Lyme Disease and the Brain: The Hidden Complexity of Lyme and Co-Infections Transcript

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What Lyme Test Results Really Mean

All of these tests are looking at antibody response. So number one important thing is you can't just look for positive or negative on your test. You have to know how to interpret the test, because if you have borderline response withigenics, for example, your tests is still gonna say negative, but to an astute clinician that realizes what you're looking for, you would see that as proof that the immune system has been exposed to these organisms and is trying to fight it.

So that's number one. Number two, some people just don't, they're called seronegative and they don' make the antibodies. And so all of these are a clinical diagnosis.

I think if our listeners don t take anything else away today, Lyme is not a positive or negative on a test. It is a CLINICAL diagnosis Welcome to this episode of the Think Well, Age Well podcast.

I am your host, as always, Dr. Heather Sandison. And today I'm excited to introduce you to Dr Mariah Hinchy. She's a naturopathic physician and medical director of The Tao Center for Vitality, Longevity, and Optimal Health in Connecticut.

Introducing Dr. Mariah Hinchy and the Lyme Conversation

After navigating her own journey with Lyme, she's spent the last decade focused on helping patients with chronic tick-borne disease, especially those who haven't found answers through conventional approaches.

She has trained alongside some of the most respected voices in the Lyne community and functional medicine, including Dr. Rich Horowitz, Dr Neil Nathan, and Dr Mark Hyman.

She's also developed a thoughtful, systems-based approach to treating Lyme and its co-infections. In addition to her clinical work, she's the founder of LyMe Core Botanicals and LyME Bites, where she is helping to educate practitioners and the public about what it really takes to diagnose and treat these complex conditions.

Today, we are going to connect the dots between LyMe and brain and how we age. So, Mariette, I'm so delighted that you're here, Dr. Hinchy. Welcome to the show.

Thank you, Heather, so much for having me. Lyme disease is talked about, but I think so many people, they hear the word Lyne, and it's not well understood.

They might even think they get it. But then when we talk about it, there's so may misconceptions and misunderstandings. So from your perspective, can you just break down what is Lymen?

Is it one disease? Does it multiple? Can you get if you don't live in Connecticut? Tell us about how we should think about that word, Lymedisease, this idea.

Sure. So, I think a lot of people do use lime as a catch-all. So when they say lime, they mean the organism Borrelia burgdiphori, as well as the other species of Borrelia that cause lime.

But also including like all of the co-infections like Bartonella, which is another bacteria, or Babesia, a parasite, and even the Powassan virus which can be transmitted by ticks aswell.

And so, that's kind of a no-no.

What Lyme Disease Includes and How It Spreads

because then if you go and ask your doctor to test you for Lyme, they're not going to be testing you all of these various things. And so really the correct terminology is vector-borne disease.

What vector borne disease really means is that you can't really pass it person to person, but there are some exceptions, like from mother to fetus in utero, for example.

But basically you need something else to pass it from one person or one animal to another. So it's most known as a tick, the black-legged deer tick doing this, but there are other ticks.

And when it comes to Bartonella, they can be transmitted by mites. fleas, lice, biting flies, all sorts of other insects. So we really need to get away from using it as a catch-all, and we also need get to away thinking that it's only ticks that can transmit these things.

And there's also this sort of controversy between conventional medicine and maybe naturopathic functional medicine around chronic Lyme versus acute Lyne.

Can you take us through why some people either aren't getting insurance coverage for treatment, or they're not even being acknowledged as having Lyme by some doctors or providers they might encounter.

Sure. So I think the whole thing really starts with a lot of misdiagnosis, and it's because there's a a of misinformation just in the medical field at large.

And so even going to school to be a naturopathic physician, so we were taught the same thing that I You know, you have to be playing in some tall grass and you get bit by a tick.

And then you end up with this bullseye rash called the E-rash. You have some joint pain and go on 14 days of doxycycline and miraculously you're just cured.

That isn't the case. There are so many different things that go awry, you know, with that first tick bite. And I think number one is that most of the time people don't even know that they've been bit by a tick.

So there are multiple life or stages of these ticks. There's the larva, which can carry all of those infections.

Why Lyme Is Often Missed or Misdiagnosed

there's, the nymph, and then there is the adult male and female. deer ticks and they look very different from each other. The nymph is smaller than the size of a period at the end of the sentence and the larva is actually translucent and you can barely even see it with your eye.

And then, you know, a bit by the lava. Yes. My son had one on him last year. I don't know how my husband saw it. It was, Insane. But also, I mean, you know, ticks like to go to places where they're not going to be seen.

