



Some Reasons Why So Many MC Patients Are Depressed

by Wayne Persky

It's not much of a stretch to assume that the reason why so many of us are depressed is because microscopic colitis (MC) as an embarrassing, disgusting disease that can be debilitating if the symptoms are not (or cannot be) controlled. But the cause of the depression is actually more deeply integrated with the disease than outward appearances would suggest. Based on published medical research, it appears that gut bacteria are responsible for the development of depression. But that probably shouldn't surprise us, considering that we've already discovered that gut bacteria are responsible for the loss of stamina when our MC is active.

Our microbiome is primarily determined by our diet.

Most of us are well aware that our microbiome is determined by our diet (unless it's temporarily disrupted by an antibiotic treatment). Many individuals in the general population have found health advantages in the Mediterranean diet, and researchers have even verified that the Mediterranean diet helps to relieve depression. In a randomized-controlled trial that involved young males with moderate to severe levels of depression, the Mediterranean diet was found to be significantly more effective than "befriending therapy" for relieving the symptoms of depression (Baynes, Schloss, and Sibbritt, 2022).¹

But note that depression is a symptom of magnesium deficiency.

And it's well known that many of the foods normally associated with the Mediterranean diet tend to contain above normal levels of magnesium, implying that the Mediterranean diet is a relatively high magnesium diet (Laird, Stallard, Momenian, Oshirak, and Volpe, 2022, June 17)² Therefore,

it's not surprising that the Mediterranean diet should be effective for relieving depression symptoms.



Focusing on a primary reason why MC causes depression,

researchers have shown that a disrupted microbiome causes depression (Amin, Liu, Bonnechere, et al., 2023, April 19).³ And as we all know, MC is notorious for causing microbiome disruptions. But note that even in this situation, a case can be made that the root cause of the symptom of depression is magnesium deficiency, because all IBDs, and the most popular treatment (budesonide), deplete magnesium. Therefore, magnesium deficiency may be a confounding factor in this research.

Furthermore, antibiotic treatments are a common cause of microbiome disruptions, and most antibiotic treatments deplete magnesium. In fact, more than a few drugs cannot only cause microbiome disruption, but magnesium deficiency, as well, including antibiotics, chemotherapy drugs, and proton pump inhibitors, for example. So it's certainly possible that the root cause of depression associated with microbiome disruption can be traced back to magnesium deficiency.

Researchers have discovered that depression may be associated with “unhealthy” diets.

When our bodies break down tryptophan, the resulting metabolites are used to regulate behavior, control inflammation, and help to protect the brain. When metabolized, tryptophan can result in the production of serotonin or melatonin, which are known to play an important role in the regulation of mood and sleep. But it can also result in the production of kynurenic acid and other metabolites that are known to be linked to neurodegenerative diseases.



The Western diet is associated with depression.

In a study of 196 healthy adults, age 17 to 35, researchers showed that a Western-style diet is associated with depression (Francis, et al., 2022)⁴. According to a medical express article, based on an interview with Doctor Edwin Lim, a neuroscientist, and one of the research authors, the researchers tested several biological markers in urine samples from the study participants, and compared them with both their diets, and their degree of depression (Gowing, 2022, October 19).⁵ They found lower levels of kynurenic acid, and more severe depression in the study participants who ate a Western diet, suggesting that kynurenic acid may help to protect against

depression.

Prior to this study, scientists believed that tryptophan metabolism was determined by inflammation, although there was no clinical proof. However, this study showed that diet has an effect on the way that tryptophan is metabolized, in otherwise healthy people.

Research shows that vegetarians are more depressed than meat eaters.

In fact, researchers have found that vegetarians have about twice as many depressive episodes as those who eat meat (Kohl, Luft, Patrão, Molina, Nunes, and Schmidt, 2023).⁶ How can this be? While most vegetarian diets are known to be deficient in vitamin B-12, they typically contain more magnesium than meat-based diets. According to a recent Medscape article, in most cases, the cause is not due to a nutritional issue. It's more likely to be associated with the reasons for choosing a vegetarian lifestyle, in the first place. Additional possible reasons can be found at other websites (Bryant, 2022, October 6).⁷ So this study is probably irrelevant to our consideration of the association of depression with diet — it's just another example of the old rule that states that there are exceptions to every rule.

