Introduction to Mycotoxins and Hormones

Welcome to this episode of the Mycotoxins and Chronic Illness Summit. Have the day with me, doctor Lauren Tessier. She's a dear friend of mine. I'm so happy to have you here, Lauren.

And, yeah, our guests are really going to benefit today because we're talking about mycotoxins and the hormonal system. And Doctor Tassi has done a deep, deep dive into the research behind how Michael toxins affect hormones.

And not many people have done this. So that's another reason I'm super excited to have you here today Lauren. We're going to talk about this. So thank you for doing this research for all of us on this important topic.

Thank you for having me. So excited to be here for sure. Yeah. Good to have you here. So tell us a bit about yourself, Lauren. Sure. So I'm a, naturopathic physicians located in, cold Vermont.

Today it's, I think, -12 out. So, that's on the forefront of my mind today, at least. And, you know, I have a mild illness specialty practice where I have people from all around the country and even internationally who come see me and my, my happy little practice here.

And what I really work on with people is helping them recover after having either a historical or current long term exposure with mold and mycotoxins.

I've been doing it for quite some time now. I started in primary care and then kind of went through the, Shoemaker certification in 2016 and, kind of evolved in how I, now approach these cases with a combination of kind of all the other predecessors that can before us with all that wonderful mycotoxins, mold information, and then also kind of with a, a twist based on my own research.

And also, of course, our, our naturopathy training. So. Right. Well thank you, Lauren. Let's dive right in. How do mycotoxins act as female? And the disruptors. Sure.

And it's a wonderful place to start. And, what I really want to do here is to really talk to people about the different mechanisms of action, of how it actually happens. So, when we're creating a hormone, we're synthesizing a hormone.

That's one way in which mycotoxins can come in and actually change the production levels. Another way we can see it happen is through degradation of how we're actually breaking down the hormones and how they're leaving our bodies.

We also see an impact on our ability to navigate our hormones when we have mycotoxins that are going to be impactful. Of course, on, the liver and kidneys, two are the powerhouses for detoxing our body.

And then another way, the list goes on and on. But another way is through, actually the receptors that receive the signal from the hormone. So, we for people who aren't aware how hormones work is, they have a receptor and they have this like lock and key component.

So what can occur is we can have a micro toxin that's going to come in and block the receptor. So that hormone can't get in there. Or we can have a micro toxin that's going to come in and fit into that receptor and actually stimulate that hormone pathway.

You almost mimic the hormone. So there can be some funky stuff that can for sure happen with receptors.

How Mycotoxins Disrupt Hormone Pathways

Now another thing that can also, of course impact this stuff is just our environment. What is happening, our stress level, our nutrient status, other endocrine disruptors.

So other things that are in our body that are wreaking havoc, like, you know, growth hormones from dairy and all that kind of stuff. And then, of course, also other hormones that our body is trying to process. So, you know, we need to keep in mind that when it comes to hormones, there's nothing about it that happens in a vacuum.

And that's really impactful. On what we see clinically. And when people start digging into this information, what they'll start to find is that there's no more beautiful clear cut.

X equals this and y equals this when it comes to one micro toxin in the outcome. And we see this in both the human and animal literature. And unfortunately we are placed in a position where we are using a lot of animal literature.

And that really has to do with the fact that it's not ethical for us to expose humans to mycotoxins. So when we're trying to talk about how, the mycotoxins can interact in different ways in the hormonal system, we are looking at animal data both in the living animal and in the cell lines.

And we're also looking at the human data in the cell lines and a little bit in the real life where we actually are able to collect the data. So, you know, as we go on, I want people to keep that in mind.

And so one of the major things I really want people to take away from the idea I'm going to give the spoiler alert now is that, you know, mycotoxins in general are not dose dependent.

And that's because of all the other stuff I just add with the, you know, degradation and synthesis and all that. So we don't have these very clear instances where this micro toxin, if I get a little bit more and a little bit more and a little bit more and a little bit more, we're going to have a straight linear line of hormonal increases.

We just don't have linear dose dependance across the board. So now that makes a lot of sense because we're talking about the molecular mimicry. Right.

