Podcast Introduction and Mission

one thing I see that people go down the rabbit hole of like everything that possibly could be wrong. And I know it's hard because especially when you've suffered from it, and often people that had Lyme disease, I also had lyme, disease I had Babesia and Bartonella, it oftentimes is a thing that happens fast.

There's really instances of trauma related to it. This anxiety of is this going to come back again? Or when is it going recur? You just have to be careful getting too much information because all that information may not always necessarily apply to you.

And I really encourage you to try to not self-treat and really working with somebody that is a really good fit and match for you." Hi, and welcome to the Lime Bites podcast, where we shine a light on the misunderstood science of Lyme and other vector-borne diseases, as well as the truths that many still miss.

I'm Dr. Mariah Hinchy, naturopathic physician and fellow of the Medical Academy of Pediatric Special Needs. I specialize in treating chronic Lyme disease, as well as other complex inflammatory conditions.

In this podcast, we break down what's working and what not. We share the facts that most people miss, We challenge outdated thinking, and we give both patients and practitioners the tools to heal smarter.

So let's get into it and change the way we heal Lyne. Welcome to another edition. I'm Dr. Mariah Hinchy, and today I am here with my very good friend and colleague, Dr Jekyll Patterson.

Guest Introduction and Lyme-Endocrine Overview

She's here to help us learn how Lyme and Chronic Tick-Borne Disease affect our endocrine system and hormones. So welcome, Doctor Jakyll Paterson. Tell us a little bit about yourself.

Yeah, thank you so much for having me, Dr. Hinchey. As you said, she is a friend and colleague and powerhouse in this realm. And I am Dr Jekyll. I'm a nationally recognized naturopathic physician, a success coach and Amazon bestseller times three.

My most recent book was on women and contributors. So I m really excited today to talk about Lyme disease as it pertains to the endocrine system, as well as sex hormones and the adrenal system.

Thank you. So let's start out by just telling us in general, how does Lyme disease impact our endocrine system and lead to hormonal imbalance? Yeah. So I always like to say with our hormones, there's, or with Lyme disease or any infections in general, with are our full body, we have this, what we call trifecta, which is like the adrenal glands, the sex hormones as well as the endocrine system.

And typically if there is an issue with one, it'll impact the other. system as well as the adrenal glands take a big hit due to Lyme disease, particularly because for people that have chronic infections and chronic inflammation.

So when you have a chronic information, you'll have this increase in something called cytokines and this inflammation will affect the hypothalamus, which is where thyroid hormones are released.

It'll affect your adrenal glands, where cortisol gets released, and you kind of have this whole imbalance that could then have the trickle effect as well on your sex hormones like your estrogen and testosterone.

So the endocrine system, many of my patients that I work with with Lyme disease, they often also have hypothyroidism, or they have Hashimoto's and that will definitely, you'll see some worsening of symptoms if they

also have that with Lyme disease and or it being Lyne disease being a precipitating factor.

So are there specific symptoms that you would say of Lyme disease that are hormonally induced? Yes. So when you look at the endocrine system, there are a lot of studies that have shown that infections can actually affect the thyroid by way of impacting the conversion of T4 to T3.

and also the reversing of what's called reverse T3. So that will impact the way the thyroid is functioning and you'll start looking at more of like a hypothyroid state.

Thyroid and Hormone Symptoms in Lyme

Symptoms of an individual with hypathyroid would be chronic fatigue, it would weight gain, hair loss, brain fog, and it's tricky because as you know, a lot of these symptoms overlap with many of the symptoms women have when they have Lyme disease and It correlates to many of the symptoms women have that are perimenopausal.

So you kind of have this overlapping of symptoms that can cause confusion as to, you know, what is really going on. And so it's really important that all factors are looked at when you are working up a patient, but definitely more so related to you'll see issues with hypothyroidism.

You'll also see there have been studies that show Borrelia proteins can also be a trigger for things like Hashimoto's. which many people with hypothyroidism have, and then also any imbalance with cortisol, which can also impact the thyroid as well directly.

So definitely in terms of symptoms, a lot of the symptoms that overlap with many of these symptoms we'll see with Lyme disease aswell. So are there certain tests or evaluations that you would use to try to tease out, you know, if this is just a symptom of Lyme or if is a symptoms that's being exacerbated by a hormonal imbalance or it's just truly a hormone imbalance with a patient?

Are you ready to transform the way you diagnose and treat complex chronic inflammatory illness? Because what if everything you've been taught to treat separately is actually deeply connected?

At the Limebite Symposium, we're bringing it all together. Join us November 13th and 14th at the Fort Lauderdale Pompano Beach Resort in Florida. or attend virtually from anywhere for the premier functional medicine conference on complex chronic illness.

