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Histamine Issues, And a Couple of Informal Treatment Trials

by Wayne Persky

Histamine issues appear to be an increasingly-significant problem for microscopic colitis (MC) patients. Although there doesn't seem to be much scientific research data to support this observation, it appears that molds are the primary source of histamine in food. Mold spores are everywhere. Normally, fresh foods (even fish and chicken) don't present a high-histamine problem if they're cooked and eaten promptly. But as they age (even in refrigerated storage), histamine levels climb relatively quickly. Storage at below zero (0) degrees Fahrenheit (minus 18 degrees Celsius) is necessary in order to completely stop mold development, and therefore halt histamine increases.

Grains and nuts in normal storage tend to develop increased histamine levels over time. Dried, fermented, or aged foods, tend to have very high histamine levels. In general, anything stored while containing more than about 14% moisture, is vulnerable to mold development unless it has enough ventilation to eliminate temperature increases over time. Native American tribes have probably used this concept to make jerky as a way to preserve meat for thousands of years. And due to their dry climate, ancient Egyptians learned how to properly store grain over 10,000 years ago. But the take-home message here is that any food that contains a significant amount of moisture is almost surely going to grow mold as it ages, and that will tend to increase the histamine level. Certain foods obviously create a worse problem than others.

Histamines are necessary for several normal life functions.
The human body produces copious amounts of histamines for various purposes. Histamines are used by the immune system to provoke local swelling and itching of the skin in response to insect stings, or allergic reactions. This swelling induces white cells to come to the area and begin the healing process. The digestive system uses histamine for signaling within the digestive system. For example, the sight and smells of an impending meal prompts the upstream release of histamine. When that histamine attaches to the histamine receptors on the parietal cells in the stomach, it prompts the stomach to produce more gastric acid, in preparation for digesting the meal.

It's unused histamine that creates problems.
Not all of the histamine in circulation manages to attach to receptors. Some of it remains unused, and continues to circulate. That creates the possibility that

histamine levels could build up and eventually cause problems. Research shows that high histamine levels can trigger spontaneous reactions simply due the fact that as histamine levels rise, agitation increases and unintended triggering can occur. For digestive systems that are functioning normally, diamine oxidase (DAO) enzyme regulates histamine levels circulating in the bloodstream by removing surplus (unused) amounts, and purging that histamine from the body. That effectively prevents histamine levels from building up and causing problems.

IBDs deplete DAO.
Researchers showed decades ago that inflammatory bowel diseases (IBDs) such as Crohn's disease and ulcerative colitis often compromise DAO production, thereby allowing histamine levels to increase. It's very likely that this issue also exists with MC. And because MC doesn't affect everyone exactly the same way, some patients never seem to have histamine issues, while others have serious, sometimes debilitating, histamine issues. And for some of us, histamine problems seem to get worse as time passes.

The problem has steadily increased for me, until it has reached the point where not only are all high-histamine foods (and medications) off limits, but even moderate-histamine foods cause symptoms (mostly a rash and itching). I decided that it's time to try a remedy above and beyond just limiting or avoiding histamine-containing foods. So I set out to test the effectiveness of a couple of commercial products (supplements) advertised to prevent histamine issues.

The trials described below were done on consecutive days, with no time outs to allow for recovery or anything else. Note that in my current situation, corn tortilla chips contain enough histamine to cause me to develop a rash and severe itching, usually beginning on my ankles and spreading in both directions if I don't intervene. I get a similar response from picante sauce. Together, they normally cause me to experience several days of itchy misery. Consider that most mornings, I begin the day with 2 eggs and 4 big, thick slices of bacon (which are considered to be sources of histamines). And I wrap each egg and 2 slices of bacon in a corn tortilla, to add more histamine. After that, I can tolerate half a normal-sized green banana (with cashew butter) as a mid-morning snack, and the other half (with almond butter) as a mid-afternoon snack. That's about my practical limit for histamine-containing foods. Any more will almost always cause an itchy rash. Antihistamines don't seem to help with this problem.

The first product I trialed, is called HistaResist.

HistaResist contains not only Diamine Oxidase, but a number of other ingredients claimed to help, such as Vitamin C, Bromelain, Stinging Nettle Extract, Forskolin Root Extract, Green Tea Extract, and Quercetin. The inactive ingredients are rice-based, in a vegetable capsule. Each capsule contains 1 mg of diamine oxidase. The serving size (dose) is 2 capsules, which should be taken 15 minutes before a meal that contains one or more high-histamine foods. On Amazon the cost is $29.99 for 60 capsules, or $0.50 each.

