Introduction to PANS, PANDAS, and Mast Cell Links

Hello and welcome back to our reversing mast cell activation syndrome and histamine Intolerance Summit. I'm your host, Dr. Meg Mill And today I'm joined by my esteemed colleague, Dr. Jill Crista.

She's a naturopathic doctor, bestselling author, and an expert educator in Pans and Pandas. So today, we're going to talk about our kiddos and really dive into pans Pandas, how we express them, how we diagnose that, and the connection with mast cell activation syndrome.

So I am so excited to get into this. Thank you so much for joining us, Dr. Jill Hello and thanks for having me. Well, I am excited to get into all of our juicy details today on Pans and Pandas and how this is, you know, really coincides a lot of times with mast cell activation syndrome.

but before we get started, I really love for you to just kind of share with us how you got into this specialty. A little bit about your journey. Well, I have twins who have pans.

So, I've been at this about 20 years with my own kids. And then, of course, I work in kind of a, you know, a close knit community. And you get to know, get to be known as the doctor who's like, you know, her kids who look completely normal.

So maybe she can help my kid. And then, you know, pretty soon, working with lots of kids with pandas and pandas. So, yeah, I think, in the trenches experience both at home and at work.

Yeah. So there's nothing like being a mama, someone that is in need that actually gets to you. You know, the passions. And I think that's the thing. And that's why I like to share this, because so many of us have these personal health journeys, our family health journeys that actually really made us so passionate and get into the research and dive into these particular health issues, because we're not getting a lot of answers in the conventional space.

And I think people are told so often, oh, you're fine, or oh, there's nothing we can do about it, and we're just told to live like this when there is so many things.

And like you're saying, you can see the difference every day. Or the things that they're offering is suppressive, not treat or curative.

Dr. Cristau2019s Personal Journey Into the Specialty

So as in the case of pandas pans, you know, there are lots of psychotropic medications that could be helpful, but they have lasting side effects. And so and they're also not addressing the problem.

So if we can address the problem that's that's a nature potato for for you. Yeah. Yeah. So yeah not yes exactly. Yeah. And that's what we want to do. We don't know Band-Aids.

We want to and we want to get to the root of that. Yes. Well let's start by just kind of doing an overview of what of the disease dynamic, because I know a lot of people, you know, may have heard of this, but might not know exactly kind of what's going on in the case of pans or pandas.

So in short, it is the immune system has decided that some brain tissue is foreign and needs to be attacked. So it's an autoimmune condition. Both conditions are, considered of, I mean, conditions of the brain.

So a child's brain is literally being attacked by their own immune system, and that's causing symptoms and that's

causing more than, you know, that we kind of have an idea in mental health that this is wrong thinking.

but this is actually a physical body problem that is expressing as neuropsychiatric changes, so changes in behavior because there's something going on in the body.

And that's really creating a paradigm shift in mental health. And so how would you be able to like when you're you know if we're looking at like ADHD or some sort, you know some other type of condition that would be some of those behavior issues too.

How do we distinguish between, you know symptomatically. Symptomatically with ADHD. It's just it's hyperactivity and attention deficit. Whereas a pandas pans.

and I should probably explain why do we have why do we say pandas. Yes. Yeah, that would be. They are they're very similar in presentation as far as their symptom picture.

So when I'm going to describe the symptoms these are things we see with both conditions. They're defined differently because they may have different causes.

So Pandas is associated with a strep infection that kicked it off. And we had to expand that definition to Pans because there we found those of us doing it in practice.

We're finding that, you know, it's more than just strep.

What PANS and PANDAS Are

It's doing this this is more this is and it's more than infections. We're seeing that something like mold the exposure to the mycotoxins can set this off.

So it doesn't always have to be an infection. So we had to expand the causal aspect of the diagnosis to allow for more flexibility in what triggered it.

So that's why we say pandas pan. but where they're the symptoms, what are similar kind of mostly similar symptoms. the main thing is anxiety and separation anxiety.

So with an ADHD you might see an anxiety type. If you go to a neurotic evaluation with your child, they run them through tests and they can say, you know, this is A. D. D., this is ADHD, these are these patterns.

Some are more anxiety type, some are fit for medication and some aren't. And that's what the specialty of neuro psych can do. When those evaluate patients with pandas and pans, it's separation anxiety primarily.