So they go in our hair. They go on our armpits. The go and our groin. I had one of my belly button when I was a kid. You know? So a lot we can't just say, Oh, why never found a tick?

I never saw a tic. Therefore I can have Lyme disease. They anesthetize you, you don't feel them biting you. A lot of the times when you do find a tick, it's because of a histamine or immune system's reaction to the tick bite or to organisms that they're putting into your body and we start to itch.

And when we go to scratch, we're like, oh, what's that thing that's attached to us? That's how most people find them. But by the time that's happened, they've usually been on there for so long that they have had the chance to transmit these organisms into the body.

So number one is that, you know, relying either you or your doctor saying if you didn't have a tick bite, that you can't one of these things. That is false.

Number two is there was a really poor study that was done, very small population, a very terrible criteria, that showed that if you took a single dose of doxy at the time of a tick bite, it would prevent all of these things.

And we know that that is very, very untrue. So we have this gross mishandling of tick bites in the first place. And then also 14 days of doxycycline, even in an acute infection, doesn't resolve the infection.

ILADS, which is the International Lyme and Associated Diseases Society, actually recommends four to six weeks. Again, that's just for Borrelia. Doxy doesn' t treat things like viruses or parasites.

We need antiviral or antiparasitic medications. So in the acute phase, you can have the rash, but it's actually only present 20 to 40% of the time, depending on the source.

It's not there more than it is there, number one. Number two, symptoms are usually like that of flu. You can a fever, malaise, feel tired, just not feel well, or feel achy, have a stiff neck.

That's it. And so a lot of people mistake it for the flu or a cold or stomach bug or something else, and then, you know, it typically gets better, but then it goes on to develop these other symptoms.

Yeah, Lyme has been called the great imitator. So this is another reason why I think it gets missed. From your perspective, what do you think the incidence of Lyne disease in the US is?

Do you we're underestimating? I really think that we are. So the CDC estimates about half a million new cases a year. There are statistics from surveillance data and underreporting that actually suggest that that number is seven times more.

So that would put us up at like three and a half million cases a year. And again, we're just talking Borrelia burgdaphori. We're not talking about the species of Borrelia that caused tick-borne relapsing fever or cases of Babesia or Bartonella or Lycea, Anaplasma, any of these other co-infections.

So for someone who's listening to this and wondering if Lyme is maybe part of their story, their health story. What symptom patterns would raise a red flag for you that would maybe trigger them to ask their provider for testing or to start exploring this?

Sure. So obviously now we're talking about chronic Lyne disease or chronic vector-borne disease. And I think that one of the most distinguishing things is that you start to have symptoms in multiple systems of your body.

Symptoms That Suggest Chronic Tick-Borne Illness

So it's not just muscle pain and joint pain, and stiffness, but we can start having heart palpitations, we cannot start have a racing heart, urinary incontinence, We can start to have shortness of breath, we can have GI symptoms, nausea, stomach pain, indigestion, a lot of cognitive issues, brain fog, anxiety, depression.

And so it's kind of like, wow, what do most doctors say? Well, you're just getting old. This is what happens as we age. The body breaks down. And, since it is happening in all of these systems, it just aging and it not.

You know, so one of the hallmark symptoms is that immune impairment exists and it gets worse as time goes on. So you start feeling like, gosh, every time the grandkids come over, I'm catching like whatever cold or virus or bacteria they had, or, you know I am just getting one thing after another, after other and starting to feel really run down.

Or you might go in for a procedure or an operation And your body doesn't heal the way that your doctors expected you to. Or another huge red flag is when you're given a medication, and I'll use a psych med because that's one of

the most common.

So you are given medication and you don't get the expected outcome. I have elderly patients, I had middle-aged patients and kids who are misdiagnosed with a primary neuropsychiatric illness.

and they're given the appropriate medication, but it doesn't work. And then they are switched from that one to the next one, and none of them are working.

The reason is Lyme causes neuroinflammation, inflammation of the brain. These medications don't tackle inflammation. they balance neurotransmitters and things like that.

And it's like it is not a neurottransmitter issue most of the time. It's a brain on fire issue. I just had a patient recently come back from a hyperthermia treatment in Germany, and I'm really curious because what your thoughts are on that?

I have no idea what she's going to say here. But the way he described his return, and he's a younger patient. He's in his 40s. But he had brain fog that he did not realize was related.

You know, he was like, oh my gosh, it was I was going through cobwebs my whole life. And all of a sudden, that's gone. he also had that very disorienting, confusing line presentation where it's cyclic.