I decided to do a trial using half the recommended dose (1 capsule), simply

because this product contains a lot of diamine oxidase (2 mg), and halving the dose cuts the cost to about 50 cents per meal or snack. If the trial had failed, then I would have needed to redo it using the recommended dose. Fortunately, I didn't have to do that.

I started slowly, and increased the histamine risk as I gained confidence. Here's how that trial went:

Day 1. For lunch I ate a length of pork sausage wrapped in a corn tortilla, with an extra-large amount of FritoLay Cantina Style corn tortilla chips and about half-a-jar (7–8 oz) of FritoLay Medium Hot Chunky Style picante sauce.
Result —No symptoms.

Day 2. For lunch I ate a length of pork sausage wrapped in a corn tortilla, with an extra-large amount of FritoLay Restaurant Style Tostito corn tortilla chips, and the rest of that jar of picante sauce.
Result — No symptoms.

Day 3. I forgot to take the HistaResist capsule until immediately before I started eating my lunch of a length of pork sausage wrapped in a corn tortilla, with an extra-large amount of FritoLay Restaurant Style Tostito corn tortilla chips and about half-a-jar (7–8 oz) of FritoLay Medium Hot Chunky Style picante sauce.
Result — very slight itching on my right ankle, that was gone by the next day.

Day 4. I forgot to take the HistaResist capsule until I had eaten about 3/4 of my lunch consisting of a length of pork sausage wrapped in a corn tortilla, with an extra-large amount of FritoLay Cantina Style corn tortilla chips, and the rest of that jar of picante sauce.
Result — a small area of rash, with slight to moderate itching, but surprisingly, it was gone by noon the next day.

Day 5. For lunch I ate a length of pork sausage wrapped in a corn tortilla, with an extra-large amount of FritoLay Cantina Style corn tortilla chips, with FritoLay Medium Hot Restaurant Style picante sauce. Then for a mid-afternoon snack, I took another capsule and ate a large (as big as they get) fully ripe banana, with almond butter.
Result — very slight symptoms that were gone by the next morning. They may have been left over from the previous day.

Day 6. For a mid-morning snack, I took a HistaResist capsule and ate a large (as big as they get) fully ripe banana, with cashew butter. For lunch. after taking another capsule, I ate a length of pork sausage wrapped in a corn tortilla, with an extra-large amount of FritoLay Restaurant Style Tostito corn tortilla chips, and FritoLay Medium Hot Restaurant Style picante sauce. Then for a mid-afternoon snack, I took another capsule and ate another large, fully ripe banana, with almond butter.
Result —No symptoms.

HistaResist seems to work well for me.
I ended the trial at that point. The trial indicated that HistaResist works surprisingly well, for me at least, using half the recommend dose (1 capsule). It seems to effectively prevent symptoms for me, when taken about 5 to 15 minutes before a meal or snack that includes high-histamine foods. Surely the recommended dose would work even better But because we all respond differently to diet changes, medications, and supplements, treatments that work for me may or may not work for everyone, so keep that in mind if you

decide to try one of these supplements.

For the second trial, I chose a product named Omnivits Hist Diamine.
The only active ingredient in Omnivits Hist Diamine is diamine oxidase, sourced from porcine kidney protein concentrate. The inactive ingredients include ascorbic acid and a corn starch derivative, acetylated corn starch. This product is much more expensive than the other, and contains far less diamine oxidase (only 0.3 mg/capsule). On Amazon the cost is $73 for 60 capsules, or $1.22 each. I noticed that several other brands are available that offer the same basic ingredients, but at an even higher price.

Day 1. I ate a mid-morning snack consisting of a large, fully-ripened banana with cashew butter, a lunch consisting of a pork chop and lots of FritoLay Cantina Style corn tortilla chips with FritoLay Medium Hot Restaurant Style picante sauce, followed by a mid-afternoon snack of a large, fully-ripened banana with almond butter. Each time, I took only one of the Omnivits capsules about 5 to 10 minutes before eating (3 capsules total).
Result — no symptoms.