So it's not anxiety for necessarily like we would say stage fright or something like that. This is going to be separation anxiety, either from a parent from their room.

so there's some attachment issue. that's the most common symptom between both of them, even though it's not listed as one of the most common symptoms in the clinical criteria.

When you are actually talking to parents, anxiety is there almost 100% of the time we might see tics, we might see OCD type behaviors. And in a kid that looks a little different than it does in an adult, OCD, we just kind of like we hear that, but we don't really can we tease it apart and understand what that means?

Obsessive compulsive disorder. So there's an obsessive thought and then there's a compulsion in behavior. So I feel compelled to do something because that obsessive thought keeps telling me to do it.

And as in a child, it may look like repeated hand-washing, which tells us a lot that tells us that their barriers are down and they're really susceptible to infection.

And so that tells us, as clinicians, oh, repeated hand-washing, maybe they're washing their hands for all the rest of y'all who aren't doing it, you know.

So how about everybody else? Start washing hands, cleaning doorknobs, you know, taking care so that this child isn't the only one defending their immune system that's down.

And also, as a clinician, we can say, let's beef up the immune system because we know that that's a communication from the very, very, very wise inside of that child.

That's saying my defenses are down, and when I get an infection, my immune system attacks my brain, so I can't have an infection. And so they'll do they'll have an obsessive thought that says wash your hands.

That creates a compulsive action that's actually very beneficial but can get out of control. And so if we really listen to the obsessive compulsive, what's the message in there?

then we can really understand as a clinician how we can help a child and what their body is telling us. We're kind of like body language experts, you know.

And that's very. And that's why I'm listen to the child. Yes. Yeah. I've also learned that like with the tics, if there's a circular pattern to the tic that tells me, I better go looking for a spiral related infection because they twist through the tissues to to motivate through the tissues.

So that could be a Lyme diagnosis. That could be H. Pylori H pylori is a spiral bacteria.

Symptoms, School Clues, and Early Signs

So if we see a lot of like spirally things or a kid who always has to have, like if there's a spiral to the tick, that tells us a lot of information about what we can go look at for the infection, the trigger, so to speak.

so back to symptoms. We have anxiety. You might see tics, you might see OCD. There's a lot of a urinary frequency that we see with these conditions. Again, they're not part of the the major criteria for the diagnosis.

But we see them really commonly in the clinic. So there's that kind of conflict between what's the diagnosis for clinical because there's it's a clinical diagnosis, which means there has to meet certain criteria and OCD and tics are part of the major criteria.

But there are these other things that all of us in practice are seeing, like urinary frequency, generalized abdominal pain, anxiety, separation anxiety.

Those are sort of not part of that criteria, but they're really disruptive to a child's ability to go to school. Like if they have urinary frequency, they can't usually get the pass from the teacher that says, you gotta go again.

Come on. You just went ten minutes ago, and that's a real thing that they need to go. This isn't just a obsessive compulsive thing. A lot of kids who've had mold exposure and mycotoxins exposure, their antidiuretic hormone doesn't work anymore.

And their kidneys aren't listening to that. That's a really common thing with mold happens to adults. Lots and lots of adults say, oh yeah, when I have to pee all the time.

I was so dehydrated I couldn't keep water. And that's that's based on a real physiological issue. That's something we can track on labs, and it happens to kids too.

But, you know, when we send kids to school without all of the team understanding this is a medical condition, they really, really do have to pee every ten minutes if they're in a flare, they have to.

This isn't them trying to get out of class or something like that. if we can allow that, they can maybe go to school. But a number of kids have to stay home and and do homeschooling just from the urinary symptoms alone.

So, you know, there's a lot we can be helping with this. Yeah. Conditions. Yeah. So, other symptoms, I mean, we can see regression. regression in a younger child might mean they start running the bad again.

regression in a teenager might mean that they start maybe talking. And based on the way the area of the brain that is affected, you can see things like handwriting will shift over.

It's called a left shift. So if they're that's why we need to have every school nurse in the world understand these conditions, because they'll start shifting over and start writing halfway through the page, or they'd shift it and even maybe an inch or so.

That's an early sign, and we better check that kid first draft or Martin infection. and then you can see with art teachers, they can see this too. They'll lose symmetry.