So he'd feel fine for a couple of months and then all the sudden have a flare and crash and be debilitated. and then he'd feel fine for a little while.

And, you know, we'd use, he would kind of fall off the lime herbs and he fall of the things because he was feeling so great. Then he come raging back and when he start them, it would sort of intensify the flare.

So we were trying to figure out, okay, how do we get out of this cycle? And that's why he decided to go to Germany and do this hyperthermia treatment.

But the biggest, most profound difference in his experience is neurological. It's his ability to think. clearly to make decisions, he's not in that fog.

He called it the neurological bog. It was his terminology for it. So I'm just so curious both about hyperthermia, but just how you kind of think through the cyclic nature of it, I mean, any and all of that.

I want your opinion. Yeah, so a lot of has to do with the cycle of the organism. So with Borrelia, it's slow growing. And so as it grows and it kind of births its next generation into the body, you get like this increased load of bacteria in the bottom.

If you're on treatment, the treatment is going to kind be like frying all of those organisms at once, and then you'll have an increase in that endotoxin which is basically the organism's toxin that it releases when it's dying.

And then your body has to detoxify that toxine on top of everything else that the body is already struggling to detox because the Lyme impairs detoxification so much.

But now that toxins increases inflammation, so literally increases the inflammatory cytokines which makes all of your symptoms feel worse. So this is the dreaded Herxheimer reaction.

And a lot of people feel better. I've heard this over and over again from my patients, they feel with some binders.

Common Co-Infections: Bartonella, Babesia, and More

They actually get some clearing. Sometimes people miss that, but they're thinking, bug killing, and then they miss the opportunity to reduce their symptoms through just getting some of the toxicity out.

Right. I mean, this isn't that fun to talk about, except for that we're talking about solutions and what can be done. And I think it's hopefully opening up people's awareness.

So like, if you're feeling this way, there might be a reason that can address. Right. That's the most important piece is that this is not some doom and gloom diagnosis.

If you find a root cause, you can work on healing them. So I want to go into the co-infections. What are the most common ones that you see and can you help us kind of differentiate?

You listed some of them, Borrelia, Bartonella, Babesia. what makes them unique and how do you treat them differently or do they present with different symptoms?

How do think through that and help someone navigate those? Or does it even matter? Well, so if you're going to use pharmaceutical intervention, it absolutely matters because it's different antibiotics and different antiparasitics per the different infections.

In the herbal world, there's a lot of overlap, but I still think it is always important to know what you are dealing with because your outcome, as far as how long it will take, how severe the symptoms are, what parts of the body these various organs invade, all depends on what the combination of co-infections are.

So let me answer your first question. There was a study of over 3,000 patients with Lyme disease. 50% of them had at least one co infection, the biggest coinfection being Babesia, this second being Bartonella, and then 30% percent of this group had it least two or more co infections.

You're just as likely to have one or more co-infections as you are to just have Borrelia alone. And that surprises people, but I'm not going to get into the why in this episode because I don't want to waste our time.

The hallmark symptoms, let's start with Bartonella because this is actually the one that I see most, even though the study said that Babesia was the biggest co infection.

Bartonella causes a lot of neuropsychiatric symptoms. So, Bartronella often causes more central nervous system, so brain, spinal cord symptoms than it does physical symptoms, some of the hallmark physical, symptoms though, are pain in the soles of your feet.

Your feet are very stiff, very painful when you get up, especially in, the morning having GI issues, bartonello causes, a, lot, of GI, issues. It can also cause a striae rash or look like stretch marks, but it is not.

And then Bartonella can cause. A lot of headaches that get misdiagnosed as, especially like in the front of the face, Bartonella causes a sensitivity to the environment.

So a lot light sensitivity. noise sensitivity. Again, think of it as brain on fire. Bartonella, I've had people just develop panic attacks as adults, even older adults out of nowhere overnight, severe anxiety, homicidal rage.

Irritability, just emotional lability where like one minute they're happy, the next minute, they feel like they could literally kill someone and then the Next they are crying.

Lots of cognitive issues, lots of brain fog. I have people describe this derealization. or depersonalization where they feel like they're going through their life in a dream, like, they are watching from just above themselves.

I would say those are the main Bartonella symptoms. Contrasting with Babesia, a lot of times there's a There's night sweats, day sweats. Chills. A lot of lung and chest stuff.

So realize that Babesia loves the red blood cell, so it's going to affect our ability to carry oxygen and waste. There are a lot lung stuff, a lots of cardiac stuff and symptoms similar to anemia.

Sometimes it can cause anemone. Babesia has a lot of pressure headaches and a lotta dizziness, like this weird dizzyness, tipsiness. And again, I contribute that to kind of the anemic sort of symptoms that it can cause.

