Mycotoxins And Its Contribution To PANS Transcript

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Introduction to Mycotoxins and PANS

Hi, my name is Amanda Wilms. I'm a naturopathy doctor. I am honored to be a part of the Mycotoxins Summit, and, excited to hear the other lectures, other information that's presented.

I primarily deal with complex chronic illness, so Mold and Michael, toxin exposure is very, very common. In my practice. It's something I'm very passionate about.

It's a very tricky topic. Tricky thing to deal with, but so, so important. And it's such a common problem, unfortunately. So the topic I wanted to talk about today is one, that's very dear to me.

It's mycotoxins and pans. So pans. It's an acronym. It stands for Pediatric Acute Neuropsychiatric Syndrome. It's actually usually paired with pandas.

You usually see pandas pans, because they're very similar. Pandas is an acronym standing for Pediatric Autoimmune Neuropsychiatric Disorder associated with strep.

So what happens in these kids is it's basically an autoimmune reaction where the brain inflammation, and the common symptoms are going to be, you know, neuropsychiatric.

So OCD, anxiety, anger, fear, a whole host of, things can change.

What PANS and PANDAS Look Like

There's a lot of regression that can happen as well where, you know, if the kids were once reading and writing, all of a sudden they're not able to write in full sentences, their handwriting may change.

Sometimes bedwetting baby talk. Just going backwards in the phases of, a typical, development. There also can be, truth, you know, physical, physical manifestations as well, where the kids start developing tics, and a whole host of other, physical symptoms as well.

Pain, abdominal pain, digestive issues, rashes. It does depend on what the trigger is. So with pandas, again it's associated with strep. So strep A is the bacteria that, you know you usually get the exposure or you get the swollen, sore throat a lot of times fever malaise.

Strep itself is very well known to trigger a lot of, downstream negative effects. So, like scarlet fever, rheumatic fever. That's why in the conventional medical world, it's pretty common to just jump straight to antibiotics to get the strep treated.

Get the infection under control. So none of these downstream, issues can take to can take hold. So with Panda, pandas, it's basically the same thing. It's the same type of symptoms that happen, but the trigger is different.

So many things can trigger pans. It can be triggered by viruses, bacteria, parasites, toxins, even major traumas and stressors, can trigger that. But today, of course, we're going to talk about mycotoxins as, as the trigger.

So what it normally looks like with pans and pandas is just this overnight change. A lot of parents will say, oh, my kid went to bed totally fine. Normal woke up the next day and it was a nightmare.

So commonly, like I said, they'll have aggression, OCD, anxiety, regressions. It doesn't always look like that. Sometimes it is a lot slower progression.

Or maybe just 1 or 2 symptoms will show up. And as time goes on, more and more things start to spiral. And I know both of these also say pediatric in part of their names, but this can happen to adults as well.

It's just most of the research and knowledge is base is really surrounding kids right now.

Mold Exposure and Mycotoxin Basics

But this can be a part of other, adult issues also. So with pans and mold exposure, again, it's tricky. Mold is very, very tricky because it doesn't always present as the normal, symptoms that people experience.

So normally with mold exposures, you think of, you know, upper respiratory issues like, you know, asthma and coughing and runny nose, chronic sinus congestion, rashes, even allergies.

But especially with kids, you know, it's it's hard for them to verbalize and, really explain what's going on sometimes. So there may be some symptoms and some weird things they're feeling.

If, you know, they say their head feels funny or, you know, just not feeling too well, a little extra tired. Usually there's some type of preceding events again, but, it's just when these big psychiatric things happen that, that's the big, you know, the big ticket.

So with mold and mycotoxins exposures, really what happens is, well, there's three big things I like to talk about with patients. The first thing, that you really need to look at and deal with is the mycotoxins themselves.

The second thing is this immune system response. And the third thing is, is treating these, this infection itself or the infections, I should say. So I'll go into all of those.

But the very first thing is the mycotoxins. So the mycotoxins themselves are the actual, it's like the metabolic byproducts of molds. So there's different types of molds, you know, like black mold, sticky boy trees, like Aspergillus, Penicillium.

Those are very common types of molds, from water damage buildings. And each mold itself produces different types of mycotoxins. There are some overlaps.

But in general, when you're doing some testing, like if you do a urine mycotoxins testing, it's it's looking for these specific types of toxins to see which mold spores themselves are present.

And so with the actual toxins themselves, we know, you know, regardless of what type of mold it is, they're usually very detrimental to the system. They're very tissue toxic.

Each type of mold may have a little bit different affinity for different, tissue types or organ systems. But in general, micro toxins are very damaging.

They're carcinogenic. They alter the immune function and they, cause tissue damage. A whole host of negative downstream effects. So the first goal, of course, is to stop the mold exposure.

And that alone sounds fairly easy. But again, it's tricky. It's finding where the exposure is from. A lot of the times it is from the home. If there was any kind of water damage, a leak in the roof, you know, a leak and a pipe, a toilet, a sink, and then trying to find what the best option is if remediation is the best, if moving out.

