairy: all milk products, cheese (fresh or aged), yogurt, kefir, etc
- In legumes – beans, lentils, peas, including soy, peanuts, and seeds: many clinical studies have shown that various damage to gut lining, joints, kidney, pancreas and brain (even crossing over into the blood-brain barrier) can be caused by lectins from soy, peanut and other beans, peanut oil, as well as other seed oils including soy oil. Lectins in peanut oil have even been implicated with arteriosclerosis.

¹ Antigens are toxins or foreign substances that induce an immune response in the body

² "Dietary lectins are protein antigens which bind to surface glycoproteins (or glycolipids) on erythrocytes or lymphocytes. (1) They function as both allergens and hemagglutinins. (2) They are found in plants and animals, and are present in small amounts in 30% of American foods, more so in a whole-grain diet. (2) Lectins have potent in vivo effects. When consumed in excess by sensitive individuals, they can cause 3 primary physiological reactions: Lectins can cause severe intestinal damage, disrupting digestion and causing nutrient deficiencies. (3) They can provoke IgG and IgM antibodies causing Gell-Coombs Type 2 food allergies and other immune responses. (3,4) And they can bind to erythrocytes, simultaneously with immune factors, causing hemagglutination and anemia. (5) Of the 119 known dietary lectins, about half are panhemagglutinins, clumping all blood types. The remainder are blood-type specific. In general, lectins alter host resistance to infection, cause failure to thrive, and can even lead to death in experimental animals." From "Dietary lectins: Blood Types and Food Allergies" by Laura Power, Ph.D. Published in: Townsend Letter for Doctors, June 1991.

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- Lectins are found in most of the plants that grow in the world, as they are part of a plant's natural defense system. A plant produces toxic lectins as a survival strategy to ward off insects, mold, fungi, even people! Animals and humans may get sick and even die after consumption. Some plants have more highly evolved lectin systems in them and are more toxic, for example: the castor bean contains "ricin" – a highly flammable and extremely toxic substance.



- Soybeans have more toxic lectins in them than most other plants - this is one of the main reasons soybeans don't need to have as much pesticide sprayed on them because they contain the natural pesticide, lectin. ³
- Grains, esp. gluten grains such as wheat, rye and barley, oats;
- Eggs
- In genetically modified foods: GM foods are manufactured by splicing 'lectins' from one plant family to another. This can be a very serious problem because if you are allergic to a particular plant family, but that lectin has been put in a plant not of that family and you consume it unknowing that it contains the genes from the plant that is toxic for you, you will have the allergic reaction/response and not be able to identify the root cause...

For more detailed information about lectin content in food, visit the Owen Foundation website at :

http://www.owenfoundation.com/Health_Science/Lectins_in_Foods.html

Why is lectin toxic?

Lectins are a type of glyco-protein that cause agglutination, or clumping together, of particular cells. This agglutination makes it harder for those foods containing lectin to be digested and absorbed properly and efficiently, as they can resist stomach acid and digestive enzymes. When lectin is not

³ Food, It's all so confusing now! Lectins. At <http://choose-eat-live-well.blogspot.com/2013/04/food-its-all-so-confusing-now-lectins.html>

processed properly in your digestive system, it can get stuck on your gut wall, damage the gut lining, and penetrate your entire circulatory system, binding itself to cell membranes in your arteries and vessels, or different organs and systems (thyroid, pancreas, kidney, adrenals, etc). Such binding can lead to autoimmune disorders, and degenerative diseases. The original damage caused to your gut wall can also allow in other un-wanted non-lectin proteins to seep into your system causing allergic reactions.⁴

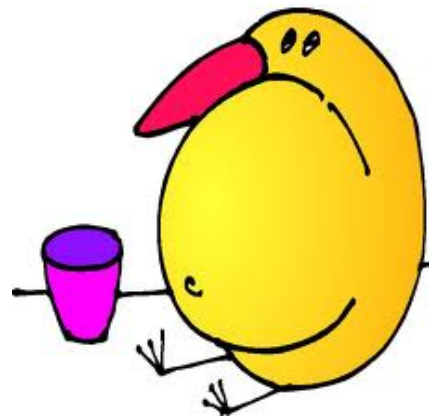
When are you lectin intolerant?