How how the mycotoxins can come in and they can behave like their hormones simply by sitting on the receptors or how they can degrade our hormones. So in some ways, when they're sitting on the receptors, we can increase the amount of hormones people have.

And we see this in our patients. Right? They have too much estrogen. They've got estrogen dominance or women have testosterone dominance. Men I'm seeing a lot of their their testosterone in the toilet like young men in their 30s, their testosterone levels of men in their late 70s.

And they wonder why. So we're seeing not only that, that the mycotoxins can cause amplification of the system, so causing increased hormones. But we can see that they can also rapidly cause degradation.

So people might have enough hormone and then they can clog up our organs of detoxification might not be the micro toxins themselves clogging up the organs, but the inflammation that they create then clogs up the organs of detoxification.

They create reactive oxygen species. So now we're having, people need more Maranta increased antioxidant status. We have to make sure we're giving them that at the right time.

And then, Lauren, I love how you talk about the combination of mycotoxins and and other toxins that are endogenous in the body. So so our bodies create toxins.

That's just a part of, what we do right when we're, working to when or when our gut is clearing, for example, we

create toxins or pathogens in our gut, create toxins.

Well, now the mycotoxins will interact with them. So those are that's an example of endogenous toxins. And then you talked a little bit about toxins from outside.

So other toxins maybe metals maybe glyphosate. Those interact with the mycotoxins. So all these toxins, whether they come from inside of us or from outside of us, they're interacting with the mycotoxins.

And I think that's why it's hard to find a linear, a linear relationship to how much Michael Jackson we have and how sick we're going to get, because all these factors are playing off of each other.

But we know that mycotoxins play a play a huge role. So tell us more about the data, Lauren. Yeah. And I think one of the things I want to hone in on there, for people to really wrap their head around is there are instances where we have a biphasic effect.

So not only are we not getting that linear connection, low doses of certain things will suppress hormone production, and high doses of things will increase hormone production.

And for people, if you step back and you think about that, that is not a linear thing. That is a an inverse thing that's completely dependent on concentration.

And that is that has to be taken within the context of all the things you just said. That can mean if you want like a hormone. So I you know, that's the one thing I want people to drive home here is there is no this micro toxin equals estrogen dominance.

It's when stuff goes sideways, start thinking about mycotoxins and start thinking about the implication of hormones. Right. So yeah. Right. Right. I love it because in medicine we like to acute the acute care model medicine is a goes to be you know you break a bone and we know what to do.

Or the hospital the appropriate surgeons know what to do in medicine, even if somebody has a heart attack, for the most part the cardiologists will know what to do.

The heart surgeon will know what to do. It is a more linear model, whereas this is a more ecological model. It doesn't necessarily equal B and and and so we're looking at chronic illness and how everything affects each other.

So there isn't a, a a one size fits all answer. Highly, highly personalized, which is what we both do in our practices for that reason. Okay. Right. And to to further compound that individualistic aspect.

The data really shows that you can have one. Mycotoxins at the same concentration be completely different in effect an outcome from different age cohorts.

Individual Differences in Detox and Hormone Effects

So like a six month old female might potentially look different in the outcome from a group of 12 year old females. And it's the same mycotoxins, same dose, another way which really again drives home.

And you know, we're going to dial up more about the female hormones is that's really what we're going to focus on today. But even just thinking about, you know, the genetic differences, like our our two different ethnicities, we're going to have different detox pathways, different detox mechanisms that are turned on, turned on or off, slowed down, sped up, all that kind of stuff.

But one of the really important things and how this can focus back on women is that we have what we call, sex linked dimorphism. So what that means is our x Y chromosomes or X chromosomes, our combination of chromosomes are also linked to specific detox pathways.

And those specific detox pathways are going to be expressed differently in men and women. And these so happen to be some detox pathways that also are responsible for breaking down these mycotoxins.

So something like CYP3A4 3 to 5. They're expressed differently in men and women. And this one breaks down aflatoxin where something like, CYP3a4 is breaking down aflatoxin B one, aflatoxin G one okra toxin A, and that can look very different in males and females.

And that might be why when someone in the same family, on top of everything else that we just going over, gets a urine mycotoxins test and they're excreting completely different and they're like, well, we live in the same space, we eat the same food.

