Introduction to PANS, PANDAS, and Basal Ganglia Encephalitis

Hi, and welcome to another episode of the Healing Lyme Summit. I'm your host, Dr. Myriah Hinchey. And today we're going to be talking about the relationship between vector borne infections, PANS/PANDAS, and basal ganglia encephalitis.

You know, it seems that neuropsychiatric disorders are definitely on the rise. And it is really important to know what the underlying cause is so that you can get the proper treatment.

And I think that this is super important when you have a neuropsychiatric symptom that comes on abruptly. And in my opinion, when this happens, infections should always be ruled out as the underlying cause.

So here to walk us through this really powerful discussion is Nancy O'Hara, MD. Dr. O'Hara is a Board Certified Pediatrician. She is a expert in pediatric special needs.

She is a leader in educating both the public as well as medical providers in how to treat autism spectrum disorder. PANS/PANDAS, mold, Lyme, Covid. You know, all of these complex chronic medical conditions.

So welcome, Dr. O'Hara. Tell our listeners a little bit about yourself and how you came to treat all of this. Thanks, Myriah. It's always a pleasure to work with you and talk to you and see you.

So thanks for inviting me. You know, I started my career as a teacher of children with autism, and, I was a really lousy teacher. So, as I always say, took the easier road and went to medical school and, started treating children with autism within my general pediatric practice.

And then I realized, that I really, through my own infertility, through what I was seeing, and patients needed to do it through more of a functional medicine approach.

And 30 years ago, my mentor was Dr. Sidney Baker, who is the grandfather of functional medicine. So I consider myself very, very lucky. And certainly, 15 years ago, when my own son developed seizure like ticks after getting bit by a Lyme positive tick alive, getting a live virus and, strep throat all in the same week, I began to learn about and then treat PANS PANDAS and basal ganglia encephalitis.

So I'm thrilled to be here. And I'm thrilled to to increase the awareness of this devastating illness. Thank you. We all very much appreciate you being here.

So let's start out by talking about just as simple as possible, what is basal ganglia encephalitis. So the basal ganglia is the area of your brain that is really important for anxiety.

ticks, OCD. and what happens with basal ganglia encephalitis.

Dr. O'Hara's Background and Clinical Path to PANS

That means that area of the brain is inflamed. And that happens after an infection. It could be strep as in pandas pediatric autoimmune neuropsychiatric disorders associated with strep.

So with that what happens is rather than the antibodies attacking the strep in the throat or on the screen skin or in the anus, those antibodies instead cross the blood brain barrier and attack the basal ganglia and cause inflammation with a in the basal ganglia.

So we're seeing this in our pediatric population, but also in older kids and adults. And strep is only one. That's why

in 2012 they changed the name or made it more an all encompassing to include PANS, which was any abrupt onset.

Neuropsychiatric symptoms associated with Mycoplasma, Lyme, viruses. And now we know so many different infection can cause this, not just Borrelia but also Bartonella, Babesia, Covid, and many, many more.

So the main difference is that with PANS, it could be any infection that basically predisposes or brings this out. And with PANDAS it's always associate with strep.

That's correct. Okay. So can you go over how this would present in a patient, like how the symptoms would come on and how they would progress. And do you see a difference between PANS and PANDAS as far as the presentation.

Or is it really only the trigger being strep with PANDAS that differentiates between the two? In my opinion, it's mainly just the infection that triggers it that differentiates it.

I don't see that many differences between the behaviors that come out, but what you have is what you have to do is be a detective and figure out that six weeks, two weeks, three months, but usually somewhere between 2 and 6 weeks, there was an infection of some sort, Covid, or they got bit by a tick, or they had a strep throat or a close contact, had an infection of some sort.

And then they devolved into these neuropsychiatric behavioral changes. So the main one is OCD, compulsive thinking, intrusive thoughts, obsessions about the way things are done or turning light switches on and off the, the, the types of OCD are, are, you know, just the work.

and then two of seven very common symptoms and they include separation anxiety. So you can't leave mom's side all of a sudden or, behavioral regression starting with baby talk or motor abnormalities like handwriting deterioration or ticks, and then mood disturbances, the sensory stuff, they go from 0 to 60, they're fine one minute and they're raging or crying the next.

and then somatic symptoms, like all of a sudden they start bedwetting after being dry at night or they can't get to sleep or they have very restless sleep.

