Immune Insights: Pathways To Healing MCAS Transcript

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Introduction to Immune System and Mast Cells

Hello and welcome back to our Reversing Mast Cell Activation Syndrome and Histamine Intolerance Summit. I'm your host, Dr. Meg Mill, and I am so happy to be here with you this week.

Today we're going to talk about the immune system. We're going to talk about why your mast cells have gone haywire, overreacting. We're going to get into the cell danger response and how this plays a role in what's going on.

And then we're gonna talk a little bit about the order of which we approach things that can be really important for long lasting healing and not overreacting to some of the treatments that we need to do.

So I want to start by talking a little bit about the immune system, and just give an overall week at to spend a full hour talking about the immune system.

So this is going to be brief, but it's just going to give you an overall idea of what is going on in your immune system. The purpose of it and what starts to happen.

Our body has a powerful army that protects us from outside threats, and these threats can come from bacteria, parasites, fungus and viruses. Every day we're encountering a huge number of viruses and bacteria, and we don't get sick every day.

And this is because of our immune system. It's an army of cells that's really roaming our body, ready to ward off attacks at all time. And our immune system can be divided into two parts.

We have our innate immunity and our adaptive immunity. So our innate immunity is nonspecific. It's your body's initial response to an, foreign invader, regardless of its nature.

And this system is always alert. It's always surveying for danger.

Innate Immunity and Body Barriers

And unlike our adaptive immunity, which targets specific pathogens, our innate immunity doesn't differentiate between types of pathogens. Its primary goal is to block or eliminate intruders before they can establish an infection. So it's alert.

It's ready to go. It's not going to put tags on. It's not going to differentiate. And that's where our mast cells are coming in. That's what we're going to talk about.

So the first part here is the physical barrier. Think of your skin. Your skin acts as a physical barrier to prevent pathogens from entering our body. It's our largest organ and it serves as a formidable wall against these invaders.

We also have our mucosal lining. So inside the body, the mucosal linings of the organs actually produce a sticky, viscous fluid that traps our pathogens.

These linings cover areas such as the respiratory tract, the gastrointestinal tract, the urogenital track, and they can act as internal guards for us.

Then we have our chemical barrier. So we have lysosomes in the eyes. And these contain enzymes that destroy bacteria and viruses and protect our eyes from infection.

We also have acid in the stomach. And this is important. And you know, I'm often misunderstood. So when we're looking at something like H. Pylori, which decreases our stomach acid, or when we take something like a proton pump inhibitor, which decreases our stomach acid, potentially allowing more pathogens to enter our body.

So if you have a parasite in your food, your stomach acid is going to kill that off. But sometimes when that stomach acid gets lower, then we're not able to kill some of these pathogens.

And that can actually lead us to more infections that we're dealing with. So it's something just to keep in mind that we do actually need stomach acid.

And that can be a big misconception a lot of times. So then we have our mast cells, which is what we're talking about here. And these cells play a key role in our inflammatory process.

Upon detecting invaders they release histamine and many other chemicals such as triptans, heparin, numerous chemicals that actually increase blood flow to the affected area.

They're trying to help the other white blood cells get to that area. And this results in inflammation. Again, remember inflammation in a short time is a good thing.

That's what we want to do. We want to actually create inflammation to fight off the infection. But we want it to go down. It's when this inflammation becomes chronic that we have a problem.

So we want to get the inflammation there to isolate the intruder and signal immune cells to the sites. Then we have white blood cells leukocytes. And they are mobilized to the site of inflammation.

They act as soldiers that ready to fight that invading pathogen. Then we have our phagocytes. And neutrophils are the most abundant type of white blood cell.

They're among the first responders to that infection site.

Mast Cells, White Blood Cells, and Adaptive Immunity

They can quickly reach areas of of the breach to attack pathogens. After destroying the invaders they die and they actually contribute to the pus formation.

So when you have a cut or something that you're seeing that pus come out, that's actually your neutrophils are dying off, which is interesting. Then we have our macrophages.