Why is this different? So there's a lot here, there's a lot here to unpack. And that's why it's different. So it's just really cool to think that even with, men and women, we can have those differences in genetics with how we detox.

That's really important. Thank you. Learn I love it. It's like in some way we can get we can get pretty specific with looking at the genes of detoxification the patient has.

And and then we can map out the different mycotoxins to the different the different detoxification pathways. So we can tell a patient all right this we think this is happening with you.

But there's so much more on top of all of that. Right. So the patient might have tick borne disease and then they've got bio toxins on top of that which could be going down different, detoxification pathways, which could be triggering different genes.

And so, so many different triggers for different genes. All in all, at play and so that's why the keys are different for each person. Right? Absolutely.

And it kind of goes back to the idea of, you know, no, no grapefruit juice and no statins. And that's because of that c y p modification, that detox modification.

So you can even go a step further and say, you know, someone who's drinking tons of green tea all day, every day might be modifying some of these different pathways.

You know, it's another individualistic approach to what's happening with the micro toxin. The one kind of last difference I really want to suss out is with men and women, we have seen that testosterone can be beneficial in regards to some micro toxin issues, and can also be problematic.

So for, animal studies, we have seen that, elevated testosterone can be helpful in protecting, adrenal damage, by T2 and even aflatoxin damage to red blood cells.

Whereas on the flip side, and sorry, men. Yeah, yeah, females having a little less testosterone. We see in human settings that, high levels of testosterone, in the presence of elevated levels of, okra toxin A showed a increase in, an inflammatory marker called CRP and also an increased risk for cardiac health issues.

And this was specifically in men and not found in women. So on top of all of that, it's also what's even just happening with our own hormones. And how is that going to impact how we're going to relate this micro toxin to.

So it's it's just as crazy or a Boris like swallowing its own tail. It's you can get as nitpicky as you want in this stuff and you can really get lost in it.

You know, it's true. So I think that's why it's important to look at all, all the different factors in a patient. And, look at it from a wide angle and then home, back in, really dial down and then go back again to get to get a broader view.

And we keep going back and forth between broad view and dialing it back down. And each time we find out more information. And the interesting thing is patients, you might have already noticed this.

Every time you get a treatment, something shifts. All these things we're discussing, they're moving target. You're moving target, right. It shifts as you hear.

And I'm like, yeah, Amen to that. Right. Sometimes you might feel worse for a moment in time, but using our aim is to it's to steer you right back, on the track of healing.

But shifting what I want to I want to tease that out for a second, though, too, because everyone thinks of cycles in life with hormones, you know? And the most obvious one is like hormonal cycles for females and menses.

And, you know, the 28 day cycle. And then we have, you know, maybe our yearly cycle of, you know, six different hormones responding to winter and temperatures and that kind of stuff.

And so we can also have an instance where, women can be especially reactive or have a specific reaction to treatment, to an intervention, to an exposure in this small window of a few days within their cycle.

Research and Human Case Studies

And I always tell people like, give it a few cycles, like you have to move through not only your big global cycle, but also your small monthly cycle, your small daily cycle, and even you have a 90 minute cycle.

No one talks about this. You have a 90 minute cycle. It's mind blowing. And so in order for people to really, it's like clearing the clock or circling the clock like a really fine.

It's important for people to maintain like a health or an intervention or something, through all of the cycles nested within one another. I hope that makes sense.

What I'm trying to I, I love what you're saying because there's so much truth to that. Between each cycle is a renewal, and then between each renewal is it is a new place to move forward into.

I tell my patients, think about it as, as different layers. And I, and I think about it as a circle, like an atom, actually, where there's different valences and.

Right, right. What's coming can be here in the atom at this lower level. But then you give a treatment and, and they reach a higher level, but then they might step down a little bit more.

But then as they complete a cycle, whether it's the menstrual cycle or the 90 minute cycle or a sleep cycle in particular, they reach back up in the in.

They they show a new valency, right. It's a new level that they can be in a new level of homeostasis. And so as the cycles complete, the new levels of homeostasis change usually better.

Right. And I don't I don't want people to get too like bogged down in how like esoteric it sounds like it's really like biochemical. There are hormones that manage each one of those things that Nafisa just listed off, you know.