That's called REM disinhibition. So those symptoms come on abruptly.

What Basal Ganglia Encephalitis Is and How It Presents

Now, there are a few caveats to that. One, that first incidents may well be minor. So they get a strep throat two weeks later, they have behavioral changes.

They go in to see their doctor. The strep culture is still positive. They put them on a better different antibiotic and they get better. And they forgot all about it.

And then three years later they have a more subacute presentation, but it's much more severe. And they don't even recognize that there was a germ associated with it.

They had a cold, but no big deal. That second, third, fourth iteration A is more severe and B can be more subacute. and then the other thing is this is pediatric by definition, PANS and PANDAS.

The P is Pediatric. However, because we live in such a toxic world, our blood brain barrier, just like our guts, are becoming more leaky. And so the ability of these antibodies to cross the blood brain barrier, is even more frequent.

So that's why I think I don't think it's just my skewed view of the world. I think it really is increasing. And then finally, when the trigger is Lyme, Borrelia, Lyme co-infection, Babesia, Bartonella or mold, then the the presentation is often more subacute.

And all of those reasons the the leaky blood brain barrier and particularly with the tick borne infections, it can affect people much older than just the Pediatric Population.

Yeah. And I think we've seen a lot of that, you know, with with a lot of the neuropsychiatric stuff, like with long haul Covid. Yes, yes. And I think there's excellent research.

You know, I'm always looking for the silver linings and things. And the silver lining of Covid for me is maybe there were a few more people that recognize basal ganglia encephalitis, recognized autoimmune encephalitis and saw that, yes, there is a post in acute infectious syndrome, that can occur, I don't care what you call it, really.

All of it is causing inflammation in the brain and we need to do something about it. So this obviously a big, big piece of this just like vector borne disease is clinical diagnosis.

But what testing do you find helpful? I mean, everything from specialty testing down, you know, looking at autoimmune antibodies down to looking at, you know, things that you could order at a local lab.

So the first thing is it is is a clinical diagnosis. And so many of our families cannot afford to do a lot of the specialty testing. And so because of that, I use the history and physical exam more than anything else.

They're my top ten mile markers after that. It's inflammatory markers. Is this trial showing evidence of inflammation? Is there a high C-reactive protein regular lab high rate regular lab high ANA, ANA is the most commonly positive test.

Now, 13% of kids neurotypical kids will have a positive ANA but a low level 60% of kids in our practice, 56% in the literature, will have elevation in a nonspecific pattern of the antinuclear antibody or ANA, then I still get strep titers, ASO, anti DNase B I get mycoplasma titers, IGM, IgG.

I will look at what virus it may be. Is it mono? Then I may get an I've seen bar panel or a CMV panel. Is it Covid? I may look into looking at the markers for that.

Is it measles? You know, it depends on what I hear from history with Borrelia, Bartonella and Berbizier. I think we need to use one of the gold standard specialty tests and they are more expensive.

So I do a lot of clinical acumen detective work before deciding on which tests to get for each child. but if I do need testing, I will use the specialty labs for Borrelia, Bartonella, and Bbca.

Okay, so what is your current understanding in the relationship between vector borne diseases? I mean, it seems obvious with pandas, but with pandas, is it that they're weakening the immune system in the body?

Can't deal with a strep load that, like a typical child that doesn't have an infection, would be able to deal with? Or can you just elaborate on how the vector borne illnesses could bring this out in somebody?

Yeah. So in, first of all, genetics loads the gun in environment pulls the trigger. So it's 1 in 200 children, even though it seems like 1 in 1 in my practice, it's 1 in 200 children that gets pans.

Pandas are basal ganglia encephalitis. And they have a genetic susceptibility for this misdirected immune response. For the molecular mimicry. All of us build up antibodies or proteins within our blood when we get an infection.

That's part of the ways we fight the infection. But instead, in these kids that are genetically susceptible, those antibodies or proteins cross the blood brain barrier and attack a different area, rather than just the strep in the throat or the, the, mycoplasma in the sinuses or whatever it may be.

Those antibodies cross the blood brain barrier at the foreign plate and attack the microglia or the little, cells within the basal ganglia and cause those to become inflamed when they're inflamed.

Then we get the neurobehavioral symptoms. And then how would something like mycotoxins further exacerbate that? Right. So mycotoxins are from mold.