This year, we're diving deep into the interconnected drivers of chronic disease, including neuroinflammation, immune dysregulation, COVID spike protein related pathology, mold and mycotoxin illness, breast implant illness pans pandas, and of course, Lyme and other vector borne infections.

Because the reality is, your patients don't have just one of these. They have several. And if you're not trained to recognize how these layers interact, you'll continue to miss the root cause.

If you are a patient still searching for answers, this is the information that your doctor may be missing. This is how we move from symptom management to true healing.

So join us in Pompano Beach or from anywhere in the world. Don't get left behind. Register now at limebites.com. That's L Y M E B Y T E S.com Yeah, so you want to be sure to really check, you know, everything.

So in terms of the thyroid, oftentimes in the standard for health care, they're just checking what's called TSH, which is thyroid stimulating hormone, but they are not also checking free T3, reverse T3, total T 3, 3T4, and also the antibodies.

Oftentimes, people will get the antibody's missed. And so, the antibiotics you want to look at for Hashimoto's or for Graves' disease are what's called thyroglobulin antibodies and thyroid peroxidase antibodies, also known as like TPO.

And so that's important to look at. I'm also always looking at the sex hormone. So estradiol, I'll look a sex-hormone binding globulin that can get impacted, especially if someone's having issues with weight gain.

You'll see that oftentimes with Lyme disease, women will, or men, where they're having this, like, they can't lose weight, and I also see it the reverse way.

Testing Hormones and Adrenal Function

And it's really neat to see as people get better, those as they get better with Lyme disease, the things like weight that's up or down will actually start regulating.

So sex hormone binding globulin, testosterone, you may also want to check things, like free testosterone. Progesterone, I will check for women FSH and LH.

I typically look between day 18 to 21. And also I look at cortisol, so you can check AM cortisol or you check PM cortisol. Oftentimes, I will also do the urinary test to look for what's called estrogen metabolites, progesterone metabolite to see how you're actually breaking down the hormones in your system.

And I also might do a four-point cortisol test as well, depending on the case. So somebody's like under a lot of stress. If I have women with like, say, thyroid medications that that thyroid medication keeps changing.

There's reasons for that with Lyme disease, especially T3 or reverse T 3 due to chronic infections. That is definitely like a red flag. Or if a person's hormones are low, because when they are a low that typically is indicative of chronic infection as well.

So all of those things you just need to look at that full picture. And that is something I do really from the first visit. I typically We'll get information from somebody, but I also will make sure to look at that early on when I first work up a case.

Great. So obviously balancing the hormones is going to improve how the patients feel overall, right? And get them feeling better. Can you talk to how balancing hormones would actually aid in the recovery process of healing Lyme disease?

Do you think that it is linked? Yes, 100%. I mean, I've actually seen women, so the biggest challenge I typically, for women and men, you'll see this change in testosterone, especially as we get older, over 40 years of age.

But I have also seen men that have low testosterone and they're in their 20s. And some of the symptoms will be physical stamina, fatigue, et cetera. And so what I'll find oftentimes as I get those hormones better, like up to optimal numbers, their ability to manage their chronic infection Lyme disease will often be better.

Particularly if you're in like transitions, for example, a perimenopause or menopausal, when those hormones go down. So when you think of things like estrogen, estrogen actually has a stimulating effect on the immune function.

It helps with what's called the adaptive immunity. And testosterone has actually more of a suppressive effect. That's one of the reasons why they think, you know, women are more likely to have autoimmune conditions than men because of testosterone.

However, you'll also see with men when their testosterone gets lower, they'll start also having more significant symptoms with Lyme disease. So that piece of getting those to what's considered optimal numbers, a lot of times the ranges are pretty broad.

And when you work with an integrative provider, we'll often look at what is optimal versus like, what it's enough. So you want to look at what is optimal versus what's enough.

And so oftentimes when we get those numbers into good ranges, I'll find that there's a decrease in things like

inflammation, which thereby helps to, because all of the hormones help to regulate our immune function.

So having those hormones, endocrine system, your cortisol, and also your sex hormones more regulated, you'll often see better management of disease. Transitions of life will be important for women that are menstruating.

You'll see changes right before they get their period because all those hormones drop down as well. Also, prostaglandins increases up, which helps with the shedding of the uterus, but it also increases these, something called interleukin 6, which is an inflammatory marker.