So those are my hallmark differentiations, but honestly, babesias, bartonella, and Borrelia, Borrelia being Lyme, they have so many overlapping symptoms, that's it's really hard to distinguish, which is why it is important to test with a specialty lab that does sensitivity, you know, proper sensitivity specificity, as well as looking at the specific species of each of these organisms.

Testing Limits and Specialty Lab Strategies

Because, of course, there's more than one species and you can only get the results for what you're looking for. So I want to talk about testing. I wanna go deep on that for a minute because it's notoriously imperfect in the lime world.

But a lot of patients have tried to navigate the healthcare system for a while before they end up, I'm sure, in your office. And you mentioned this litany of symptoms that can come up and the overlap and how confusing that could be.

What are the common diagnoses that people get before the figure out it's Lyme? So is that a way to kind of flag this? Maybe you should consider Lyne if you have this, this or that diagnosis.

Right. So I would say number one is if your doctor tries to tell you that you have atypical anything. So, oh, you have atypical MS. Well, what does that mean?

It means you are symptoms of MS, but we're not seeing on your MRIs, we are not the typical presentation. Your ANA isn't even positive in your blood work, right?

Like these very basic markers and diagnostic criteria, your not meeting. You just have symptoms that disease. So I often see And I do have patients who do typical diagnosed MS, but they also have these underlying infections.

And when you get these infections and the neuroinflammation and immune dysregulation under control, you can slow down the projectory of these illnesses.

Some people even start to reverse symptoms. ALS, inflammatory bowel disease, multiple primary neuropsychiatric diagnoses, rheumatoid arthritis, ankylosing spondylitis, lupus, mixed connective tissue disease.

migraines. I mean, I've seen a lot of endometriosis even driven by the presence of these infections, especially Bartonella loves to live in the vasculature in endothelial cells of the blood vessels and increases VEGF, which is like a blood vessel basically growth protein.

So I mean, they are just notorious for causing immune system dysfunction and directing our body to build itself in a way that ends up being diagnosed as another illness or condition.

And so figuring this out, the testing, What are the limitations of standard testing? So if you go in and say to your doctor, I listened to those podcasts, and I want to be tested for Borrelia, Babesia and Bartonella, is that going to enough?

Going to a conventional laboratory, no. So there are multiple species of Borrelia. not just Borrelia burgdorferi. And so I don't use conventional labs very often.

So when we say conventional, we're talking about, you know, like your hospital laboratory or Quest or LabCorp or places like that. I'm not trying to throw them under the bus, but typically when you go to Quest, for example, the test would be looking at Borreliaburgdiferi, or recently they do have Borrelia miyamotii.

But that's looking at two out of about 17 or 18 different species of Borrelia that cause Lyme disease. So the analogy that I use with my patients is if I'm holding a box of crayons, and I've got 20 different colors and i come up to you

and say pick a crayon and you pick the green one and then I say okay I'm going to test you for your crayons but i'm gonna use a test that can only detect a red one.

And because your Crayon isn't red I am going look you straight in the face and saying you're not holding a Crayson. And you would tell me I was crazy, right?

Because clearly it's a crayon. It's just green. it is not red. But like this is what we do. These patients get tested for Lyme and because they don't have Borrelia burgdorferi, they're told they do not have Lyne.

And so that is just so improper. So if you really want to rule out Lyme to the best of a test's ability, you have to go to a specialty lab that can evaluate every species of Borrelia that we're able to test for.

And I think there's probably ones out there that And then the same rings true for Babesia and Bartonella. So you have to look at all of the species that we can test for.

And going back to the conventional labs, their tests are not very sensitive. They're missing so many of these diagnoses because, for example, They look at immune response to the different proteins on the organism.

And without making this too complicated, Quest looks at a total of 13. Well, if you go and have, you know, I can say names of labs. Absolutely. I think it's actually very practical and helpful.

Like I want to ask you, we use iGenX and we used T-Lab. And I really appreciate what Bob Mizani has done at T-Labs. I consult with him with some regularity, and I feel like I've learned so much from him and Steve Harris and some of the other people kind of in this world getting good results, but it's like nobody's getting perfect results.

And the testing and the changes in testing have something to do with that. But eigenics has been sort of this gold standard. So I'm curious, there's infectal labs as well.

What are you using? How do you navigate that? Oh my God, the cost is exorbitant for many people. This is just beyond what they can afford. So how do you think through all that?

So I believe so much in informed consent.