Clinical Diagnosis and Testing for Infections and Inflammation

and many of our children, you know, 42% of children in our practice who come in with basal ganglia encephalitis are positive for Bartonella, 41% of the ticks in our area carry above easier and a little under 40% of the kids in our practice also have mold, mycotoxins, disease.

So the in this case there's an inflammatory response. Again a genetic susceptibility. They're exposed to a water damage building or mold of some sort.

And the antibodies attack the basal ganglia in the same way as with the infections, but also cause many other symptoms that you see with mold illness, particularly brain fog in those ice pick sensations, etc., that we see.

Okay. And then when it comes to like mycoplasma, why something that for a lot of people is just so innocuous like mycoplasma. Why does this me? Because sometimes this is like one of the few organisms right in the picture.

So why does this cause such an issue in some of the kids? Well, I think one of the reasons is just what you said, because it is often silent in pediatrics.

The kids don't get sick with it. They're not getting put on appropriate antibiotics or antimicrobials because nobody knows it's their grandpa may have mycoplasma pneumonia, but they don't know that it's there.

In addition, the antibodies that that are elevated, even the chronic antibodies with mycoplasma, there have been two more recent studies now that have shown that that just by having those antibodies, that immune response increases the severity of ticks and anxiety in each of these two studies, so that antibody response is mounting without appropriate what should be the three pronged approach, but certainly without the antimicrobial piece of that.

And that's why mycoplasma is always there. So I'm always checking for it. And as you well know, it's also considered a Lyme co-infection. Right. So you know a lot of those are silent unfortunately.

Yeah. So what is like what symptoms would make you think tick borne disease in a child with pants or pandas. So one of the most common with Borrelia is brain fog.

cognition or executive function deficits. So if I've got that in addition to pans, pandas or certainly have any muscle joint aches, the typical type malaise, fever.

I will look for Borrelia with Bartonella. I'm looking for a constant daily flare, mostly with pans and pandas. The flare is episodic. It comes and goes.

It waxes and wanes. With Bartonella, it can be daily with no relief. The next thing with Bartonella it can be rage, rage, aggression and agitation. I'm always thinking Bartonella.

Then another piece of history or I may find it on physical exam is foot or soul or heel pain that is very common with with Bartonella. And if I see a little kid rolling up their socks, I may well see that.

and then finally the stringy blanching stretch marks that are do not follow dermal lines. They're either horizontal or vertical anywhere, usually on the back.

But I've seen them on the knees, I've seen them on the back of the neck, etc. and then with phobia, night sweats, disorder know me a dysregulation of the automatic nervous system, air hunger, cough and rib pain.

But even GI symptoms together with those neuropsychiatric anxiety OCD tics. I may think of Borrelia, Bartonella,

but for all of those reasons. Okay, so obviously it's really challenging to diagnose all of this.

what would you tell patients or parents really in this situation to be on the lookout for? first of all, find a clinician like yourself, or me that understands that listens, that that's there to help figure out the story.

Second, if you have any abrupt onset of any of the symptoms, I've talking talked about anxiety, tics, OCD, especially together with handwriting deterioration, urinary symptoms or sleep disorders.

Go find somebody who knows something about pens and pandas. and then especially in the area of the country where we live, finding a tick is important.

But even if you don't find a tick. Borrelia, Bartonella in the are so common. Be thinking about it and and asking about it and testing for it when appropriate.

And then we need to talk about what to do about it too. Oh, and we're going to get there. Don't worry. I know we are. so I have a question. Are there other things that can cause basal ganglia encephalitis besides infections?

Like are there toxins? Are there different things, or is this almost always some type of infection? Sure. Great question. So first of all Pans does include other metabolic not just mold but pesticides, chemicals, anesthesia, other adjuvants that we may get inoculated with.

For example, all can be triggers for an immune response. You want to mount an immune response to any of these things. That's what our body's supposed to do.

How Tick-Borne Illness and Mold Trigger Neuropsychiatric Symptoms

It's when that immune response is dysregulated. So yes, thank you for reminding me that Pans does include any other metabolic trigger that's of an abrupt onset.

Okay. And so we are going to dive deeper into treatment in a few minutes. But let's just kind of go over the basics. So when you're going to treat someone what would you say is the basic effective treatment.

And I know that's a hard question to answer. It's always a three pronged approach. So I make sure that I have something in for each of those prongs. So one is treating the symptoms and you treat the symptom that is most problematic for the patient in the family.