The take-home message

seems to be that the reason why so many MC patients are depressed is not as simple as first impressions might suggest. Most likely, diet choices, nutritional deficiencies (especially magnesium deficiencies), microbiome disruptions, deplorable clinical symptoms of the disease, along with other issues, are implicated as likely causes of depression. MC is far from being just a “nuisance disease”, as claimed by many gastroenterologists — it's a complex disease that involves many body systems, and the symptoms can be debilitating, in many cases.

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Ticks Can't Fly, so Why Is It so Easy for Them to Latch onto Us and Our Pets?

by Wayne Persky

Most of us are well aware that anytime we go outdoors, especially in wooded areas, we have to be careful that we don't pick up unwelcome hitchhikers, namely ticks. And if we have house pets,

and they're allowed to go outdoors, then we're even at risk at home, because we might pick up a tick that has dropped off one of our pets.

Similar to the way that ticks themselves are hitchhikers,

the viruses they tend to spread are also hitchhikers. Consequently, not every tick bite results in an infection, fortunately. But the risk is high enough that every tick should be viewed with suspicion, so if we see one crawling on our clothing or our skin, it should be brushed off immediately. And any tick that has attached itself to our skin, should be carefully removed, as soon as possible.



Tick bites can lead to a number of different diseases, including, for example:

- Anaplasmosis
- Babesiosis
- *Borrelia mayonii* Disease
- *Borrelia miyamotoi* Disease
- Ehrlichiosis
- Lyme Disease
- Powassan Virus Disease
- Rocky Mountain Spotted Fever (RMSF)
- Tick-borne encephalitis (TBE)

And then there's mammalian meat allergy.

The bite of the Lone Star tick can lead to the development of a unique allergy to a carbohydrate, Galactose-alpha-1,3-galactose (also known as Alpha-gal). The resulting allergy is known as mammalian meat allergy, because it results in an allergic reaction against the consumption of the meat of any mammal. Reactions occur similar to food reactions associated with MC. Instead of an immediate reaction, as suggested by the term “allergy” in its name, MMA causes a delayed reaction similar to the reactions that MC patients experience because of food sensitivities. The reaction tends to occur 2 to 6 hours after the meal, and can include gastrointestinal issues, hives, and itching.

In some cases, an MMA reaction can be life-threatening.

A reaction triggered by MMA is an IgE-based reaction, and therefore it can result in anaphylaxis. Although still considered to be relatively rare in most parts of the world, mammalian meat allergy has been discovered to be rapidly increasing, especially in the US and Australia.

CDC releases new data on MMA (aka AGS).

A few days ago, the US Centers for Disease Control and prevention (CDC) issued an advisory update on MMA for healthcare providers, suggesting that the problem may be far more common in the US than previously thought (Carpenter, et al., 2023, July 28).¹ It's possible that MMA may be one of the top 10 food allergies in the US, although that's only an estimation at this point.

In another report released by the CDC, based on their survey of 1500 healthcare practitioners, it was revealed that 42% of those healthcare practitioners had never heard of alpha gal syndrome (AGS), and one third admitted that they were not very confident in their ability to diagnose or manage patients who had acquired the disease (Thompson, et al., 2023, July 28).² Only 5%

stated that they felt "very confident" in their ability to diagnose and treat the disease. According to the CDC, diseases spread by ticks, fleas, and mosquitoes have tripled since 2004 (Rosenberg, et al., 2018, May 4).³ As summer temperatures continue to increase, problems caused by these external parasites will surely increase in the future.

Tickborne disease risks vary around the world.

Some of the diseases that can result from tick bites are rather rare, while others are somewhat common. In northern Europe and Asia, for example, tickborne encephalitis (TBE) is a problem, because it can spread not only from the bite of an infected tick, but eating or drinking unpasteurized dairy products from infected cows, goats, or sheep.

Lyme disease appears to be our most common risk, especially in the US.