Lectin intolerance reactions occur in the gut, general circulation (artery walls), brain, gland or organ as well as red blood cells. When your body is unable to prevent the lectin from binding to your gut wall, or penetrate and invade your organs, glands, or brain, then you are lectin intolerant.

When the lectin invades your internal systems, your body triggers an auto-immune response and may display symptoms of auto-immune and/or degenerative diseases.⁵

Symptoms

What to look for? Some of us tolerate certain foods less than others. Some obvious symptoms of intolerance can be: gas, bloating, diarrhea and/or constipation. Other symptoms may include: headache, fatigue, 'indigestion', skin problems including hives, psoriasis, swollen joints, or water retention. When intolerance is left un-addressed, the symptoms



⁴ For more detail, see <http://www.krispin.com/lectin.html#Become> The Lectin Report.

⁵ The list of degenerative diseases associated with lectin intolerance is long and research is still under progress: arthritis, both rheumatoid and osteoarthritis; allergy; asthma; high cholesterol; atherosclerosis; congestive heart failure; high blood pressure; diabetes; low blood sugar; hyperinsulinemia; chronic fatigue; fibromyalgia; all forms of IBS, Crohn's, colitis, celiac; chronic candida, repeated gut pathogen infections; malabsorption syndromes; failure to thrive; autoimmune diseases such as thyroiditis, lupus, MS, Parkinson's; dementia, Alzheimer's; autism; ADD/ADHD; Schizophrenia; osteoporosis; cancer, several types including breast; hypercortisolemia and hypocortisolemia; adrenal insufficiency; post viral syndrome; post traumatic stress syndrome; post polio syndrome; obesity; hormonal imbalances including low testosterone, and peri-menopausal symptoms, etc.

Lectins and their possible involvement in degenerative and autoimmune disease is a relatively new science.

may develop into degenerative diseases and autoimmune diseases as mentioned.

Intolerant by birth? Studies have found that you may be intolerant to lectin for one or more of the following reasons:

- 1) By birth: you have inherited a genetic predisposition that makes you prone to specific food sensitivities
- 2) Use of prescription drugs or injurious substances⁶ that have a direct impact on your gut wall causing sensitization: when your gut wall is compromised, your immune system will be unable to withstand bacterial or viral infections, making it more prone to lectin antibody/antigen reactions.
- 3) Poor food choices that result in acquired sensitivities: consuming items that are processed and cause an allergic reaction. In such cases, intolerance can be reversed when you change and improve your diet. The SVA diet with its avoidance of processed packaged food items, large beans, nightshades, soy, flax, is a balanced alternative protocol.

The SVA diet contains general recommendations that can be followed by most - specific variations are based on a case-by-case individual basis. It is not just a list of do-s and don't-s as SVA guidelines teach you to make informed food choices that go beyond physical nutrient content. For example, how to or not to combine some foods with others in order to avoid allergic toxic reactions – this is known as the principle of “samyog” in Ayurveda; or



the principle of “sanskar” – preparations steps and methods that supply more healing properties to a meal, for example at which point you add an ingredient etc. In this sense, there are more factors that need to be considered when trying to determine whether or not you are lecting intolerant or not. You may have to get tested for

⁶ For example, non-steroidal anti-inflammatories or other drugs which increase gut permeability and allow lectins to enter general circulation.

specific allergic reactions in order to determine where you stand in terms of your diet and overall propensities. This is why SVA does not recommend that we stop consuming milk across the board, for example, or other ingredients just because they have been found to contain lectin. And we know now that most foods contain lectin. Rather, Vaidya will say to try to consume raw milk (after boiling with some spices and never cold) instead of ultra-pasteurized and homogenized, as it is easier on the digestive system and more nourishing to the physiology.

There are also other elements that are considered in the SVA perspective. Soy, for example, is definitely a food that you should avoid, not only because it has such a high content of lectin naturally, but because it has other properties that are known to be “toxic” in SVA terms. But it also happens to be on the list of toxic foods in terms of lectin content.

Having said this, there are some important basic things you should know about and that you can do, specially when it comes to the consumption of important food items that are high in protein and nourishing yet may also create some problems if you tend to have lectin intolerance for one reason or another. Consuming legumes or lentils is a case in fact.