Nobody's sleeping. Then you got to treat sleep first, whether that be valerian or melatonin. And as a functional medicine practitioner, I am always using the plethora of wonderful botanicals, herbals, and nutraceuticals that we have at our disposal and very rarely do I have to go to more than that.

To number one, treat the symptoms, figure out the most important one, and treat that first second antimicrobials. It may be an antibiotic, antiviral, antifungal, but it may well be an antimicrobial rotation of herbs, especially if you have more than one trigger.

Oftentimes, we'll have a child come in with Bartonella and strep or babies and mycoplasma using a rotation of herbs can be very helpful in those cases.

And then third is the immune modulation. So treating the immune system decreasing that inflammation. You can start with something as simple as ibuprofen 10mg/kg of ibuprofen decreases the severity, frequency or intensity of the flare of behavior.

You know you've got to do more. Immune modulating agents aloe, curcumin, quercetin, other antihistamines multiple different agents. Long before we get to steroids and IVIg.

Okay, so I want to go deeper with all of this here. But before we get there, why don't you tell our listeners how they

can find you and share with us any exciting news or new?

I know you have programs and you have your book, so just tell our listeners how they can get their hands on those. Absolutely. So, my website is D. R. O'Hara dot com dromara.com.

There you'll find information about my book and how to order it from Amazon. You'll find, enter information about my men for mentorship. And I'll work with you for 15 minutes or 5 hours.

You can come to my office or I'll go to you. and that's for practitioners mainly, but I will mentor parents also. And then finally, I have a membership which is ever increasing.

30 new videos out this year and 30 that are already there, five minute segments on all of these different things. We talk about monthly teachings, live and recorded Q&A with experts in the field, and a group of lectures all available through the membership.

So dear Care.com, you'll find all of that. Wonderful. Thank you. Okay, so, doctor O'Hara, let's go back in. Would you like to expand on those three treatment points?

That would be great. So let's start with symptoms. and OCD being one of the most common one NAC and Acetylcysteine is one of my favorite. It has 17 studies behind it.

and is really very helpful in decreasing OCD. Others that are helpful or Gaba, lithium or irritate adaptogens, ashwagandha, Rhodiola, holy basil, many others like that.

and CBD, you know, hemp oil. be careful though, kids, they get THC or full spectrum CBD may actually have an increase in psychosis, OCD, or anxiety. So watch what you're using and work with the practitioner on that.

And many, many others I have to talk about diet because, you know, when you're talking about inflammation, you have to decrease the inflammation in the diet.

So decreasing processed foods, decreasing inflammatory foods like carbs and sugars, and increasing veggies, proteins and good oils as much as possible is really important.

And exercise, exercise and getting out playing in the dirt. You know, I don't want people who are worried about ticks to isolate and be inside all the time.

We need to get out there. so those are very important symptom protocols too. When we talk about symptoms of ticks, for example, I would add to that magnesium.

Magnesium is one of my favorites in treating constipation citrate or oxide and in treating brain fog and treating ticks in treating anxiety with glisten.

Eight, three and eight and others. and you know, there are many, many other that are just for treating the symptoms. Then when I talk about treating the inflammation, I look at essential fatty acids.

One of the biggest mistake we make with fish oils is a not using a good brand, and b not using enough.

Three-Part Treatment Approach: Symptoms, Antimicrobials, and Immune Modulation

We want to increase the dosage as much as possible, watching for an easy bruise ability or or nosebleeds because that may indicate mast cell activation, or other issues the child having with the fish oil, but increasing that as much as possible.

Aloe which is terrific again for constipation, but also great and decreasing inflammation. Curcumin. One of my favorite curcumin is a is a liquid form that that helps, decrease anxiety as well as decrease inflammation.

And there are many good forms of curcumin. Keeping in mind that human needs to be mixed in a way, or formulated in a way that makes it more bioavailable.

So if you're not sure, adding ground pepper to curcumin to tumeric like a can be helpful. Golden milk the milk is the emulsifier with turmeric, but look for a good brand when you're looking at turmeric and curcumin.

Quercetin, also highly bioavailable forms, is a great antihistamine that I like to use for muscle disease. as a bio flavonoid for inflammation, etc. and then finally the antimicrobials.