And these are the big eaters. Think of these as the Pacman. They engulf and digest pathogens. They can roam freely in our bloodstream. And they're also isolated to specific areas that are prone to infection.

So macrophages can consume numerous pathogens before they die off. And then we also have our natural killer cells specialized in detecting cells that have become cancers are infected with viruses.

So they look for cells that lack normal proteins called MHC on their surface as a sign of abnormality. And I'm finding such a cell. The natural killer cells bind to it and release deadly chemicals to kill it.

And then we have our dendritic cells and they're going to bridge us over to that adaptive immunity. Dendritic cells are stations at the interface with the external environment and places like your skin, your nose, your lungs.

And they ingest pathogens and process their antigens. Then they migrate to the lymph nodes to present these antigens to our T cells of the adaptive immune system, thus initiating a more targeted response.

So we're not going to get to in-depth with the adaptive immune system today. But I just want to give you a brief overview. So unlike the innate immune system which responds immediately and non specifically to threats, the

adaptive immune system tailors its response to specific antigens.

And it creates memory cells that allow for faster and more effective response when you're re exposed. It primarily involves two types of blood cells. It has the B cells which produce antibodies that bind to specific antigens and neutralize them or mark them for destruction, and T cells, which either help coordinate the immune response with our T helper cells or directly kill infected cells with our cytotoxic T cells.

The adaptive immune response takes longer to initiate than the innate immune response, usually several days, but it provides that long lasting protection.

It has that immunological memory that's why you don't get the same virus over and over and over. So the problem is that when you're constantly exposed to the things we've been talking about, like invaders, underlying gut infections, parasite, candida, tick borne illnesses, viruses, things that cause chronic inflammation, toxins like mold, heavy metals, allergens, other chemicals, stressors like chronic stress, past trauma, your mask.

They'll start getting confused and they start firing constantly to things that are not a threat. And this is why we start to be overreactive. We start to be hypersensitive.

We can't do anything without getting a reaction sometimes. And you know, mast cell activation syndrome can have different levels of reactivity. So just because you're not reacting to everything if you're not so hypersensitive, doesn't mean that you're not having this reaction.

We can still see people that can tolerate supplements that can do things when their mast cells are activated, your symptoms might not be as strong, but then we can see the whole gamut to people that are reacting to everything that can't take supplements, that you can react to water, to air, to everything that you touch.

Mast Cell Overreaction and Cell Danger Response

You know, we're getting this extreme hypersensitivity, and you can even see your cells begin to change. We start to go into what we call a cell danger response, where our cells go into lockdown and the cell danger response as a cellular initiated response to threats such as infections and toxins.

Then cells release signaling molecules, for example, cytokines or chemokines that communicate with our neighboring cells and the immune system. And these signals are critical for coordinating a comprehensive response to detect threats.

And under normal circumstances, a cell danger response will recede once that threat is effectively removed. But once the body has crossed the threshold of toxicity, of pathogen overload, of trauma, of stress, of injury, and we've entered the cell danger response.

There can be a number of biochemical changes that begin to happen. And what we start to see is the stiffening of our cell membrane. So Dr. Naviaux, who discovered the cell danger response, says we start hardening our cell borders and we don't trust our neighbors.

So think of your cells like a turtle. They want to protect themselves. They want to get harder. They want to stay away and hide because we feel this danger.

This is going on all the time and we can't figure it out. And so we start to see this cell danger and things go haywire. Your microbes volume changes, your hormones change, get inflammation.

You get more inflammation. You get this immune dysregulation. We start to see things like methylation changes, lower glutathione volume production, a decrease in vitamin D, an enzyme called histidine d carboxylate activity gets increased.

And that's going to trigger more mast cell response activity; heme activity gets altered. And then we can see

tryptophan gets shunted away from serotonin and melatonin affecting our mood and our sleep.

We start to see bowel changes microbiome changes mitochondria changes. So we start to see sleep cycle change. We start to have fatigue. We feel exhausted all the time.