Why Some People Stay Symptomatic and Others Do Not

I am always telling my patients all of the options, even the option with the conventional labs, and sometimes we start there because 50% of time, if you're positive, you will get a positive.

Sometimes you can get your answer through conventional lab, but that is never, ever, where we stop. unless we're getting a positive. So here's sort of my hierarchy.

I think that Vibrant America does a good screening process. If a patient can't afford to do anything else, for somewhere between $500 and $600, we can look at Borrelia.

We can at Babesia, Bartonella, Ehrlichia and Anaplasma through their TIC 1.0. And so a lot of doctors are using that as kind of like a general screen.

Now, I have had patients who have gone on to test positive for things like Bartonella through Galaxy Labs. And Galaxy, for me, is my gold standard for Bartronella testing.

They look at more species of Bartonnella, and I do believe that their testing is more sensitive. But for Lyme and tick-borne relapsing fever, which is like the cousin to LyME, also caused by Borrelia, Igenex is the gold standard.

And then also for Babesia I do IgG and IgM immunoblots, as well as FISH testing through IgEnex as Well. So that's kind of like my hierarchy. Quest seems to be pretty good at mycoplasma, Chlamydia pneumoniae, Ehrlichia

anaplasma.

But for the three Bs, definitely these specialty labs are necessary. We're looking for an infection that suppresses immune function and immune response, and in some people, the ability to make antibodies.

All of these tests are looking at antibody response. So number one important thing is you can't just look for positive or negative on your test. You have to know how to interpret the test because if you have borderline response with eigenics, for example, your test is still going to say negative.

But to an astute clinician that realizes what you're looking for, you would see that as proof that the immune system has been exposed to these organisms and is trying to fight it.

So, that's number one. Number two, some people just don't, they're called seronegative and they dont make the antibodies. And so, all of these are a clinical diagnosis.

I think if our listeners don´t take anything else away today, Lyme is not a positive or negative on a test. It is a clinic diagnosis And part of this, if I understand, correct me, you are the expert in this space, but what I understanding is that Lyme, kind of like the way that we think about HIV or AIDS, right, it suppresses immune function by design.

Like that is part its role and part how it works is it is suppressing your immune functions. And so if you take a test that relies on your system mounting a response, then particularly if it's chronic, that test is going to be negative because the Lyme is doing the work of suppressing your immune system.

And is that right? Do I have that rate? Is that only for Babesia, or excuse me, only Beryllia or is it for all of these? No, it is pretty much for them and the more of them that are in your body at once, the they are synergistically manipulating the immune systems and for some people, that can result in autoimmunity too.

So it's not just immune suppression like with HIV, but we can have that opposite response where, because the immune system, I call it losing immune competence.

So the immune system is no longer competent. It's no long able to find the infection and target it. So it just starts throwing these inflammatory bombs and it confuses what's called the cell-mediated branch of theimmune system, and then the Immune System starts attacking self.

And this is where we can see a lot of like the neurodegenerative and autoimmune diseases start coming into play. that oftentimes people get misdiagnosed with.

Okay, so asking for an unidentified family member. My family goes to Minnesota up in the North Woods for much of the summer. And a particular family number was bitten by ticks like 13 times this past summer, tested this person and came back positive, Babesia, Borrelia and Bartonella.

Puppies, Zebra, Lea, Bartonella, yep, all three bees, has no symptoms. Highly competent, you know, was out there building a sauna. And that's why this kept happening.

Was raking leaves, You know was doing all the things because they're like just in it living life. So what are the biggest questions that comes up for patients, but also like for me, I'm sitting here going, wait, how is, does this one person debilitated?

This other person is absolutely riddled with these organisms. and has no real symptoms. And some people just become debilitated chronically after maybe one exposure.

What's the difference between these presentations? Why?

A Terrain-Based Approach to Treatment

So I'm going to use an analogy. I mean to say that everything is straws on the camel's back. OK, so the camels back is the immune system. and the Camel's Back is going To depend on genetics, the microbiome, nutrition, micronutrient status, toxic burden, stress, environmental toxins, mold, all of the things, right?

Well, so like the immune system is I started going on to the straws. The straw are like the viruses, the bacteria, parasites, toxins, mold, all of these things.

Depending on the genetics and the microbiome and immune status and stress and all these, that's going to dictate how strong the camel's back is. So the strength of the camels back, person A might be able to tolerate 50 insults But camel B, they can only tolerate five.

And so, you know, these infections prey on our weaknesses and they don't want to kill us. They're, like, parasitic in nature. Even lime, even though it's not a parasite, They need us to live.

they just want a break us down and rob our nutrients and live inside of us So they can't kill us because then they would die. So what happens is, is they prey on our weaknesses.