So, yeah, get goosebumps talking about life cycles now. So it's so it's so exciting to share with people. It's so important. So it's like, you know, I never expect people to, to push through modalities.

I might try to help ease people so we can at least try to make it through a cycle or whatever cycle is really being the most impacted, you know, at that moment in time.

And patients know exactly when they've when they've ended a certain cycle. To treatment, you know, they turn this corner, they become a new person in some way.

There's still more to go. But then there's another cycle, another healing cycle to complete. And it's true, as Lauren said it, it's it's esoteric and it's biochemical.

So so yes, we're thinking about you as, as a, as a human being, as a spirit, as a life force, but also as a biochemical being. And we're looking at this through the lens of medicine as where as we're playing an esoteric view around it.

So we're looking at you as the whole person. I think that's, that's that's one of the reasons I love being a natural path. Medicine, actually, is because we work with the person as a whole.

Yeah. It really derives from the concept of as above, so below, right? Hey. Exactly. Yeah. So Lauren, tell us about the research. That shows us, well, tell us about the case studies in humans, actually.

Yeah, yeah. So there is a good amount of case studies in humans from the perspective of mega toxins, food source. I mean, mycotoxins are just found in food, a lot of stored grains.

So we tend to get a lot of data from developing, nations where it's a lot of grain that they have, in their diet. Also, make no mistake, we have a legal allow upper limit of mega toxins here in the US.

That level is higher than some developing nations. Let's put that out there and let it be said. But you better believe no one is going to try to get the gold star for not having mycotoxins, in their food being completely void.

Maybe a couple companies here and there that are hip to the Gerd right now. But companies, how they mitigate this is they'll put binders into a pile of corn that has a few months in, and then they'll keep diluting it with fresh corn until they hit that legal allowable minute limit.

So the reason why I share this is a lot of the data that we see with humans right now has to do with food input and food input. As soon as it hits the stomach, it's going to go systemic, and once it goes systemic, it's going to land in the tissues, manipulate the hormones, everything.

So whether you're inhaling it in the environment, the built environment, or you're consuming it or you're having some type of transdermal exposure, it's still going to end up being systemic exposure.

So a lot of the data again, developing nations food based, but still something we can extrapolate to. So some of the, developing nations are also very concerned about populations and making sure that people stay healthy.

So you find a lot of data about children and pregnancy in these spaces, which is great for this, you know, dialog because we're talking about women here.

And we have seen in these studies that mycotoxins undoubtedly pass into the breast milk from mothers diet. So it goes systemic. Again. And we also see that they pass through the placenta to the point that when mom's diet potentially has high enough, something like femaleness and, there can be neural tube defects that can lead to, to miscarriage, to fetal death, in miscarriage.

And then we also even see that something like, Alton area toxin can degrade estradiol, which is really important for keeping that nice juicy uterine lining, for keeping that baby health and breathe, healthy and protected.

And we can see a degradation of that estradiol, which can, you know, really wreak havoc on the pregnancy, including pregnancy loss. So, there's a so what?

I data food data about mycotoxins in pregnancy, and even postpartum, that's where that, that, breastfeeding component really comes in, and it's really important data.

Lauren, I want to stop for a second here and say something to to women who are trying to get pregnant, right? Women. I see a lot of women in my practice.

They keep having miscarriages before they come to me and and they don't know why. So then they try IVF, they try other things. It's still not working.

And this is just something that's overlooked, sure enough. And then a whole panel of, of, detoxification labs of, of toxin labs, including mycotoxins and it's very, very often the case that, planning mycotoxins are high in the patient along with other toxins that ties in with, with the, you know, the conversation we just had, the part of the conversation we had like ten minutes ago about about toxins and their interplay together.

And, and so bring it right back to here, women who are trying to get pregnant and it's not working. It's important to look at the micro toxin panel and, and the other environmental toxin panels.

And then of course we do a lot of detoxification therapies and and voila, they're able to get pregnant. Right. I think some so what you're saying about the research we see it clinically every day.