But also looking at other potential exposures, a lot of times it's kids schools or a car. There can be a whole host of things and genetics are at play with this as well.

Many individuals, you know, they can have a certain level of mold exposures and the body is resilient enough where you're not really having, huge detrimental symptoms.

There are it's called the dreaded mold gene. These HLA genes, where they assume about 25 to 20% of the population actually has these genes where, the liver just can't process mycotoxins and the immune system mounts, an inappropriate response.

Removing Mycotoxins from the Body

So for those specific individuals with that, those mold, that dreaded mold gene, you know, it's maybe even one big exposure, even if you went on vacation, stayed in a moldy hotel room or something like that may be enough to trigger this reaction.

So it's always, hugely important to find out what the exposure was. Stop the exposure so that the mycotoxins themselves are no longer, being absorbed into the system and breathed into the system because they're microscopic.

You can't see them. But, you know, if you're living in a mold moldy room, they're going to be absorbed in the skin. They're going to be inhaled, into the sinuses.

Into the lungs, you know, into the GI tract. So stopping that exposure, of course, is number one. But the second piece is helping to facilitate the removal, with mycotoxins.

The number one thing I do is binders. Binders are anything that are going to past, pass through the GI tract and just absorb and pull, whatever's floating in the system so that they're not reabsorbed.

So the binders can be things like charcoal fibers, Chlorella, clay. There's even a couple prescription ones out there, like coolest diamine, which is actually, a prescription medication to help with lowering cholesterol.

But it works beautifully for avoiding mycotoxins and getting it out through the stool so that it's not reabsorbed or stored in tissues. Other things are really helpful for that as well.

Of course, the liver support, our livers are basically our body's filters. So as much as we can support our livers through that process as well, the better the body's going to respond.

So things like glutathione, own NAC, curcumin, milk thistle, there's a whole host of things that really support the liver to help with getting these mycotoxins out as well.

But facilitating very gentle mycotoxins removal is number one. And there's a lot of great options for kids, too. Part of the tricky part with, with kids is, compliance and taste.

So, a lot of the times I'll use chlorella for kids. That's a really great one, where it's really tiny little tablets that they can swallow. And a lot of kids, even if they can't swallow them, they'll chew them up and swallow it.

It kind of has a little bit of a seaweed taste, a little bit of an acquired flavor. But, I have a lot of kids that will do that. And there's other binders like, fibers and things that you can mix with water, add a little bit of juice or something flavorful so they'll get it down.

And then a lot of herbs you can get in glycerol, it forms too, so they don't, have alcohol and they kind of have a better flavor to get in. So that's the first piece is, is stopping the micro toxin exposure or trying to gently facilitate them getting out.

And the other piece of it is, healthy fats too. So mycotoxins, they actually can be water soluble and fat soluble.

Immune Dysregulation and Brain Inflammation

So the more you just flood the body with healthy fats, for one, it's also very helpful for the nervous system and so many other, benefits from healthy fats, but it helps to flush these mycotoxins, out of the body.

So a lot of times I'll do fish oils and just including extra coconut oils and nuts and seeds and olive oil in the diet. But another one of my absolute favorites is fossil title choline.

That's, the molecule that's the, it's the main component of every membrane, every cell membrane in our body. So it's a really great option as well to help with, just flushing this mycotoxins out and also helping to repair any damage that may have occurred.

Antioxidants as well. That's another one that's fairly easy to get in, kids just eating the color of the rainbow in foods. They can be supplemented, of course, as well.

But, as, as much of those purples and reds and yellows, oranges, those are also going to be really helpful. So the second piece of this after, you know, stopping the exposure or helping with micro toxin removal is, really the immune system piece.

And this can actually be one of the trickier parts. So mold and mycotoxins, part of the reason that they're, they can create such a whole wide variety of symptoms is they really confuse the immune system.

What they do is there's two main parts to our immune systems. There's the innate immune system, the immune system you're born with, and then there's the acquired immune system.

So that's when you know, you're exposed, exposed to different viruses and bacteria as your body's producing antibodies to help fight those. But mycotoxins, mycotoxins actually impact the innate immune system and can both cause immune suppression and immune confusion.

And that's where really where this pans issue comes in. So, there's multiple reasons of why it can what can happen. I won't go through all the details, but it basically confuses the mycotoxins, confuse the body to into thinking that, it needs to attack its own tissue.

So what happens is you get this autoimmune response to different parts of the brain, and specifically with pans, it's the basal ganglia. So that part of the brain, when you have this autoimmune attack and inflammation, it can create these emotional outbursts and these changes in in their neuropsychiatric behavior.

And even, again, like the mobility, the tics and other things that can, come downstream from that, but that is that's the big driving force. So it's almost like the brain is on fire.

So with this piece, it's really getting the immune system to fall back into place. So a lot of times, you know, I even am guilty of this, of saying, oh, we need to boost the immune system, boost the immune system.

But in this case, it's really that's the last thing we want to do. We want to actually modulate and regulate the immune system. So there's lots of ways of doing this.