If you, for example, have an old ski injury in your knee, that is going to be your most affected joint because you already have smoldering levels of inflammation there and these are inflammatory infections.

They need, they manipulate inflammation. use inflammation to break down our connective tissue, our collagen, or cartilage so that it can feed themselves because they can't make their own nutrients.

They need hours. And so a lot of people, I think, are living with some of these infections and it isn't until they go through an extremely stressful time or they have some hit to the immune system where all of So I want to get back to your friend, but what I will say is that you would not believe the amount of people who are finding out that they have Lyme and other co-infections after having COVID or getting the COVID vaccine.

Because the spike protein, whether it's wild or your cells are making it, are causing massive inflammation and immune dysregulation and incompetence in the body.

So just like we all know and accept that the spike protein reactivates dormant Epstein-Barr and cytomeglia virus and all the herpes viruses, et cetera, well guess what?

It also creates the perfect environment for all of these dormant vector-borne diseases to come out. And so my response about your friend, if he's out on a mountain building a sauna, I would imagine he probably pays pretty good attention to the food that he is putting in his body.

the air, the water, he probably is managing his stress. He probably doesn't have dysautonomia. Like he's probably doing all of these things to protect his body and to live a healthy anti-inflammatory lifestyle.

And that's probably why he isn't symptomatic, because his immune system is doing a good job of keeping these things in check. Yeah, she will be delighted that you described her that way.

So let's get into treatment. You've developed a pretty unique approach, learning from so many luminaries in the field. And with your, I think, naturopathic kind of perspective, can you walk us through the key pillars of how you support patients who come into your office to see you?

Yeah. So I would say number one, the focus is not on killing these organisms. And that surprises everybody when they hear me say that. I do kill the organisms, but that's the last step.

Step number 1, figure out all of the terrain changes in your body. that these organisms have now caused, right? So we have to look at all of the systems of body, all the organs, the hormones, gut, detox pathways, etc.

And we need to figure out what's going on so that we know how to help them heal. Then we get to things that are

going to decrease inflammation because like I said, this is an inflammatory infection and all symptoms that it's causing are a result of that inflammation.

So, first looking at lifestyle, you know, looking out all of the things that are going to increase inflammation in the body, like stress, dysautonomia, pro-inflammatory foods, sugar, dairy, gluten, et cetera, but then also looking internally at that inflammatory cytokine cascade and using various herbs to modulate it, also decreasing something called Galactin 3, which is an upstream driver of inflammation.

as well as inhibiting the inflammatory enzymes that literally break down the collagen and allow these organisms to feed. So once we kind of have that under wraps, then we have to move on to healing the gut.

And it's not moving on. It's actually doing all of this simultaneously. Lyme breaks down that gut barrier, so does Bartonella, and so do all these pro-inflammatory cytokines.

If we had a leaky gut, We're going to be making food sensitivities and allowing toxins back into the bottom causing more oxidative stress damage to the mitochondria.

Lyme, Neuroinflammation, and Dementia Risk

So it's like this crazy vicious cycle. And like we can't expect to get our patients healing or even detoxing if we're not fixing their gut. And then they have to be detoxing.

If they're not detox, the levels of LPS or endotoxins are building, causing more inflammation, right? Again, another vicious cycle. Then we have the autonomic nervous system and dysautonomia.

A lot of these patients are stuck in fight or flight, and they simply can't heal because their nervous system won't let them. The nervous won t let the immune system respond properly.

Okay. Then we also have to balance the system. If we're low in natural killer cells, we need to get them up. For low and lymphocytes, We need t get him up if we re low, and white blood cells in general, w e need We need to balance TH1, TH2, and TH17 and that sounds complicated, but basically it's just different branches of the immune system that do different things.

When infections are chronic, they get stuck like a foot on the gas pedal and we need that balance, you know, between the two. And then finally, we get to breaking down the biofilms.

So the biofilms are like these fort-like structures that the organisms hide behind to wall themselves off from the immune system, but also from medications.

So spoiler alert, you can't kill anything if it's hiding behind a biofilm. It doesn't matter what perfect protocol you're using. You've got to break down the biofilms so that medicines and the system can reach the infection to eradicate it.

And then last step, kill the bugs. And so you can use pharmaceutical antibiotics to do so. I prefer using herbs that have been studied and shown to get after all morphological forms of these infections, including the persister cells and herbs, that also break down the biofilm simultaneously.