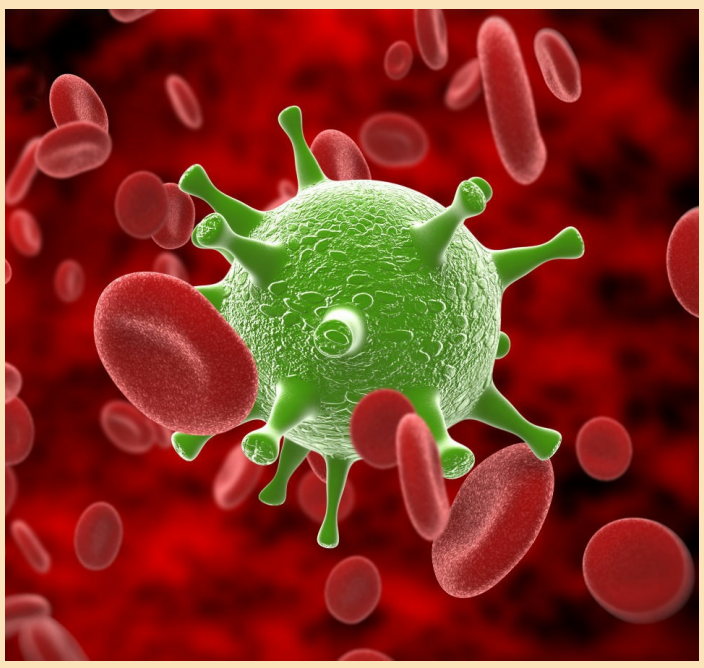
Day 2. After taking one Omnivits capsule, I ate a mid-morning snack consisting of a large, fully-ripened banana with cashew butter. For lunch I ate air-fried chicken and French fries, so I didn't take an Omnivits capsule. For a mid-afternoon snack, after taking a capsule, I ate a large, fully-ripened banana with almond butter.
Result — no symptoms.

Day 3. For a mid-morning snack, I took a capsule and ate a large, fully-ripened banana with cashew butter. For lunch, after taking a capsule, I ate of a length of pork sausage wrapped in a corn tortilla, with an extra-large amount of FritoLay Cantina Style corn tortilla chips, and about half-a-jar (7 to 8 oz) of FritoLay Medium Hot Restaurant Style picante sauce. For a mid-afternoon snack, I took a capsule and ate a large, fully-ripened banana with almond butter.
Result — I noticed a slight amount of itching on my right ankle before I finished the banana. By about 4 hours later, it affected both ankles, and the itching was slightly worse. By bedtime the rash and itching was up to my knees.

Day 4. Fortunately, it didn't interfere with my sleep, but when I woke up the next morning, it was still serious. By mid-morning, it had faded a bit, so I decided to go for broke. I took 2 Omnivits capsules and ate a big banana with cashew butter. At noon, I took 2 more capsules and ate a length of pork sausage wrapped in a corn tortilla, with an extra-large amount of both FritoLay Restaurant Style Tostito corn tortilla chips and FritoLay Cantina Style corn tortilla chips, with about half-a-jar (7–8 oz) of FritoLay Medium Hot Chunky Style picante sauce. At mid-afternoon, I took 2 more capsules and ate a large, fully-ripened banana with almond butter.
Result — my symptoms continued to fade away during the day, and didn't return.

Omnivits Hist Diamine did not work as well for me.
While it was effective at full dose rates, it didn't prevent me from having a histamine reaction when I used half-a-dose. The HistaResist prevented me from having a histamine reaction even at half-a-dose rates, suggesting that it's more effective. That makes the Omnivits product almost 5 times as expensive for me to use, when compared with the HistaResist: $2.44 per meal or snack, compared with $0.50 per meal or snack for the HistaRisist (if I use half the label rate). That said, if used at label rates, they both seem to be effective at

preventing a histamine reaction for me.



Additional Updates About COVID-19

The FDA has recently authorized Covid-19 Tests that can be used at home.
The first test kit approved was LabCorp's Pixel. This test can be purchased over-the-counter, or online. Users must collect a sample on a swab, and then send the swab to a lab. If the test result is positive, the lab phones the user, and if the result is negative, they send an email.

The FDA has since approved a test known as the Ellume COVID-19 Home Test which yields results in as little as 20 minutes, with at least 90% accuracy. The test connects to a smartphone for analyzing the sample, and it can be used on anyone at least two years of age, or older, whether or not they are showing any symptoms. Accuracy is higher if the patient is symptomatic. Both tests were approved under emergency use authorization (EUA), and can be purchased without a prescription.