Many of us have been infected with Lyme disease, for example, and some of us have had to deal with it more than once. As we've discovered, the treatment for Lyme disease requires the use of an antibiotic such as doxycycline or amoxicillin. And both are well-known as being among the more user-unfriendly antibiotics for microscopic colitis (MC) patients. The disease can usually be controlled within a couple of weeks (with an antibiotic treatment), but more difficult cases may require that an antibiotic treatment be continued for two or three months, or more. Dealing with Lyme disease is never a pleasure, and it's usually significantly more unpleasant for MC patients. Interestingly, although Lyme disease is a problem in most parts of the world, especially in the northern hemisphere, it does not exist in Australia, because the bacteria (*Borrelia burgdorferi*) that causes Lyme, does not exist there.

Ticks can't fly — they can't even jump.

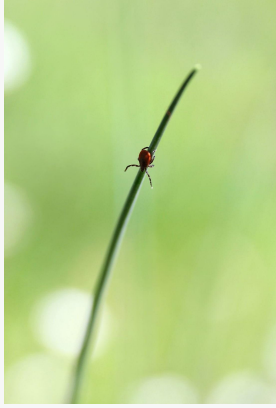
So how is it possible that they can so easily transport themselves onto various potential hosts passing nearby? The phenomenon is explained by an article recently published in the prestigious medical journal *Cell*, (England, Lihou, and Robert, 2023).⁴ As noted in the article, it's well known that as they move around in their environment, reptiles, birds, mammals (including humans), and even insects, tend to build up electrostatic charges. In fact, they often carry electrostatic charges equivalent to surface potentials on the order of up to tens of thousands of volts.



Although the charges don't seem to affect these organisms in any noticeable way, they provide the equivalent of almost magic carpet service for ectoparasites such as ticks, and probably also mites, fleas, and lice. The article also points out that ectoparasites engage in phoresy which is the practice of hitchhiking on other species, such as insects, in order to move to new locations.

In another article describing the research,

published on the Medical Xpress website, the lead research author describes how ticks hang onto a tree branch or blade of grass with their legs outstretched (which is called "questing"), waiting for a potential host to pass by so that they can grab on (Burakoff, 2023, July 1).⁵



Obviously, they're not able to reach very far. But after extensive experimentation with the type of electrostatic fields involved, the researchers discovered that the ticks were using the electrostatic charges to enhance their questing. The static electricity allowed them to easily span several body lengths (a ticks body length) when latching onto a selected host.

And as an afterthought, the researchers pointed out that now that this mechanism that allows ticks to so easily attach to passing hosts has been discovered and verified, it should be possible to disrupt their nifty trick by treating livestock, pets, or human clothing with antistatic coatings, or use some other tactic.

Obviously though, a healthier (and probably cheaper) solution (for us, at least), would be to simply choose 100% cotton clothing for outdoor use. Cotton is a good conductor, so it's incapable of building up more than a very minimal electrical charge. Leather is also a good conductor, so it would be a good choice for outdoor clothing, except for its relatively high price tag.

Native Indians, early trappers and various outdoorsmen (and outdoorswomen) who originally settled this country, and who virtually always wore leather clothing, apparently knew what they were doing. On the other hand, wool, fur, silk, polyester, and rayon clothing, for example, are capable of building up and carrying a comparatively large electrical charge, making them a poor choice for outdoor wear.

If you or a family member discover a tick embedded in your skin, carefully remove it, as soon as possible. According to the Centers for Disease Control and Prevention (CDC), the best way to accomplish that is to (CDC, 2022, May 13):⁶

- *Use clean, fine-tipped tweezers to grasp the tick as close to the skin's surface as possible.*
- *Pull upward with steady, even pressure. Don't twist or jerk the tick; this can cause the mouth-parts to break off and remain in the skin. If this happens, remove the mouth-parts with tweezers. If you cannot remove the mouth easily with tweezers, leave it alone and let the skin heal.*
- *After removing the tick, thoroughly clean the bite area and your hands with rubbing alcohol or soap and water.*
- *Never crush a tick with your fingers. Dispose of a live tick by putting it in alcohol, or placing it in a sealed bag/container, or wrapping it tightly in tape, or flushing it down the toilet.*

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