And you'll see some of these like the symptoms that you have get worse, like right before your cycle begins. So a lot of times when I'm working with a patient, getting those optimal, you will start seeing that they're not having as many flares that are occurring once both the endocrine system, the adrenal system as well as their sex hormones are more balanced.

really great information. So when we're talking about treatments, do any of the commonly used treatments for Lyme and or co-infections impact the hormone balance or endocrine cycle?

Are you suffering from Lymedisease or another complex chronic illness and aren't sure who to trust when it comes to herbal supplements? Hi, I'm Dr. Mariah Hinchey, founder of Lime Core Botanicals.

As a naturopathic physician specializing in complex, chronic, infection-driven illnesses like Lyme disease, I needed herbal medicine I could truly trust.

How Hormone Balance Supports Lyme Recovery

That's why I formulated LIME Core botanicles. where our herbal tinctures are handcrafted in small batches right here in Connecticut. We use the whole herb, never isolates, to preserve the full spectrum of medicinal compounds.

Every single step from sourcing to extraction is done with precision to ensure maximum purity, potency, and consistency. These are the same herbal formulas I used to heal myself and have used for years to help my patients and family members heal too.

And now I'm making them available to practitioners and patients everywhere. Lymecore Botanicals, herbal medicine you can trust from a doctor who lives this work.

Learn more at LymencoreBotanicles.com They can. I think one of the things I always tell people is to kind of look at different red flags. So, for example, two things when we look the endocrine system and the adrenal gland.

T3, which I mentioned is the primary hormone when you look like Synthroid, the medication, they give you what's called T4 which helps to produce T-3. Now, T3 is actually stimulating to the immune system, so it can actually help to control and regulate inflammation.

But someone that you'll see that needs to keep increasing up their thyroid hormones, let's say you have hypothyroid and you find that need to go up, up and up with your medication, that's a concern that there's some infection brewing because your body is trying to basically help regulate that inflammation and T3, again, your thyroid is like trying to kick in to control it.

So that's always something that I always want to look at. The other thing is cortisol. Everyone always thinks of cortisol as a bad thing, but cortisol is actually a good thing.

That's your flight or fight response. I would say it's like you're running from a bear, you cortisol goes up. In the immediate stage of stress, the cortisol should go up, The problem is with a lot of us, we're in this adrenal resistance where we've had chronic stress for a long time, and those high levels of cortisol that were born with these actually start going down.

And cortisol actually helps to work as what's called an anti-inflammatory. So cortisol is actually an an- anti inflammatory, just like you see with steroids.

But what happens is when it's low, you actually allow for greater inflammation. It becomes more pro-flammatory when your cortisol's is low. So, those hormones are really important to address if you have those disease conditions with Lyme disease and vice versa.

There's a reciprocal relationship where you'll see someone getting Lyne disease, and then all of a sudden, eventually, they start getting thyroid issues, or you will see they have Hashimoto's.

I have had patients with antibodies for Hashimoto's in the 300s or 500s. And when we work on Lyme disease, you'll see that antibody count actually go down significantly, or their symptoms go on what's called remission.

So, and if you look at any autoimmune condition, most people have about to chronic infections that have autoimmune conditions. So what you'll see is that balancing of working on things like Lyme disease and chronic infection as those get better, individuals that these other disease conditions or medications, they may either need less medication, they might be in remission, or they may be having less persistence of some of these chronic ailments that they have.

And so that's where you want to retest, re-look at it, and see if there's anything that is kind of falling out from what's normal of your typical pattern as well.

Okay. So I know this could be a super long answer, but as succinct as you could make it, what are some of your favorite treatments specifically geared towards like the hormone balancing aspects of treating Lyme disease?

So whether they're pharmaceuticals or herbals or lifestyle approaches, you know, would be, let's say your top three. And we'll get more into that in the second half of this interview, Yeah, so I typically like things that are always going to support the cortisol, the adrenal glands, because I've had some people, we support adrenal gland and then the thyroid and everything on the hormones that all come into effect.

So one of my favorite ones is ashwagandha. Ashwogandh is what's considered a stress adaptogen. It also helps to supports the thyroid hormone and it also has supportive effects on testosterone.

So we get three different things.

Treatment Effects on Hormones and Endocrine Health

We have help with our sex hormones, we have helped with their thyroid gland, and we also have health with the our adrenal glands. Depending on the person, one of the other things I love is Chase Tree.

If it's a woman that's menstruating, which helps to regulate what's called your FSH and LH, these precursors to estrogen and progesterone. So they help to to regular a normal cycle, 28 to 30 day cycle.

So that's another one. And also things like, so it depends on the person. If someone's perimenopausal, I might look at things, like black cohosh. Nigella sativa is another I love, and then I'm doing more than Dr.