Absolutely. Yeah, absolutely. And you know again this is the estrogen progesterone component to that we have happening. There's not only just the toxic effect to the fetus, but if we step back and we think about, well, what about earlier in life where puberty is happening with young girls, there are some, again, cohort studies where they're looking at people who've been incidentally exposed, where there was a group of very young, female children in the 80s who were exposed to, Sierra Leone.

Womenu2019s Symptoms and Reproductive Health

And I have to check this data every time I see it, because it just. I can't believe it. But it says it in black and white writing. They noticed that, these girls who had high levels of Sierra Leone in their blood, were developing precocious puberty.

So early puberty as early as six months. Whoa. Two, eight years. And precocious puberty could mean breast, but it could be. You know, it doesn't necessarily mean that these six year old, these six month olds were were menstruating, right.

But it's still like, and here's the thing with see how the known is, it's so strong when it comes to being able to sit on our estrogen receptors that it breaks up their with our own estradiol and in animal studies, we have seen it be 2 to 3 times more aggressive at sitting in the estrogen receptor compared to animals estrogen.

So this mycotoxins is so strong, so powerful, so potent that they also use it in other countries for the whole purpose of maintaining cows and milking and everything.

Like it is such a strong hormone disruptor. But here's where the craziness kicks in. Is that, known? There was a study that was done, in young girls ages 9 to 10, in new Jersey, and they found that about almost 80% of these kiddos who had elevated Sierra Leone in their urine somehow had shorter, high, and, less likely, less likelihood to develop their secondary sex characteristics with their breast tissue.

So right there you have it, wreaking havoc in six months to eight year olds and then a 9 to 10, it looks like it's doing something completely different.

So we have some answers for hormonal disruption in children. So when we're seeing them develop too quickly or not at all, definitely this is something that needs to be looked at.

And I don't think endocrinologists are looking at it too much. So it's a good thing we are. It's really important. I see it in my practice. I'm sure you do, too, you know?

So really, really important things to think about and to assess. Yeah, the urine collection can be a little harder on the young ones, for sure. But, you know, we we have contraptions that help you do that for sure.

Yeah. Yeah. Exactly, exactly. So let's talk about symptoms of endocrine disruption in women. Right, right. So again thinking about estrogen and progesterone anything that shifts or has to do with estrogen progesterone.

So all of the menstrual cycle anything that happens in the euro genital area for women or in the breast, anywhere

with a secondary sex characteristics are happening.

That's where things are going to happen. So we have menses that is stopping, starting, spotting, you know, the premenopausal that just keeps carrying on and on and on and on and on severely painful menses.

You know, I clotting heavy, heavy clotting is another even another one, mid-cycle spotting, post coitus, spotting. So spotting after spotting after intercourse.

Obviously the shift in puberty and the timing of puberty, PCOS. Absolutely. I see a lot of PCOS in my practice with, with women who have, mycotoxins and mold issues, no doubt.

And, and so then, you know, maybe some metformin, maybe, maybe some other herbs, maybe some some berberine. But really, those are just, those are going to help with, with symptom relief, perhaps not all the time.

So we've got to dial down again what's causing this. Sure enough, mycotoxins are there in a big way, right? For sure. And it's always and I know that where it's the mycotoxins we're talking about like it's people.

So keep in mind there are lots of other reasons, but just keep this on your radar because it's the one that no one ever thinks of. And that's why I'm here today.

Because we do know there's so many reasons for hormone for hormone dysregulation. This is one of them. But like Lauren said, it is it is the one that no one's really looking at.

Right? Right. And so when we look at something, we happen when we treat right. And, you know, it's not just like what's happening in the uterus when it comes to hormones.

We're also thinking of, bone density. Right. Because estrogen has a huge implication there. Interstitial cystitis and recurrent UTIs. It's a big one. That's a huge one. No one's talking about it. Yeah.

And speaking of bone loss. Right. So then metals gets stored in the bone. So when then there's bone turnover when there's menopause, metals release. So now the nation of mycotoxins and metals and we have to double detox there.

So all components that that work together in a system. That's such a good point. That's such a powerful point. That's such a powerful point. And it's so interesting because I think a lot of people think about the urinary connection to mold and how it maybe shifts.

Adam. And then I can't hold on to my water and. Right. But there's people need to sit with their body and say, am I going pee a lot because I have big fluid voids?