And, you know, there's a lot of research now about herbal formulations with regard to tick borne disease. And I have to say, the one thing I've learned over the past several years from you and other naturopaths that I work with is the value of really good herbals in the treatment of all these diseases.

So you can do this without a prescription, whether it be Borrelia, Bartonella or Berbizier or strep, mycoplasma or viruses. You can do this without prescriptions.

and one of the things I want to keep in mind is one, when you're treating strep, sometimes when you're treating mycoplasma, when you're treating viruses, what you choose, the antimicrobial you choose 1st May well work relatively quickly when you're treating mold.

When you're treating any of the the tickborne infections, you need to treat till at least two months symptom free. So in my opinion, the minimum is three months.

And usually it's much, much longer than that. It's nine months to a couple of years. And so again you do not want to use the antibiotics for that long.

Even if I'm choosing to use them first, I will quickly, as quickly as possible switch to herbals because I really don't want the ill effects of the antibiotics.

So using Japanese knotweed, crypto lepus, cat's claw, Artemisia, Kempsey, Sandra Toba bark and on and on and on and on with multiple different herbs that you can use in combination, in rotation and as, warranted by the individual in front of you.

Yeah. That's great. I mean, one of the wonderful things about herbal medicines, too, is that you can get not only the synergistic effects. Right. Like a lot of these antimicrobials are also anti-inflammatory or they're also, immune modulating.

But additionally, you know, crypto lapis is all is anti-parasitic as well as antibacterials. So you can treat dual infections, you know, whereas with, you know, if we were using pharmaceutical antibiotics, you would have to be stacking those, you know, on top of each other to get all of those effects.

So it is it is nice. Yeah. so. As far as research and I'm trying to think of how I want to word this because I want I'm specifically talking now with vector borne disease pans and pandas.

What research is out there, if any. There really is a plethora of research. You know, Brian Fallon and others in the 1990s were already talking about the under diagnosis of neuropsychiatric Lyme disease.

There are multiple research articles showing Lyme disease with neuropsychiatric symptoms. there's research with Bartonella and pans. there's research, written, not too long ago by Doctor Erikson and others on Bartonella, as well as viruses causing basal ganglia encephalitis.

There's research, recently looking at bobbsey, OTA coli, and looking at its effect and symptoms. doctor, Scott, did that research, recently. And then there are multiple, research studies recently looking at, herbals in the treatment of Lyme and Lyme co-infections.

There are wonderful articles by Doctor Zang, for instance, showing that crypto, Lepus, Artemisia, skullcap, Japanese knotweed, cornea, all show inhibitory effects against Berbizier even greater than any of the antibiotics we use.

Doctor Shaw recently, talked about nutraceuticals and the management of tick borne disease. And, Doctor Cieslak, talked about Bartonella osis and the use of, of herbals.

and, there are multiple other studies, over the course even of the last couple of years. And that's not to mention all the studies on Covid. And one of the things I wanted to mention about Covid and the kids or adults that get pans or pandas or basal ganglia encephalitis after Covid is Covid is known to reactivate Lyme disease and reactivate mono like illnesses.

So when you have long Covid, it may well be a reactivation of Lyme disease or Lyme co-infections that you never knew you had. So there is a lot of research of late on that also.

And Covid as opposed to acute infectious syndrome also. Yeah, and I've seen a lot of that personally in my practice. Okay.

Research, Parent Guidance, and Long-Term Recovery

So what do you think parents need to hear regarding vector borne illnesses and neurological symptoms just in general? So first of all, it's a whole body illness.

Putting an antibiotic on your kid to treat vector borne illness is not going to treat the disease. This is not just a my crow or infectious disease. This is an immune system dysregulation.

This is a total body illness. So you need to make sure you're using a three pronged approach or a multi system approach. Looking at secondary effects of the spirit kids and the immune dysregulation.

Also like for example mitochondrial dysfunction like for example food restrictions. I forgot to mention the 20% of our kids will present with obsessive or OCD like food restrictions because of contamination, choking or or you know, their, their OCD is the only green foods now or whatever.

also keep in mind that for parents one there is hope. Don't give up hope just because we sit here saying it may take your nine months to two years, don't not start right.

Find a practitioner to work with and start. Take baby steps. My kid won't take those herbs. They taste too bad. Well, there are ways you can take them.

There are wonderful companies that sell them in pills. there are, you know, ways to get the liquids in. And your child may not need 30 drops. They may need one drop.