Hinchy said, but squidillaria bicholensis is one of my favorite because we're not only helping with Lyme disease, But it also has a calming and relaxing effect.

So as we know, many of us are so stressed out that it kind of has it two for one, And so skull cap is Another one which the Latin name is called squiddillari that I also love to use.

Yes, it's a wonderful, wonderful herb and one of my favorites. So Jacquel, let us know where we can all find you and any important events that you have going on.

Yes definitely. Check out, I made a website for more targeted to women and the reason being that in care, Oftentimes women get diagnosed depending on the demographic.

So I created a website called womanandlime.com. so definitely check that out. And also my book is on there, Women and Lime. and also I have an academy so that folks can get more information and education as it pertains to just some of the stuff we're talking about with the deeper dive and then also kind of a community.

So one of the big important pieces to me is that there's some sense of community, so definitely check that out. Also have it on Instagram, Women in Lime, and another thing, please definitely be sure to check out is something called LIME Heal Hers, healhers.com, And that was born from really creating something targeted towards issues related for women as well as children and families.

And so we had a summit, but we will continue to have summits to provide free education from a plethora of experts and renowned speakers in the field as it pertains to Lyme disease.

So definitely check those both out, womanandlyme.com as well as limehealhers. com. And if someone's interested in becoming a patient, you have your own private practice, correct?

Yes. So you can feel free to check out. My practice is Fairfield Family Health, and the website is fairfieldfamilyhealth.com. And we are in Connecticut.

I'm licensed in, Connecticut, Massachusetts, New Hampshire, as well as Arizona. We do tons of telemedicine. the country. So definitely feel free to connect in there as well.

All of our doctors at the practice too are Lyme literate and trained with all different slightly focused areas depending on our background and experience.

Wonderful. Thank you so much. Okay. My next question, tell us how understanding this hormone-Lyme interaction really impacts holistic treatment of Lymedisease?

Well, it's important because I think in many of the, we have, first of all, there's lack of knowledge out there on Lyme disease by way, just medicine at large.

And then we also now have experts like myself, like Dr. Hinchi, everybody in the summit that have expertise in Lymedisease. Well one of things is that we don't, always talk about how all these factors, as naturopathic doctors, we really learn to get to the root cause and the underlying cause of disease.

So you really have to look at the person in totality, the whole person. And so it's at a loss to not look how their adrenal glands could be infecting their system, how they're their thyroid hormone, have the endocrine system affects their systems, and how there's sex hormones.

Oftentimes I'll see that will get missed because we're focusing too much on just these antimicrobials and getting rid of it, getting, ridding it. But why is it that one person will be fine after they do one round of antibiotics and they have no issues.

And then you have other people, as you know, that have struggled for 10 or 20 years with Lyme disease. What's the difference? And so when you really have to look at, what is that person's immune function?

What is what we call their terrain? and what are the factors that are actually making it more problematic for them to get to a healing to get to a full healing state where they're in complete recovery from Lyme disease.

And so you want to make sure in your care that you're not only focusing on these microbials to remove, but how do we get that system at large stronger?

Favorite Hormone-Supportive Treatments

And I think, unfortunately, in the current day and age, we have these environmental factors, environmental medicine, which that's an area of focus for me, like mold and other types of things.

There's tons of things that cause our terrain, our immune system to be blunted. Stress, as we know, at a consistent high for people. And if we're not managing that, or cortisol, that's also going to down-regulate our body's ability to have a good immune function or respond well to inflammation and then thereby also have an effect on our endocrine system, which helps our full metabolism.

So I guess what I'm saying, like in summary, is we want to make sure that all factors are looked at to really ensure that the person's immune system overall is at its strongest state so that you can actually combat things like Lyme disease and other tick-borne diseases in a more effective and efficient way that is really going towards recovery and management rather than Continuing to only go down one path you want to, and if there's this path that's a long-term, what are other things that have not been really looked at and uncovered?

Right. And for an infection that infects every single cell in the body and therefore every, single system in. You know, it's, just so important to go in and evaluate every.

Single system and make sure that they're functioning optimally so that overall, finally the immune system can recover and hold these infections in remission or completely get them out of the.

Exactly. And we're talking or my talk here is only endocrine system and sex hormones, but there's so many other systems we know Lyme disease impacts your cardiovascular system, your brain, you know, obviously the actual joints and structure.

So there are so different pieces. That's why you just want to always make sure whoever you're working with is taking a lens of looking at everything, especially when it's a disease that you've been impacted for a long period of time.

Right, yeah, a total functional medicine naturopathic medicine approach. So I cut you off when you were talking about some of your favorite treatments.