So where they're supposed to have like a, I don't know, at Christmas time, like make your little gingerbread man and and you'll see like one half looks completely normal and one half is just like, well, you know, like this weird gingerbread man, and you're just like, that wasn't the kid being dumb or being creative?

That was their brain not working. Right. And we can catch that when we look at their school performance. So I'm hoping every parent that's listening here, if you know a kid is going through that, we can catch it in.

The earlier we can catch it, the better that the kid can fare. As with any autoimmune disease, if we can shut down the autoimmune assault on the brain, then brain can heal faster and there's less damage done.

Yeah, that's really important. I think that is really important to thank you for sharing that and to know you know, if there's like the more advocacy out there, there is because you're right.

I mean, those are you're saying nurses, teachers are in the position to catch some of these things because they're noticing these habits. But if they don't know to look for them, then they get put in this disciplinary action or that, you know, where they're not being they're never being caught or, you know, helped or because they're not really being identified in the right way.

And that that's a tough for a lot of our, you know, a lot of these conditions is really the first the line is actually being able to to get the average Kizzy to identify and find these symptoms early on.

So that thank you for so much for sharing that. Now what what would be the diagnostic criteria. Diagnostic criteria is acute onset. I know that's a little bit, it's a little bit wiggly because there are subclinical cases.

So the onset was acute. In other words there's the kid had an infection maybe a strep infection. And then it could be anywhere from three weeks to six months.

They develop an acute overnight symptomatology that has to do with tics, OCD, the separation anxiety, some regressions and behavioral changes depending on whether we're talking about pandas or pans.

The strep has the the pandas has a, a more strict, you have to find evidence of strep, basically, or there's a relapse remitting pattern with it. So they have a they have an acute abrupt onset.

You kind of calm it down or they're recover, but they don't recover to their full self. And then they have another acute abrupt onset. So overnight your kid changes.

The key with this though is to realize that there are subclinical cases. And that's where we had to expand to Pans which has relapsing remitting as well.

But it it's acute like it has to be overnight. It was the to meet the clinical criteria. but again that acute might have been a subtle thing. That could have been a subtle thing where all of a sudden a little girl might start twirling when she stands up every time.

Diagnostic Criteria and Acute Onset Patterns

So every time she stands up, she has to twirl and you go, oh, that's so cute. And at the same time, she decided to line up all her shoes and organize things by color.

And maybe you notice, you know, washing hands more. Or maybe she's wetting the bed all of a sudden. So that acute onset might just look like a normal regression of childhood development.

And often parents as they look back. Then there's the maybe 3 or 4 relapsing remitting patterns where you get these acute changes until it's the biggie that really disrupts normal everyday life.

When we do the look back, they're like, oh yeah, I remember that she did have an infection. Or she, you know, another one that I've had is, not related to infection as a, little boy who was playing soccer and they had just sprayed the field the night before, and they aren't supposed to fight the next day after they do that.

But they did. And he was the first. Their team was the first ones to play on this freshly sprayed field. And he felt terrible pants right after that. So we didn't never track it to an infection.

We tracked it to a toxic, toxic exposure. He also had mold in his house, but it was it was like low lying. And then the chemical exposure on the soccer field just took him over the edge. Wow.

So there's an acute, abrupt change in the child. However, it could look kind of tiny. You know. So parents will look back and they're like, oh yeah, I remember that.

That was that. I remember now the twirl, you know. And so they'll start talking about that kind of thing. Yeah. Is that what I want to do. Because I know this is more child childhood that.

But do you do you ever work with a doctor? You see this in adults? Yeah. It's adults who developed it early and never got treated. So the both of our Pan does this pediatric autoimmune neurosis disorder associated with strep.

And Pat is pediatric acute onset neuro psych syndrome. So they're both pediatric. So they have to their onset has to be in child okay. However there are plenty of adults who got this.

Maybe as a teenager they got mono and they never quite recovered. The the immune assault can kind of start as like the immune system is pooped out. It's kind of working on half fuel and then the body can sort of kind of get over that mono, but then the mono sticks around.

So that's Epstein-Barr virus, really common reactive evasion after Covid hit. And that Epstein-Barr virus can kind of hang on, hang on, hang on. And eventually it trips a trigger into the autoimmune where now the brain is attacking itself.