So there's a lot to it and it sounds really complicated, but if you're working with somebody who is coming from, I call it the 10 base approach, we've got to cover all our bases here, then you can resolve not only this infection, but all of the other illnesses or dysfunctions that it's now made come out in your body.

Yeah, that's so fascinating. I think it is so important that people understand. It's not just about the one thing and killing the bugs, but really about creating an environment like the terrain where those bugs are not going to thrive, where your immune system can start to meet the the entire milieu, right?

Like your immune system can work with whatever bug killers that you're getting at those biofilms. This is, I think, just a crucial part of how we approach this.

Just like we've approached dementia, it's not about one thing. It's about all the things that make up whether or not our cells are healthy and happy and thriving.

I'm curious where the research is on Lyme and increased risk for neurodegenerative conditions. So Lyne and Borrelia bubesia. I know that Borrelia has been found in the autopsies, in amyloid plaques of people who have lived with dementia.

On autopsy, they see the Lymes spirochetes. There is a neuro-Lyme presentation and the amlyloids plaque are there to be protective, right? They are But I'm curious what the latest research is.

I think we've known that for a while. What is the recent research around Lyme and neurodegenerative disease? You know, I don't know. Honestly, don t know the answer to that question.

Dr. Horowitz just did a case study on using Dapsone to treat one of his patients who had Alzheimer's and had high levels of beta-amyloid plaque and p-tau.

And basically the outcome was that after appropriate treatment, the levels actually normalized.

Herbs, Antibiotics, and Hope for Recovery

And so you see this, okay, as you said, it is the brain and the body's response to the infections trying to protect the You know, you have the development of these things.

So if you're getting to that root cause, which in this case was Borrelia, and you are eliminating the Borrellia infection, then these numbers improved because the body didn't need to make them to defend themselves anymore.

At least that's the simplistic way that I look at it. One of the really cool things is that a lot of herbs that act as antimicrobials that i use in my main arsenal to treat Borrelia, for instance, also help to break down beta amyloid plaque, as well as p-tau, and can inhibit some of pro-inflammatory cytokines like nuclear factor kappa-beta, IL-6, IL1 beta, and the inflammasomes that actually are driving a lot of these pathways.

So curcumin, Japanese knotweed, Chinese skull cap indirectly are amazing not only at helping to resolve the infection. Now, anyone listening, it's not just those three things.

Don't take that and run. I'm using that as an example. But they're also able to help to break down these accumulation of plaques and proteins in the brain.

Fascinating, fascinating. Yeah, I think my understanding in the Lyme space is that cryptolepsis, which is used for Borrelia, actually has even sometimes some better results for people than prescription antibiotics.

I sometimes think of herbs as like the gentle way that will heal slowly and then the big guns are bringing in these antibiotics, but even with Bartonella, it's like garlic and oregano can work better than some of the antimicrobial pharmaceuticals.

So just kind of keeping that open mind and exploring this and seeing what works. I think this can feel complex and overwhelming, but there's so much hope.

Just like in the dementia space, it's an exciting time out there. There's new research, there are a lot of really dedicated providers who are working really hard to understand this, create better testing and better treatment so that people can get on with healing and living their lives.

I'm curious, I ask everyone on our show, what brings you the most joy at this stage of life? What brings me the joy? Well, two things. Number one, my nine-year-old little boy.

He is the biggest joy in my life. And he's, it's just such an awesome age. Like he just, you know, like you go from being a little kid to like, a real human.

That sounded silly. I think everyone listening knows what I meant. We know what you mean. You know, the other is being able to share all of this. Lyme and vector-borne diseases have impacted many of my family members.

They impacted me personally, they impact many my patients, and I think that they are really grossly underdiagnosed. I that think they're way more prevalent than we know.

And it really does bring me joy to be able to share what I know with people and hopefully give them hope, you know, that they can get better and they will get if they find someone that is knowledgeable about all of this stuff and can guide them and that, they really do have the power to control their own health.

Now, I know you need to go pick up your son soon. If you have just another minute more to share a little bit about your personal experience, Oh my gosh.

Okay. So, well, I was bit by a tick. I mean, ticks were everywhere. We used to pull them off the animals and squish them in between rocks. Like, you know, we were never taught that they were dangerous.

And when I, was somewhere between 10 and 12, and it was when, my mom was aware of Lyme disease. My cousin was suffering from it. I was brought to the hospital and I given a blood test within two days of finding the tech and they started me on, I think it was amoxicillin immediately.

And then, you know, we got the phone call three days later and it's like, oh, she's negative, stop the antibiotics. So knowing what I know now, there was no time for my immune system to mount that antibody response, which of course is why my test was negative.