Or is it because my bladder is irritated because my bladder irritated because mega toxins are being detoxed? Or is my bladder irritated because I don't have enough estradiol?

Like it? Yeah, it's been both. When it's a that's an issue, right? Right. So yeah. So we're giving you bioidentical hormone therapy is a fantastic bandaid.

Yeah. Well while we're treating the sources, whether it be mycotoxins or other toxins, a combination of them. So yeah. And it's it's not just again the, the, you know, secondary sex characteristics that we see that are very much female, that are being impacted.

We have to remember that libido which test around for women has a huge implication of and how that fits in though there too is testosterone gets converted into estrogen by aromatase.

And we have this in any of like anywhere we have a little extra fat. We have some aromatase right. But we also see certain mycotoxins boost up that aromatase too.

So it's another double whammy. So we also start thinking about women like what happens when our testosterone drops. So we get like the low libido. We can have that weight change appetite change, mood change, sleep issues, exercise intolerance, anemia, you know, mood and cognitive stuff.

I mean, the list goes on and on. You really have to think about what's happening to the testosterone in the body and in men. I'm seeing the testosterone very low and the estrogens estradiol astron very high.

Right. You know, and so we're seeing what we're seeing is the is the opposite effect in the body's in men and women with the same hormone hormonal systems being impacted just show up differently.

Symptomatically when people and so like to treat people men, women differently. Right. And it sucks because I'll just be that abrupt with women. You know, I think that usually, you see, if we're going to do this in mice and we're not going to do this, you're going to see in most instances, an increase in estrogen, the poor men, mycotoxins never increase testosterone.

They just don't know. They're, they're they're they really get the short end of the stick on on that front. You know, and so it's yeah, you just really got to think about what is what is coming into you and what's presenting to you or how you're presenting to your physician really talking about it.

Right. And so men often I'll see I'll see men with, decreased libido, absolutely no sex drive. And, and they could be in their 30s and 40s, you know, like an old man.

Erectile dysfunction. And just even, body changes more, more body fat, fat on on men's bodies and what they would think is inappropriate places, for example, the chest, you know, or around the middle and, and and that is about hormone dysregulation, hormone disruption, and oftentimes due to mycotoxins and other ducts.

Right. And other dogs, other groups and infections, some the whole combination. But mycotoxins is a big overlooked piece. Yeah. Absolutely. Yeah. Yeah.

So Lauren, when would you consider mycotoxins as a source of and liquid disruption women.

When to Suspect Mycotoxins in Clinical Practice

When would you start looking. Yeah, I think from a clinical perspective it depends on what type of mindset you have. You know, if you see that the if you see the patterning that someone's coming back and back and back and things aren't changing, that's the first thing.

So people who are more algorithmic algorithmically mindset of if that's the message that if they're going down the chart or living back over again, you need to think about it, versus if someone's a little bit more of the emotional kinesthetic person where someone comes in and they go, why? I feel that this isn't working, it's not working.

And you pick up a little bit more on the why isn't this working? It works for other people. That's, really when you would, also need to think, but it it shows up differently in the different minded providers from.

I hope that makes sense. You know what I'm saying when I say absolutely, because it comes in with their own personality, right? The way that they want to be treated and receive things.

You know, from over here because we're not in their body. And then when you go down into into really experiencing the patient and what they want, what their approaches, some people come in and they say, I know my hormones are being disrupted.

I just know, I know I need identical hormone, hormone treatment first. People say that is not where I want to go at all first and then looks. But explain the benefits of why one person might be better off going on the first or not.

So again, it's down to what's different for each person. But a lot of the times, these hormonal interventions that the

the bioidentical hormone therapy treatments are just not working for these.

So we try here, have some biological hormone therapy and the patient comes back. You know, my periods are still dysregulated. Or the men my testosterone is still in the toilet okay.

So then we might want to do other laboratory work. Yeah. Yeah. And I, I think about it like a little bit maybe, Schrodinger's box isn't what I'm looking for, but think about, like, a black box that you put in an input and a certain output comes out and you have to think about that as the body because you don't know what's in that box.

Anything directly. Right. And so if you are like, well, if I put in a room how you were talking about the law of mass action and the bone fixing with Western, but if you put in A and usually B comes out, if you're putting in A and z and y and x or A comes out again, like think of like a.