And what that does is it sets the stage then for the brain to be highly reactive and defensive to future assault. So you have a teenager who gets mono, gets better, but not only better, and maybe starts with some neuroscience like symptoms.

Some you might see separation anxiety, some regression, some anger, change in behavior. You're like, whoa, it's going on at school, you know, are you getting bullied?

You know, you kind of do that thing as a parent where you go through all the questions, you know, are you not eating right? Do we need to earlier bedtime when you know too much gaming, is there friend problems?

You know, all of the things that you think of as a parent. But if it's something where it's not, it didn't wasn't just like a bad day and they got out of it.

It's become their permanent thing. Then they can be in their 20s and get a next infection or toxin exposure. And that the the body reactive turns on an immune attack on the brain.

So yeah, we can see it in adults as well. And we use all different things we use for treatment for kids. We use for Advil. And that's what I was thinking because you know, even when you look at that back to the awareness, when, when some of these young adults are even like all right there was no awareness.

So people had these things that no one ever really addressed. And now like I'm thinking, okay, well, you're living with these symptoms because no one ever dressed into adulthood.

So where do you start with someone? Well, we start looking at the level of flame that's happening. So what is the, If the body is really blamed, the autoimmune attack is higher because the body feels under threat.

And so it's it's thinking that the basal ganglia of the brain is the problem area is the problem is the is the invader, so to speak. And if you look at a lot of the symptoms, a lot of the symptoms are trying to make that person's world smaller and smaller and smaller and smaller.

Adult Presentations and Treatment Framework

And if you think of what a survival part of your brain would be doing, that's really smart because it's keeping you away from invasion, it's keeping you away from external, invaders, we might say.

so where we start is we look at if the body is super inflamed. So from something like a mold or something like the chemical sprayed on a soccer field, or even if they're spraying it at home.

Stop, please. Everybody stop using that. Go for weeds. And that's this is ruining our kids brains. My husband and I have had that fight for you. I one but I we were to fight over that every every spring.

usually where where we win the fight is when we mention the studies that, these chemicals have been shown to shrink testicle size and bathroom huddles.

Yeah. So listen up, ladies. I know that's all you need to share. Yeah, yeah, yeah, yeah. But as you said, it's like, okay, do you want smaller testicle kids or did we want to have we.

Yeah. No I think we, we've yeah. It's so if the body is really inflamed we have these primed cells up there in the, in the survival area of the brain that are saying, okay, if there's flame, I'm attacking because that means the invaders here.

And so if we can calm down the body inflammation, we can calm down the brain attack. And then so I've kind of a core for, I call it for treatment. First thing is tame the flame.

The next one is beat the bugs as if there's infection there. That's going to continue to make the body inflamed. It's going to continue the immune assault of the brain.

The third one is regulate immunity. What got the kid into this place in the first place is low immune function. So we have to beef up their immune system.

And the fourth part four is guarding the gates. So if we are doing things actively to guard the gates, that child's world can expand again because they can feel safe.

And when you're guarding the gates, is that leaky, like the intestinal permeability, things like that. The regulate immunity really addresses the intestinal permeability.

So that's kind of in core three. So guarding the gates would be looking at the nasal gate. So what are they breathing. If the breathing in mycotoxins those get in a way to ride right up to that area of the brain.

And that can cause a lot of Olympic dysfunction. So, a normal threat will be perceived by the brain as mortal danger, you know? So that might even be going out in the sunshine and getting a lot of sun in your eyes.

And a kid with pandas pans brain just went, we're in danger. Our life is in at risk, you know? So they become sensitive to a lot of sensory stimuli. And addressing the limbic system can really help that.

By the way, that's not really the core for that psych recovery. Like it's like we get to a crisis, then we work on the recovery part. So we look at the nasal gate.

If they have chronic colonization of fungi or bacteria or strep here, we need to address that and make sure that we're getting that gate normally functioning.

So that means, you know, good snot. You know, our snot is really protective. not too dry of a room, not too humid of a room. so we can address lots of things in the nasal area.

We're also looking at the throat gate. So if they have chronic tonsillitis and we're not addressing that, that may be because they have strep on their bottom, which is called strep periodontitis.

if they're if they have strep there and we're not putting cream there and eradicating that, they could be cross contaminating their tonsils continuously.