The paradox surrounding vitamin D.
While hospital trials using vitamin D as a treatment continue to show that in general, treatments using vitamin D for COVID-19 patients are no more effective than using a placebo, a vitamin D deficiency at hospital admission continues to be one of the most serious mortality risks commonly encountered among COVID-19 patients. A recent study showed that a vitamin D level below 20 ng/ml (50 nmol/l) at hospital admission was associated with a 3.7-fold increase in the mortality risk (McCall, 2020, December 11).[1] That arguably makes vitamin D deficiency the greatest fatality risk that COVID-19 patients face; worse than any of the comorbidities known to raise the risk of a fatal outcome from COVID-19.

In this particular study, (which focused on patients who required admission into a hospital) 47% of the women, and 67% of the men, were vitamin D deficient. Among men, for example, as vitamin D deficiency levels worsened, the stages of viral pneumonia advanced. A 55% vitamin D deficiency rate (9 ng/ml [22.5 nmol/l]) correlated with stage 1 pneumonia, a 67% rate (7 ng/ml [16.5 nmol/l]) correlated with stage 2 pneumonia, and a 74% deficiency (5 ng/ml [13 nmol/l]) correlated with stage 3 pneumonia.

As hospitals run out of beds for new COVID cases, maybe it's time to consider outpatient treatments.

If you believe you have the virus. stay isolated for at least 10 days after the onset of symptoms, and 24 hours after your fever breaks (Reuters Staff, 2020, December 29).[2] Smoking or vaping should be avoided. It would probably be a good idea to order a thermometer, a pulse oximeter, and some way to monitor blood pressure, if you don't already

have these. Be aware that if your oxygenation rate falls below 94%, you're persistently short of breath, or you have a significant decrease in blood pressure, you should go to a healthcare facility to have your condition evaluated.

While treatments with Vitamin D haven't been demonstrated to be helpful for treating seriously ill COVID-19 patients in general, they haven't been found to be harmful, either. Therefore, if you know (or suspect) that your vitamin D level is relatively low, or you are otherwise at risk of a poor outcome from COVID-19, supplementation with a vitamin D supplement might be helpful. If you haven't had your vitamin D level tested lately, bear in mind that vitamin D deficiencies typically become more likely with increasing age.

Zinc can help to reduce the potential of a viral infection by making it more difficult for the virus to penetrate cellular walls, and zinc lozenges help to provide some protection for the upper respiratory tract. Long term use of higher doses can upset the zinc/copper balance.

Melatonin can help to reduce the production of inflammatory cells in viral infections, and reduce oxidative lung damage. Older adults typically produce less melatonin, and that may add to the already higher risk of a severe COVID-19 outcome for older patients. A dose of about 3 mg at night is usually well-tolerated, but if morning drowsiness is a problem, the liquid form can be used, at a dose of about 0.5 mg.

Lying prone (face down) has been shown to improve oxygenation, and hospitals often use this technique for patients who are in the hospital and the emergency department. If your oxygenation rate is only slightly low, this may be a helpful option at home, but if you have a significantly decreased oxygenation rate, you should try to get evaluated at a healthcare facility.

Although aspirin has been shown to be helpful for lowering clotting risks for COVID-19 patients, it's usually not an option for MC patients, due to the risk of provoking an MC flare. Famotidine, a histamine-2 receptor antagonist (we usually refer to it as an H2 antihistamine) has been shown to lead to generally improved outcomes for COVID-19 patients, and although it may not be safe for all of us to take, most of us can tolerate it. It may help to prevent histamine release, which can reduce the risk of a cytokine storm.

Researchers believe they have discovered the mechanism responsible for triggering cytokine storms.

The immune system normally marks older or damaged cells for routine replacement, before actually replacing them. Normal scheduled cell death is known as apoptosis, and it results in an orderly process that neatly disposes of the cellular remains. By contrast, a form of inflammatory cell death known as panoptosis causes affected cells to violently spew out their contents (Reuters Staff, 2020, December 29).[3] Neighboring cells interpret this as danger, believing they are under attack, and they release additional cytokines, which then contribute to a cytokine storm.

The researchers found that two particular cytokines, TNF-alpha and IFN-gamma, appear to be the cause of panoptosis in COVID-19. They showed that mice given these two cytokines developed the symptoms and organ damage typical of COVID-19, and the mice quickly died. They also showed that when they treated the mice with antibodies that neutralize the two cytokines, the mice were protected not only from a fatal outcome from COVID-19, but also were protected from other fatal issues that involve cytokine storms. For anyone who would like to read additional details on this research, the full

report is published in the scientific journal, Cell (Karki et al., 2020, November 19).[4]

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