You know, we may again start low, build up slowly, but start take the first step. Also, if you can't afford the testing, these herbals are very safe work with a practitioner who can say to you, yeah, that sounds like Bartonella.

Let's start with three months of Japanese knotweed, which also has resveratrol. Naturally great antioxidant. You know, let's start with a little crypto Lepus.

Let's start with, you know, and get started. Even if you can't afford the testing, work with a practitioner to do that. And if you're working with a practitioner who's not listening to you, not helping you to do this full body approach, go find another practitioner.

And if you listen to those practitioners who may or be listening, they will come, because that's really when parent want parents want to be heard. They want to know that there's somebody in their court that that's going to help them figure out why their child has changed, why their child is now an anxious mess on the floor.

And so just get started. That's the best advice. I'm sure now, after hearing all of this, parents are wondering, you know, what can they expect long term once you have this, do you always have it, or are you always susceptible?

You know, will your child ever go back to normal? You know, whatever their normal was? What does this look like long term? Yes, they can get better. The earlier the diagnosis the better the outcome.

That's no, but they can get better. And I'll give you a little story. And this happens to be the story of my son because I have I have his mother's permission at. Least.

To, to talk about it. but, you know, when I diagnosed him, I treated him with a pronged approach right away for Borrelia, strep and viruses. Treated the symptoms.

His were seizure like ticks, treated the immune system, and he got better within three months. And I thought, Hallelujah. And I missed Bartonella. So five years later, when I saw the stretch marks on his back, I was like, how long have you had those?

And he goes, I don't know, mom. I don't look at my back. And we started treating Bartonella, and two years later he got the moldiest dorm room in the world.

and he got mold disease. and two years later, he got Covid and devolved. His Lyme came raging back, but now he is a PhD candidate at the University of Michigan and doing wonderfully.

And it wasn't until he got Covid it was actually two years ago now. And I met a doctor in Michigan who believed, as we do in vector borne illness causing neuropsychiatric symptoms, that she's like, this isn't psychosis or anything else.

This is Lyme disease reactivating from Covid. And I just thanked my lucky stars that I had found somebody else because now he's an adult. Anyway, he finally said to me, all right, mom, you may have been right, because up until that point, I had had helped him to bring himself up by his bootstraps, and so he never even thought he had PANS/PANDAS, or basal ganglia encephalitis.

So finally he was ready to read my book. And, you know, not just take stuff because his mom told him, but because it now made sense to him. But whatever the case, these kids can get better.

There may be other triggers. If you miss something early on, as I even did you, you may have to go back and retreat. That there may be something else, a virus or mold that comes up that hadn't been a problem in the past and retreat that.

But at every step of the way they can get better. A couple other things to note. If your child gets basal ganglia encephalitis in the early years before puberty, most likely as the blood brain barrier starts to close at puberty, as long as you've treated all of the problems, they will get better.

If they get it around puberty or a little bit of after. The blood brain barrier should fully close between 21 and 25, and they should get better then if you've treated all the other underlying problems.

Of note though, because our world is getting more and more toxic. Dr. Aguilera many other people have talked about this blood brain barrier breaking down a leaky brain, just like a leaky gut.

So again, back to that full body approach. You need to make sure you're helping your child to learn all the natural ways to detoxify sauna, exercise, Epsom salts, baths, pooping every day.

and also, you know, supporting their autonomic or automatic nervous system. So that's pooping, peeing, sleeping, exercising. It's the hot cold. It's the whole Wim Hof methods of cold plunges and sauna.

But it's supporting their adrenals in addition to everything else you're doing, so that they have the resilience to fight

back. And it's detoxifying this toxic world on an ongoing basis that helps them to stay healthy.

But there is hope they will get better. Don't give up. and just keep plugging. Yeah. Start somewhere. Yep. Okay. Well, thank you so much for joining us.

It has truly been an honor to have you here. And, share with our listeners one more time how and where they can find you. Yep. drohara.com. And one thing I forgot to mentioned is that I've just started a new supplement line that's only available to patients, mentor mentees, people that mentor with me or members.

So go to my website drohara.com and you'll find a link to all of those, including the the new supplement line and my book, my membership, my mentorship.

And just find somebody that helps you because it it is doable. So thanks. Thank you. And thank you everyone for listening. We will see you next time on another episode of Healing Lyme.