And when the tonsils are triggered that triggers that all of these immune things that happen in our neck, you know, when you get a cold and you get all clogged right here, all of that goes to the throat, but also up to the nose.

And so if it's in the nose, then it gets the elevator right up to the brain. And we've just tweaked the brain again. So we look at the nose, we look at the throat, we look at t.

So dental health plays a big role in this. And again all of this is happening here. The drains down to these neck vessels which then gets sent back up to the nose to protect that gate.

But then that nose gate can, can communicate directly to the brain and that will trigger that. and then environmental gate. So we want to make sure we're guarding them against chemicals, molds, things that are environmentally toxic, things like mercury.

I have kind of my top four bad guys. Glyphosate or weed killer. Number one, all weed killers, atrazine. Glyphosate.

Environmental Triggers and Immune Regulation

they do glyphosate specifically, harms the calming chemical in our brain called glycine. So that's where we get that anxiety. Peace with pandas and pans.

So if we can get rid of glyphosate, atrazine. Atrazine is, and there have been animal studies that show if we have too much atrazine, it'll cause, degradation of the dopamine receptor in the, in the midbrain, which is exactly the mechanism of pans and pan.

So I'm like, hey, how about we don't just blame infection? How about we take away all these environmental things, let the child's brain, you know, function normally and not have degradation.

These same receptors that we're seeing in the scientific research maybe it's not only infection that's part of this story. So weed killers, bad mold bad.

Of course. Mercury. Mercury is a known neurotoxin, and we're still putting it in kids mouths. Unfortunately. got to

stop doing that. And then, Oh, my gosh, I just blanking on number four.

It just went poof. Oh, emfs. Yeah, yeah. Electromagnetic frequencies. Because that also changes our our nervous system and how it functions. Our nervous system functions through something called action potential that uses electrolytes and Emfs will change how we use those electrolytes and change brain function.

That's for everybody. Yeah, but a pandas pants is, very susceptible to those events. Okay, great. Yes. And this is a good time. You mentioned starting to react to everything, which often happens in mast cell activations syndrome.

So we see this connection with the pandas and pans and mast cell activation. So could we talk a little bit about what you're seeing there. Yeah. So the the correlation of mast cells is that when there's immune depletion meaning that our we have normal all kind of like sentinels out surveying all the time for our threats.

So we have a good skin barrier. That's our first barrier to the outside. we have things on our respiratory passages and our lungs along our lining, our gut that are kind of watching for bad guys.

So, like, in the gut, they're watching for parasites. They're watching for bacterial, you know, viral things that can cause diarrhea and that kind of thing.

So normally we have these antibodies that are out there just kind of surveying and checking things out. We might also have some, some called the innate immune system.

So I think of these guys as the Rambo's like hand-to-hand combat, you know, like they can they're out there protecting us. So if a child has low immune function so the soldiers aren't shown up, Rambo is not there, you know, what do we have as our as our defense mass. So and so if you have a low immune function, it now preferentially chooses mass cells as our defense.

Why is that a problem. Well, the soldiers in the Rambo, they know who the invaders are and they're very selective. So you know the hand-to-hand combat.

They're not taking on the good guys. They're only taking on the bad guys or mast cells are they're not selective at all. And they're like a cluster bomb.

So once a mast cell gets triggered, it will called deep regulate. So it's built some of its guts. And that can affect good guys and bad guys in our tissues.

So that's our gut flora. That's our and if it's in tissues, that could be causing some inflammation and maybe even cell destruction. And then once that die graduates, that's why I call it a cluster bomb.

That chemical can make a bunch more chemicals come off. So it becomes this like wildfire spreading effect.

Mast Cell Activation and Histamine Management

And that's where we can get into why the core one is tame the flame. Because when the mast cells are recruited, they're recruited differently depending on what tissue they're recruited to.

And based on why they were recruited. So if you got a limbic system in the brain saying, I'm not safe, every threat is mortal danger. Your brain is going to be telling your immune system, send way more mast cells than we actually need because it's mortal danger, you know?

So, you know, right. Like mortal danger, you know. So sending this message to recruit a ton more mast cells. The more mast cells we have, the more chemicals can come out of that mast cell.