We feel like we're pushing our bodies. And then we can start to see these hypersensitivity. We start to see someone who needs to detox, who may be overloaded with infections and toxins and needs to improve methylation, but can feel much worse after taking something like glutathione or methylated B vitamin.

So a good thing at the wrong time can be a real problem. And then we start to get another level. So if your cells are constantly feeling in danger, it starts to affect your limbic system.

When your cells are screaming danger, danger, danger, the brain associates danger with everything you do. You could be going for a walk or playing with your kids, doing things that are pleasant, and you're actually reacting because your body's not feeling safe.

So imagine if you smell a rose, but every time you smell that rose, you also touch your stove. So you smell your rose, you touch your stove. Your body starts to think that the smell of the rose is a danger response because you're starting to associate.

When I smell this beautiful smell, I have pain. And so you can then go and smell a rose and feel that pain because your body has been associating that.

Nervous System, Gut Healing, and Detox Foundations

And we can see past traumas playing a role here, which is why we need to look at the physiological and the psychological parts together. This is why mindset and nervous system work are foundational parts of healing.

We need to rewire the nervous system to stabilize and calm themselves. We need to be able to get the body back into our parasympathetic nervous system.

We need to work on our limbic system and rewiring those pathways. We need to work on the vagus nerve, the gut in the brain connection. We need to sometimes do some somatic work to help with trauma release.

We need to work on reframing thoughts. We need to work on rewiring and building this neuroplasticity so that we can have lasting healing. And we do that simple tediously while we're working on the root causes.

So we're doing the nervous system work at the same time while we're do healing the gut, while worst stabilizing mast cell while we're doing these other things in order to get lasting results.

So we also, like I said, need to work on healing our gut. We need to support gut motility. We need to support the microbiome. We need to heal that gut lining so that we're not getting this systemic inflammation from things that are happening inside the gut.

We need to support constipation so we can open our detox pathways. Women discussing the role of diamine oxidase and breaking gut histamine. So we need to work on these foundational pieces so that we can start to get you metabolizing histamine.

And while we're doing that, we're also working on stabilizing mast cells. On looking at a low histamine diet, we have a whole talk on navigating foods.

I encourage you to watch that one. So we're going to look at the low histamine diet the mast cell stabilization. You know people can have triggers that go beyond histamine.

We can have oxalate salicylates, lectins FODMAPs individual food sensitivities. So we need to take all of that into

account when we're working on the diet.

And that is more to calm things down. That's not the long term solution. I want to say that because that's an important piece. I know so many people talk about the diet and that's one piece of this puzzle, but it's not the only piece and it's not the long term solution, because we can start to actually become more sensitive to more foods.

If our goal is just to remove all foods, and then we can start working on things like the adrenals, blood sugar, hormone support, nutrients support, all of those things that we need to look at to get back and balance.

And then we need to look at mycotoxins exposure, chemical exposure, heavy metal exposure. And we need to start working on detoxing. But we can't do this until we have all of the other things in place.

And this is important because if you detox too soon, it can backfire and actually make you feel worse. So we need to ensure that everything is optimized, that all of our drainage pathways are open so that toxins can actually be removed from the body.

And if you're ready to get this healing process started, get in touch with me or one of the practitioners who are teaching you on this Summit. And stay tuned, because after the summit finishes, I'm going to be hosting a series of classes to get you more information on this process.

We help people from all over the world, so be sure to add info@Megmill.

Closing Resources and Next Steps

com info@Megmill.com to your safe email list and I'll be in touch with you after the summit. You can also find me at megmill.com and I have all of the summit resources posted megmill.com/summit.

And we have some great things that people have been talking about this whole week. So you can go over there, find information, find resources. I have guides that are there for you to help you through some of these things.

So that's a great place to get started. And if you'd like to get permanent access to the summit interviews, just email support@drtalks.com and the team will get you all sorted out.

I hope you have a great day.