The SVA answer: Vaidya Mishra says: “in my ayurvedic practice, and those of other SVA practitioners, many are coming complaining of bloating, gas, and sometime stomach-aches after consuming any kind of lentil. Because of this, many people have stopped eating lentils altogether, even the good ones, (mung or masoor). This deprives them of a great source of nutrition that has great health benefits, that has been consumed for centuries without any problem, yet all of a sudden it has become an issue. In this sense, there are a few important points that we need to be aware of.

1. What went wrong in the past decade or so causing the emergence of this issue with lectin, particularly relating to the consumption of beans, legumes, and lentils?
2. Are people totally lectin intolerant or can there be ways to amend the molecular weight of lectins so as to receive benefit from their consumption without enduring the symptoms of lectin intolerance?
3. Why does Ayurveda, in general, and SVA in particular always recommend mung and masoor? A why to we hear it is best to avoid larger beans such as pinto, garbanzo, and lima beans, etc?

SVA adopts its *Sutra to Science* approach to respond to the above.

1. The raw food movement considers primarily the nutritional content in beans and lentils in both large and small quantities. Soaking lentils in order to facilitate their raw consumption has created an epidemic of lectin intolerance related symptom. Scientific research shows that cooking lentils facilitates the digestion and absorption of lectin, confirming the ayurvedic perspective.⁷
2. It is not just about the nutritional content of food. Ayurveda explains to us so many other properties, some gross and others more subtle, that characterize the food we eat. These properties remain unknown to us as of yet in the west. As explained earlier, issues need to be addressed on a case by case situation to adjust the diet etc, however, consuming lentils or daal, a very important part of the ayurvedic diet, and even more so if you have adopted a vegetarian lifestyle, since small lentils contain good, light, easy to digest proteins and nutrition. One method recommended by the ayurvedic texts is to dry toast your mung dahl or masoor dahl before cooking it with water ghee and spices. This process of adding more “agni” to your lentil also has a chemical impact of reducing the lectin intolerance. Many clients who have come to me complaining of the inability to digest daal have resorted to this, adding this step and are now able to consume legumes. It is important to remember not to, and this probably permanently, consume large lentils, unless you have a highly physical lifestyle and very high “pachakagni” or digestive fire. However, sometimes it is important to cut out lentils completely from the diet. As already mentioned, it is a case-by-case situation, and if you are experiencing problems, you need to have your condition assessed by a SVA expert.



⁷ Japanese researchers confirm this claim in their 2012 study that shows increased break down of enzymes through boiling or cooking of lentils (J Sci Food Agric. Mar 2012).

3. In Ayurveda, an entire chapter is dedicated to beans and lentils, discussing their independent uses, benefits, and side effects as well as the pharmacodynamics or their bio-chemical properties in our bodies after ingesting them. Many lentils such as *Rajma* or kidney beans, *Chana* or chickpea, *Mash* or Peas, and *Toor Dal* – are classified as “heavy” beans. What does this mean? Simply that if someone lacks a powerful digestive fire or *pachakagni*, or someone leads a more sedentary lifestyle, they should not consume these lentils. In contrast, *Mung dal* is considered the best lentil followed by the red lentil, or *masoor dal*. However, it is stated clearly that they should both always be cooked. In specific situations, when a SVA practitioner observes that there indeed is a *pachakagni* problem then, additional dry toasting of yellow *mung dal* prior to cooking it with high quantities of water is recommended. But remember to always cook with at least a pinch of turmeric, Soma Salt, and then finish off with “*ghritbharjan*” (sautéing cumin seeds with ghee and adding to the daal before serving. When you toast your mung daal before cooking it, it actually reduces the impact of the lectin content, making it much easier for an individual with slow agni, or slow metabolism and absorption, to easily handle the lentil and receive nourishment from this legume. *Shastras* provide us with other smarter ways to balance the lectins in lentils by making *khichdi (Krishara)*, which is a thicker soup made from 1-part lentil and 3-parts rice. [See the Recipe section of our newsletter]. This is a very delicious sustaining soup of medium consistency topped off by a *Ghritbharjan or sautéing* with cumin. A 2009 study concluded that cooked pulses significantly reduce the molecular density of the lectins with the use of spices and seasoning (*ghritbharjan*). This study confirms the efficacy of



Krishara as an ideal method of consuming lentils.⁸ But again, it is best to have a personal evaluation to address your own specific needs.

⁸ Bioactive proteins and peptides in pulse crops: Pea, chickpea and lentil, J Food Sci Agri, 2009.

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