Would you like to elaborate on that? Oh, definitely. For some people, some also, we have prescribers too in the office, and some do actually need to be on a bioidentical hormone.

I did want to mention that is sometimes a way to help people transition, not Typically for too long of a time, I mean, a lot of the studies are about two or three years.

I know definitely people are on hormones much longer than that, but I do find for some individuals that may help them the most by way of testosterone or a mix of estradiol or estriol rather and progesterone.

So some people… may need that. However, I will say there have been many patients who've been able to not have to go down that route when we focus on making sure that there's good, like, estrogen clearance or hormones are clearing well, making that their microbiome, their terrain is good and making their adrenal glands are supported.

But that is one thing that someone may to look at if those things are too severe, you know, if there is too great of a severity. I do like to, so one of the other things I definitely look at is, depending on, I, definitely run cortisol testing pretty frequently.

So if somebody is higher in higher levels of cortisol, we'll look things like magnolia, which is an herb. If someone is low in cortisol I might look cortisol fractions for a period of time.

Also, I look at higher adrenal support, especially things like cortex fractions, if somebody is on steroids. So if someone has been on steroid for a period of time, that might be something that I support them up with, as well as B vitamins, B5, B6, and B12.

Those are all co-factors. Iron is another thing to look at that all help to support the thyroid hormone, but also the adrenal glands. So sometimes you'll see a deficit in that.

I'll look it supporting that, especially what I mentioned cortex fractions of someone is on steroids as they get off of it because you will see people will flare oftentimes with Lyme disease when they they got off it.

So those are some of the things I look at. One of my other favorite for the brain support are the phosphatidylcholine, phosphatolyserine. That will often help individuals with increasing the, not only helping to regulate cortisol, but also helping with quality of sleep, because sleep often tends to be a problem.

It's also supportive for like brain fog and memory.

Patient Guidance, Hope, and Closing Remarks

as well as ginkgo and some of the antimicrobials. I love artemisia, Japanese knotweed, and then also I just wanted to mention stevia. Stevia is a good one to look at because oftentimes not only has it been heavily studied to be effective for its impact on Lyme disease, but it also has been studied for insulin and glucose, et cetera.

And oftentimes, people with cortisol dysregulation may have an issue with their insulin, basically, their balancing of that as well. So I could go into so many, and that's one of the tricky things, as you know, is a naturopathic doctor or anybody in the functional medicine space, it really is specific to the person.

and where their numbers are by way of lab tests. And this way you can be very specific in what treatment you recommend. But those are herbs I commonly look at and prescribe for people outside of just like the general antimicrobials for Lyme disease.

I was focusing more on adrenal and endocrine system. Wonderful. So if there were one or two things that you really wanted to get across to our patients here in our audience, what would it be?

What advice would you give? I think one thing to always to continue having hope, because I that people go down the rabbit hole of like everything that possibly could be wrong.

And I know it's hard because especially when you've suffered from it and often people that had Lyme disease, I also had lyme, disease I had Babesia and Bartonella.

It oftentimes is a thing that happens fast and there's really instances of trauma related to it because you're like, Is this gonna happen again? I have many of my patients we have to talk through that they feel better and then there's this anxiety of is this going to come back again or when is it going recur?

So you just have be careful getting too much information because all that information may not always necessarily apply to you. And I really encourage you to try to not self treat and really working with somebody that is a really good fit and match for you and has the experience based on the the actual health, the symptoms that you're presenting with, but just definitely realize that your body is resilient.

Your body has the ability to be stronger, to able to rebound. And I think with a lot of people in the world with Lyme disease, there's a There's a lot of fear of, you know, will this be forever?

Will this come back? How am I going to respond to it? Or just again, going down that rabbit hole of getting so much information that it could be really discouraging.

So make sure you're surrounded or connecting in with a community that's going be supportive. And then you are also working with person who's adept at kind of walking you through that journey and is also doing so positively as well.

Yeah, I think mindset is everything. I find it very difficult for patients to get better when they have been dismissed

and told it was all in their head and they really think that they're broken and that can't get any better.

So having a positive attitude and having that hope and belief that their going to better is so important with all of this, even in the ability to regulate our stress levels and balance our adrenals and our hormones and all of that.

If we're in this constant fight, flight, or freeze, it makes it really, really hard to get better. So thank you so much for your time. Thank you for joining us.

And please, once again, let all our listeners know where they can find you. Yes, thank you so much for having me again. So check me out at womaninlime.com.

Sign up there. Also find me on Instagram at womeninlime. My most active Instagram account though is at naturopathicphysician. And then also if you're interested in coming to our practice and learning more about our practices specifically, definitely check out fairfieldfamilyhealth.

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