And, I do think it can be done at the same time as you're working on getting the mycotoxins out of the body. But this is really where, there's a whole host of things like I use a lot of LDI.

It stands for low dose immunotherapy. It's basically, a homeopathic way to modulate and reregulate the body's immune system to, to mycotoxins, because it's really this misguided attempt, to treat.

So LDI can work beautifully. There's other homeopathic that work beautiful as well. I also love, the prescription low dose naltrexone. This is a medication that helps with, basically shifting the body out of this, like to inflammatory response.

There's some other herbs that can work beautifully. Transfer factors. There's a whole host of things that can help with modulating and getting the immune system to calm down.

In the conventional medical world, they actually will use steroids for this. And I will say I do use them sometimes if

we just can't get it calmed down because we have to save the brain.

So although as a natural path like prescribing steroids, it's not my favorite thing in order to protect the brain, it's it's worth it. This also is where sometimes people will use, IVIg.

It's an IV of immunoglobulins that's donated from multiple donors, and it's like a reboot to the immune system. I don't, you know, advise or recommend it super often, but sometimes it's needed, in severe cases.

And it can be a game changer. The other kind of higher level thing that we do occasionally, if needed, is stem cells. That can be another really great way of rebooting the immune system.

And getting this attack, this brain on fire to stop.

Treating Infections and Supporting Recovery

And so with all of those things, of course, any types of like anti-inflammatory herbs and anti-inflammatory treatments can be helpful as well just to get the immune system, to normalize, to modulate and to stop this attack.

And there's different ways of testing to find out, too, if this is happening. Which I think are, of course, very, very important in this situation to actually find out for sure that this is happening.

A lot of times, we'll use the Cunningham panel, this test for, five different immune, antibodies that are looking for specific activity on the brain. There's a few others that can work well.

Also like neural Zoomer has some great, antibodies as well to see exactly like which area of the both the brain and the peripheral nervous system may be involved.

And of course, depending, you know, all of this is so individualized, but also depending on the child to like looking at the gut. That's a very common reason that there's other, you know, molecular mimicry, other autoimmune activity going on.

If there's foods that they're eating that they're allergic to or other infections, other, other issues that could be happening. I truly think our bodies are very resilient.

And it's usually not just one thing. Usually there's a host of things involved with that. And then the third piece of this with, so the first was getting the micro toxins under control, looking at the immune system reactivity, getting that under control.

And now the third piece is really treatment. So, mold itself loves warm, moist environments. So I mean the best place for that is our sinuses and lungs, our GI tract.

So unfortunately, not only can you be impacted from the mycotoxins themselves, but the mold spores that the fungal spores can actually take hold in the body and grow.

So you do have to look at ways of treating that. And so there's again, a whole host of ways there's natural options, herbals, prescriptions I use like spore and analogs.

But with that and with this like dysregulated immune response, you also open the door to other infections. Mold is very commonly a trigger for other infectious processes to thrive.

So things like Lyme disease like Borrelia, and co-infections like the BCA, Rickettsia, Bartonella, mycoplasma, all of these different types of bacterial infections, parasites, viruses, they can all be opportunities.

Stickley given the chance to rise up and cause issues in the body and take over. So the treatment phase is also, one where you really need to look kind of cast a broad net on the different things that may be, may be present and

creating symptoms.

So that piece also, you know, is testing, looking at different ways of gathering information on, on what else may be keeping this inflammatory cycle going, and maybe keeping the body inflamed and, not able to, to reregulate.

So it is an overwhelming process, especially for parents and, this system that we, you know, the, the conventional system, we work in really isn't, well talked about, well known, well talked about issue.

But the more information we get out there and the more that, you know, more that parents share their stories as well with their kids. It's, the faster that people are going to find the right providers and the right treatments.

Because with pans and Pandas, there is, you know, a really positive, outcome, like most kids do have huge improvements. And unfortunately, there can be flares, you know, if there's triggers in the future, especially the kids that do have these, genetics where their body just can't detox or, you know, has inappropriate responses to mycotoxins or even the kids with pandas where it's actually strep that's triggering this.

You know, if there's another strep infection down the line that can also trigger another pandas episode. So there may be some lifelong, you know, predisposition or weaknesses, but overall, these symptoms and this brain inflammation, it definitely can't be reversed.

And with more than mycotoxins, it's definitely a trickier, one with all the different exposures that people, you know, may have. And it's a meaning that you need to test homes before you move.

And, you know, air purifiers, just being more cautious about the things that may trigger another episode, in these kids. But overall, like I said, there are very good outcomes and prognoses.

Outcomes, Prevention, and Closing Remarks

It's just finding the culprit, finding that trigger, and then making sure all of these steps are followed so that the kids can have a full recovery. So I know this is a lot of information and they're topics I feel like we could talk about for a long period of time, but, for right now, I'll just I'll leave it at those.

And, hopefully this helps somebody in, in finding like, a, you know, finding a resource for why their child may be acting out or, you know, this if this patterning fits.

So hopefully this was helpful. And, I'm excited to see all the other speakers and hear what they have to say. So thank you for listening and hope to see you soon.