And I'm sure you've already covered all this. And that means more flame. The more flame there is in the body, the more the brain cells or the immune system in the brain.

Cells attack that brain tissue because that's the that's the invader. That's the problem. So we got to attack that issue. So it's this self-perpetuating cycle.

So if we can calm the mess up with the tame the flame cause, which is all, all the things that are muscle managers that we know, you know, like PEA luteolin and quercetin, those kinds of things, resolve.

And I'm a huge fan of, pro resolving mediators. We also have NDAO we can chew up histamine if that's one of the chemicals that's being secreted. We also have tame the flame things that have to do with just chilling out body inflammation and brain inflammation.

So that would be things like rosemary, rosemary and acid pine needle or pine bark extracts. There are some things that we know can really calm things down.

And one of my favorites is fever view. The plant fever view. It's like, I can't even it's like pouring water on a fire, you know? It just it's like. And I have family write me, and they're like, we followed your things in your book.

We're on the Tame the Flame section, and all we did was fever. You at the dose that you mentioned for a flare. And my non-verbal kid is now reading in two weeks, is reading chapter books to us. Wow.

That's the only thing I did. Wow. So this plant is a great, great place to start because it's it's calming down body inflammation, which means there there'll be less mast cells recruited.

So you don't have to do so much of the mast cells. Yeah. Wow. And on the plant for my favorite for mast cells is nettles I mean it's like the great underappreciated.

You know I never I see these lists for thing like Barilla. Yes. That's good. do. Oh yes that's good PEA. Yes. That's good. And but it's like no, these are on nettles.

And I even forgot to put it in my own book. This is a coffee I like. I just don't even think about it. You know? Yeah. I think it's like my, you know, immediate go to.

So second additions definitely can have nettles. That is it calms down and stabilizes mast cells and it reduces methyl tryptase which is like a trigger for all the rest of the chemicals.

So if we can stop a tryptase we can often stop the cluster bomb effect from the mast cell Yeah. Yeah, that. Thank you. That is wonderful. And so do you see most of your hot like what would you say the correlation of your clients or your patients that have mast cell.

Do you see this high correlation that most of the people that have the pans and pandas also have the mast cell activation? Yeah. Over 95% of my, pandas pans have mold exposure as part of their pandas pan story.

And almost 100% of my mold affected people have mast cell problems. Yeah. And that's why I, I, you know, core one very first thing is we got to calm the inflammation and, and reduce mast cell activation. Yes.

Resources, Training, and Closing

Yeah I mean I know and get that right. Get the reaction. Because sometimes you can't really even do all the other treatments as well when you're reacting to everything because your, our mast cells are, it's like you said attacking everything.

So those are so important. Thank you so much for sharing. Can you share. This has been wonderful. Can you tell our audience where they can find you, find more about you and learn more?

You bet. So I'm at drcrista.com. That's D R C R I S T A.com and I have if you're a practitioner listening I have a practitioner training. You get CME credits.

If you're a medical doctor you can get CME, your naturopathic doctor, you can get CE kind of different credits for the different approaches. It's a ten hour course and it is a deep dive into this.

And if you're a parent and you have a kid who's struggling, I have a book called A light in the dark for Pandas and Pans. Wonderful. And we can actually link that in our summit resources, because I know you had you said that.

That's amazing. I think that's a wonderful resource. So we'll put that in our summit. Resources do and so people can link right to that book. Yeah. And if anyone you know, you're hearing about this, you're like, I'm thinking about it.

Probably one of the greatest resources here in the book that you can get for free on my website is a medication compatibility chart. I took great pains to go through all the the botanical nutrient drug interactions, and then I have a chart where you can say, okay, my kid is on this drug, can I do this herb?

And it will tell you, if you can do those together. So because a lot of people, this is their first foray into any being non-conventional because their kid got so sick and they're not really getting results.

and this is the first time they're hearing maybe about mast cells and that kind of thing. So, if you're, you know, it can cause a lot of fear, like, is this okay to do with my kid?

Is it safe? Is it safe to do with this pharmaceutical? so that chart is there. If you go to my website, drcrista.com/med-compatibility and that'll get you the chart.

Well thank you. What a wonderful resource. Thank you so much for sharing. Have a great day everyone. Thank you.