Okay. But I went on to develop severe anxiety, some separation anxiety from my mom.

Personal Lyme Journey and Final Takeaways

I started sleeping outside of her door in a sleeping bag. I was afraid someone was going to break into the house and kill us. I couldn't sleep. And I started wetting the bed, which is just, oh, so embarrassing at that age.

So looking back, it's like, wow, you had pans. But pans wasn't a thing back then, right? So then I went on for the rest of my life, so to speak, and I got through school just fine.

It's funny, I all of a sudden was having issues reading though, which nobody picked up on. So I go special help and went to the special resources room after being in top classes and ahead of everything, by the way.

And so, but you know, I went on to be fine and I, you now, went to my undergrad at UConn and went medical school and everything was fine. But then in my mid thirties, i went through a really, really stressful time, like very stressful.

And I also was bit by another tick that I suspect had Babesia and that's kind of when all heck broke. loose. So I would be mid-sentence and I'd forget what I was saying.

I couldn't remember words. um, pain in my head, waking up with a headache. And, you know, we're taught in medical school, brain tumors. So I went and got an MRI.

Like I was really, really messed up. I started getting paranoid, not good. and so lo and behold, thank God I already lime literate. Um, I ended up testing positive for Babesia, Bartonella, Borrelia Mycoplasma and Chlamydia

pneumoniae.

so I had all of those things all at once. Again, I suspect the lime, you know, for most of my life and probably Bartonello too, because I was a very thin person and I had stretch marks all over my hips, allover my back.

And everyone was just like, oh, it's just because you grew so fast. You're so tall. I'll get through this as quick as possible for the sake of time. I ended up doing 18 months of combination antibiotic therapy, which is what is necessary if you're going to do pharmaceutical antibiotics for Borrelia.

You have to treat the modal form. the intracellular form and the cyst form, and that requires three different types of antibiotics at once. And then I also had to take a Tovacone for my babesia.

So I got to the point where I was symptom-free, but every time I tried to stop taking the antibiotics, I would relapse. I'd feel like there was a crowbar through my head.

And it made no sense to me, and it definitely perplexed my Lyme doctors that I had, too. And then one morning at 3 a.m., no joke, when I woke up thinking I was going to die, like in a night sweat, I found Master Herbalist Steven Buhner.

I'd never heard of him. He was from New Mexico, he was having a Lyne disease seminar an hour from my house in Massachusetts, two weeks later. So, talk about like Kismet, right?

In the universe intervening. So I went to that conference, I met him, started corresponding with him. Got all of his books, read all his book, probably like 20 times by this point.

And started taking all these herbs and then started using the herbs on my patients that I was treating because the part that he left out is like I'm already lime literate for 10 years at this.

I am already like you know, actively diagnosing and treating and all of this. And thank God because I say this not really lightly, I probably would have ended up like in an institution how bad I was.

So I start taking all the herbs and within about six months I'm finally able to stop the antibiotics without relapsing. And so I stayed on the herbs for another several months, probably about a year in total, and I was able to stop without relapsing.

And, so we waited about year to make sure that I didn't relapse and ended up conceiving a perfectly healthy, beautiful little boy, my Evra. You know, but I mean, it's like such a story, you know?

And was a big part of my life and for a large part it, I wasn't even aware. And it's like if I had actually just got that proper diagnosis and treatment when I was a tween, I wouldn't have ended up with all of these other things.

But my story compared to a lot of people's story, like I came out good, you know what I mean? Like I'm one of the lucky ones. Like, I was not debilitated.

I did not have a severe case compared to a lot of people that I see. Thank you for sharing that story. And I appreciate your vulnerability and just your willingness and openness to share everything you've been through.

This has been a really important and illuminating conversation. What I really appreciate about your work, Dr. Haji, is that you're bringing nuance and depth to a condition that I think is too often oversimplified or just even overlooked and dismissed entirely.

And so helping us understand not just Lyme disease but the bigger picture of how infections in the immune system and especially this terrain, that environment that the infections can thrive in or die in, how that all interacts.

So if anything in this conversation has resonated for you, our listeners, or if you've been searching for answers that

haven't quite come together yet, I hope that this thread is something that you maybe find worth exploring.

Dr. Henshie, thank you for the work that your doing, for patients that serve, and for sharing your perspective with us today. I'm so delighted and just privileged to have you here.

Thank you so much. Thanks for having me. Thank you so much for listening to the Think Well, Age Well podcast. If you enjoyed today's conversation, please take a moment to subscribe, leave a review, and share this episode with someone you care about.

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Until next time, keep thinking well and aging on purpose.