Pulley. And in fact this happens in every single patient in my practice. Probably yours too right Lauren. Because it's our it's our specialization in these mystery cases.

Any time you put a and I'm going to see H or Z anything or AA come right back out again. I love the doctor or not actually the the doctor being in the cell danger response.

Yeah. Research calls because at the black box of healing, you know what's going on in an ecological model, right. So so that would be, a reason to look for mycotoxins.

Yeah. Yeah, yeah. Thank you so much, Lauren. It was so great. Yeah. So fun. Always. Is there anything else that you want to share? Like, if anything. So I know this is the Micro Toxin Summit for sure.

However, when I approach mold illness with people, I kind of break it into four global categories. I think of like infection, colonization in this bubble, this imaginary bubble here, I think of, kind of allergy intolerance.

You know, any like histamine allergic, that kind of picture here, down here I think of mycotoxins. Micro toxic host is the toxic state of being mold exposed.

And then there's the whole sirs realm. That's kind of how I approach cases. People are going to do it a little differently, but it's not everything that we just spoke about with down here, with the micro toxins.

And it's so interesting because if you're thinking about like, colonization, where it's the actual organism in the body, you know, that can cause lots of other non mycotoxins related hormonal issues, actually, you know, for instance, we see that mold exposure, obviously from an allergenic perspective, can spike histamine.

And then we also know that estrogen, when there's too much of a signal of it in the gut, can prevent histamine from being broken down. So we're adding to the histamine pile.

And then we also know that estrogen can stimulate histamine release. So we're adding to the histamine I know. And then over here in the estrogen file we have the mycotoxins that are building up the estrogen.

And then we can also have histamine stimulate the estrogen a bit. And then here's the issue. As these two are ratcheting each other up, they have the ability to come in and sit on the H1 receptors together, which sets off that allergic cascade of the itching, the swelling that the whole entire allergy picture.

So it's not just, you know, mycotoxins impacting the hormones. It's also that allergic picture impacting the hormones.

Mold Illness Framework and Closing Remarks

And we've even seen, you know, issues where women are on long term oral contraceptive hormones and it shifts their terrain and allows for, like, more pathogenic bacteria to, pathogenic fungi to develop in the mouth.

So it's the mycotoxins summit. But it's also there's so many other ways that we can see fungus and fungi and everything interact with the hormonal system and vice versa.

That, I mean, I, I think we need to have like 30 more of these conversations. Absolutely. I look at it in those same arenas as well. And I tell a patient there's, there's the bug itself.

There's there's the mold itself. You can have a magic reaction to that. There's the toxins. You can have an allergic reaction to the toxins. Plus the toxins can interfere with your neurological system, your hormonal system, your musculoskeletal system.

And then there's the mast cell activation syndrome, which you're talking about the histamine. And there's a repertoire of a thousand other chemicals that the medicine that send out.

And mast cells, they occupy many different states of our body, our, our general urinary system being one of them, muscles, our bones are boring. And and so now we have symptoms everywhere.

So there's these primary aspects to the illness the mycotoxins, the bugs, the molds themselves that create the toxins, and then everything else, that has a cascading ripple effect onto the rest of the body and the psyche as well.

So, so it's important, for those of us, those of you listening that, that yes, it is the mycotoxins chronic illness summit but and chronic illness summit.

So we're talking about how the mycotoxins affect the whole system and how we as your doctors, what we do is work with you on your whole system, body, mind, spirit includes your biochemistry, includes your toxins.

It includes your gut, includes your sinuses, your hormones, your neurological system, your thoughts, the whole thing. Yeah. Thank you so much, Lauren.

Always a pleasure. So thank you so much. It means a lot to be here. And I thank everyone for your time today. And if people want to find me, I'm life after mold everywhere on Instagram.

YouTube, Facebook, TikTok. And, and then I also have, mold prevention, 101 document available on my website. That's kind of just like a, a nice global walk through of your home to kind of just keep an eye on what might be of concern and what to pay attention to.

So, life after mold and pretty much on every, interface platform, come find me and say hi. Fantastic. Thank you, Lord. Thank you. Yeah.